“The Official Gazette of the Socialist Federal Republic of Yugoslavia",No. 47/87, 60/87, 55/88, 81/89,
“The Official Gazette of the Federal Republic of Yugoslavia", No. 16/92, 8/93, 21/93, 30/94, 43/96, 10/98, 15/2001, 58/2002

Based on the Article 32. paragraph 4. of the Law on Standardization ("The Official Gazette of Socialist Federal Republic of Yugoslavia", No. 38/77, 11/80), the President of the Federal Commission for Agriculture enacts

T H E R U L E B O O K

ON QUALITY OF SEEDS OF AGRICULTURE PLANTS

I. GENERAL PROVISIONS

Article 1.

This Rulebook regulates the manner and the procedure for examination of quality of seeds of agriculture plants and the manner of packaging and labeling of seeds (hereinafter referred to as: seeds).

The provisions of this Rulebook are also applied on imported seeds.

Article 2.

The following is considered as seed in terms of this Rulebook: the seed of agriculture plants, fruit, grape, flowers, medical and aromatic plants, tubers, bulbs, cloves used as seed material for sowing, planting and reproduction.

The following is considered as seed with cage (coated seeds): peeled, unshelled and granulated seeds, seeds in stripes and other types of coated seed.

II. THE QUALITY OF SEEDS

1. The examination of quality

Article 3.

The seeds have to fulfill conditions prescribed in provisions of this Rulebook in terms of purity, presence of other varieties of cultivated plants, weeds, the energy of germination, the humidity and other characteristics.

In terms of health requirements, the quality of seeds have to comply with conditions prescribed in regulations governing health conditions for crops and facilities, seeds and planting material.

The examination of quality of seeds, means to determine the purity, germination, humidity and health conditions of seeds, and for certain plant varieties, to determine the energy of germination, the mass for 1000 seeds and other characteristics.

The examination of quality is performed in a manner and procedure determined in methodes of examination of seeds.

The methodes of examination of seeds and norms for quality of seeds are published with this Rulebook and considered as its integral part.

The purity of seeds, the energy of germination, germination, the presence of seeds of other cultivated varieties and weeds in the sample of seeds, have to be within the limits of allowed derogation (tolerance) which are published with this Rulebook and considered as its integral part.

2. The sampling procedure

Article 4.

The sampling and forming of samples, their packaging, labeling, transport, maintenance and other procedures applied before the examination are considered as sampling procedure of seeds.

The sample represents the average quality of the shipment of seeds from which it has been taken.

The shipment of seeds has to be stored in the warehouse in a manner that enables all its parts for sampling.

Based on the manner of sampling and the purpose for which they are used, samples may be: the single sample, the summary average sample, the humidity sample, the working sample and the sample for determination of presence of other varieties.

Article 5.

The single sample presents the quantity of seeds that is taken alternately from the top, from the core and from the bottom of single packages in the shipment of seeds.
The summary sample is made of all single samples taken from certain number of single packages in the same shipment of seeds at the same time and in a same manner (manually, i.e. with the automatic sampler at the finishing line).

The summary sample is formed with putting together and mixing of single samples from one shipment of seeds and it is used for getting the average sample and the humidity sample.

The average sample is used for getting the working sample which is used for examination of purity, the germination, the energy of germination, the mass for 1000 seeds, vitality, the health condition and the determination of presence of other varieties, as well as for specifically requested examinations.

The humidity sample is used for the examination of the content of water in seeds.

The sample for determination of presence of other varieties is used for determination of the name and number of other varieties, i.e. species not belonging to that shipment of seeds.

Article 6.

The sampling, forming of the summary sample, average sample and the humidity sample is performed at the site of sampling and in presence of the representative of the company, i.e. of the owner, or user of seeds.

Samples referred to in paragraph 1 of this Article, are taken by unifying the content of the summary sample, which is deposed on flat, clean and dry ground, mixed and calibrated in order to get up to 2cm layer for big seeds, i.e. up to 1cm layer for small seeds. This procedure is repeated few times in order to unify the content of the seeds sample. The summary sample prepared in described manner is subdivide on few shapely fields from which, alternately, using the laboratory spoon, appropriate quantities used to form the average sample and the humidity sample are disparted from the bottom to the top of the layer. These samples can be also formed using the special divider of samples.

Article 7.

The company is obliged to submit the application for sampling and the examination of the each shipment of seeds for which is planned to be released into circulation. The application is submitted to the company authorized for the examination of the quality of seeds.

The company to which the application referred to in paragraph 1 of this Article has been submitted is obliged to submit the report on the quality of seeds to the applicant after the examination.

The application referred to in paragraph 1 of this Article is issued on form No.1, and the report referred to in paragraph 2 of this Article, on the form No. 2.
Forms No. 1 and 2 are published with this Rulebook and considered as its integral part.

Article 8.

The size of the average sample, the workings sample and the sample for determination of presence of other varieties is determined in norms of the quality of seeds, with the exception of the humidity sample, which has to have at least 100 g for big seeds or 50g for small seeds, i.e. less than 50g in exceptional cases referred to in Article 13 of this Rulebook.

The average sample of seeds with cage (peeled, unshelled and granulated) has to have at least 25,000 seeds, while average sample of seeds in stripes has to have at least 10,000 seeds.

Article 9.

The single samples of seeds may be taken with stabbers of various sorts (bodkins, sonde, etc) and manually or with the automatic sampler, depending on physical characteristics of seeds, the purpose of sampling, the type of packaging, the manner of storage and type of devices for finishing of seeds.

The sample from the shipment of tubers and bulbs is taken by package, from which is randomly, from three to eight packages taken at least 100 tubers, while for sample from the shipment of bulbs, sample is formed from quantity of 1,5 kilos (three times take a half kilo). The package opened for that purpose have to be closed immediately after sampling in a manner described in Article 23 of this Rulebook.

The sample of tubers and bulbs, taken in a manner referred to in paragraph 2 of this Article, is divided in three equal parts, which are separately packed in the paper, linen or jute bag, closed and lead upp. In that case, the humidity sample is not taken.

Article 10.

For the shipment of seeds in sacks or other sort of package, the least number of single samples is taken as it follows:

Up to five packages in the shipment	One sample from each package, but not less than 5 single samples
From 6 up to 30 packages in the shipment	One sample from every third package, but not less than five single samples
From 31 up to 400 packages in the shipment	One sample from every fifth package, but not less than 10 single samples
More than 401 packages in the shipment	One sample from every seventh package, but not less than 80 single samples.

The seed packed in small packages (boxes, vesicle and sacks) is previosuly grouped in basic units of 100 kg (eg. 20 packages of 5 kg; 25 packages of 4 kg; 50 packages of 2 kg; 100 packages of 1 kg, or some other size of specific package) and for each of these units, sample is taken in a manner referred to in paragraph 1 of this Article.

Article 11.

In case that seeds is in diffused condition- bulk (warehouse, ship, cargobarge, wagon, truck, container, side car, etc.), the number of samples to be taken is as it follows:

Up to 500 kg	At least five single samples
From 501 up to 3,000 kg	One single sample at every 300 kg of seeds, but not less than 5 samples

From 3,001 up to 20,000 kg	One single sample at every 500 kg of seeds, but not less than 10 samples
More than 20,000 kg	One single sample at every 700 kg of seeds, but not less than 40 samples

Article 12.

If the net mass of one package of seeds is equal to least mass of the average sample or less than the least mass of the average sample, and it is not possible to form shipment of seeds as described in paragraph 2 of Article 10 of this Rulebook, then is taken randomly as much single packages as needed to get the tripple mass of the average sample.

The packages taken in a manner referred to in paragraph 1 of this Article are divided in three equal parts, which are separately packed in the packaging material, closed and lead upp.

Article 13.

Exceptionally, when the sample of extremely expensive genuine or other highly-valuated seeds is taken, which is produced in limited quanities important for further reproduction, the sample may have smaller mass than prescribed, but the mass has to be enough for examination of quality of seeds in a manner that on forms No. 1 and 2 referred to in Article 7 of this Rulebook, the note on the mass of the sample is entered.

Article 14.

The average sample is packed in clean, dry and new paper, plastic or paper bag or similar; marked with the record number of the shipment of seeds and sent to the laboratory for examination of the quality of seeds. In case that person who did the sampling, doesn’t carry samples with himself, samples are packed in jute or plastic sack, lead upp or sealed and sent to the laboratory.

The sample for examination of the humid content is packed in clean and dry glass, metal or plastic bottle, i.e. pot or polyethilen vesicle of 0.05 mm, which are hermetically closed and sealed over the tampion. i.e. fasten up with the rope and lead upp. The bottle, pot or vesicle have to be filled with the seeds up to the edge of the tampion, i.e. up to the closing edge.
The samples referred to in paragraphs 1 and 2 of this Article, are closed in a manner to disable opening of packed sample without damaging the package, i.e. the seal or the stopping.

The seeds samples are kept until the expiration of the validity of the declaration in special facility (dry and clean, with the possibility of ventilation) in order to preserve all basic characteristics of the seeds sample.

Article 15.

When taken for inspection purposes, seeds samples are formed from the summary sample of three average samples and three samples for the determination of humid content in the seeds.

One copy of each sample referred to in paragraph 1 of this Article is left to the company, i.e. to the owner of the seed, while two copies of each sample are sent to the company examining the seeds. That company uses one copy of each sample for examination, and the other copy of samples keeps for the next sixt months in case of repeated examination (superanalysis), with exception of samples of tubers and bulbs which are kept for 30 days.

The humidity sample is valid for 48 hours.

Article 16.

The seeds sample taken for inspection purposes shall be packed in accordance with the procedure referred to in Article 14 of this Rulebook and shall be sealed with the wax or lead upp. The seal or the stopping has to carry visible sign of the authority whose inspector did the sampling, i.e. who put the sitting. The seal or the sitting shall be placed in a manner to disable opening of the package without damaging the seal or the sitting.

The sample taken for inspection purposes is labeled at its packaging with the label containing:

1) the code of the sample;

2) the plant variety, species and the category of seeds;

3) the year of production of seeds;

4) the number of the declaration;

5) the date of sampling;

6) the name of the substance used for treatment of the seed;

7) the signature of the inspector who did the sampling.

Article 17.

The inspector shall make the minutes on sampling taken for inspection purposes which contains: the name and the seat of the company, i.e. name of the owner or user of seeds; ordinal number of the shipment of seed and the number of packages in that shipment, i.e. in part of the shipment and the number of the declaration; the type and the shape of the packaging material and the quantity of seeds in one package; the manner of closing, leading upp and declaring the packaging material; data from the declaration with the bill of lading; the place and conditions for storaging and transport, and for seeds in bulk-height and the surface of the storage capacity; the number and the date of the bill of lading and the bill of freight, the number of the wagon, truck or other transportation mean; the quantity of the seeds from which the sample was taken; the number of packages from which individual samples were taken; the place and the date of sampling and the code which inspector used to indicate the sample.

The minutes also contain data on specific circumstances which may influence the quality of seeds if these circumstances existed during the sampling, with the statement that the sampling has been performed in accordance with this Rulebook. This Rulebook shall be sent to the company, owner i.e. user of the seed and to the finisher of the seed.

Article 18.

The company who performs the examination of seeds samples for inspection purposes, is obliged to send three copies of the report on quality referred to in Article 7, paragraph 2 of this Rulebook to the inspection authority who sent the sample.

The inspection authority shall keep the first copy of the report for himself; send the second copy to the company or to the owner, i.e. user of the seed, and send the third copy along with the minutes to the company who declared the seed.

The company or the person referred to in paragraph 2 of this Article, may request repeated examination of seeds within fiftheen days from the day when he/she received the copy of the report in which case the competent inspection authority shall designate other authorized company to perform that examination.

The company who perfomed the first examination of seeds shall send the sample referred to in Article 15, paragraph 2 of this Rulebook to the company designated by the competent inspection authority for repeated examination, i.e. for the super-analysis.

III. THE PACKAGING

Article 19.

The seed shall be packed in shipments of seeds.

The shipment of seed with the variety means certain quantity of seed with the unified quality, of same species, of same category, of same variety clearness, of same year of production and the origin, which is labeled, verified and accompanied with prescribed documents.

The shipment of seeds without variety means certain quantity of seeds of the same variety and unified quality, produced by one producer within the same year, which is labeled, verified and accompanied with prescribed documents.

The shipment of allowed mixture of seeds means certain quantity of seeds produced within one year, which is labeled, verified and accompanied with prescribed documents.

The higher limit for the size of the shipment is determined in norms for the quality of seeds, with exception of seeds in stripes. There is derogation allowed for the shipment of seeds with the coat up to 5% of the size of the shipment for added inert material (coat etc).

The shipment of seeds has to be lebeled with the ordinal number and with the number of the declaration, which may be use for the determination of identity of every single package in that shipment.

The calibrated seeds and other type of seeds-unified by size, shape and other characteristis are packed in separated shipments, per fractions.

The seed can be also packed per number of seeds.

The packages in one shipment of seeds have to be of the same net mass, with exception of packages per number of seeds and for last package in that shipment of seeds. The packaging material has to be same size and from the same material (equable package).

Article 20.

The seed shall be packed in undamaged, clean, dry, solid enough and hard sacks, bags, vesicles, boxes and containers which can be sealed and labeled for the identification with the unique mark.

The packaging materials for seeds can be made of natural or artifical fibres, paper, impregnated material, plastic or metal folio or their combination.

Article 21.

The tubers, bulbs and other parts of agriculture plants which are labeled as seeds may be also packed in baskets, hulls, sacks and similar packaging material.

Article 22.

The seed intended for the exportation may be packed in a manner agreed in the agreement between the seller and the foreign buyer, but with fulfillment of transportation and handling conditions until the final destination.

Article 23.

The closing and the leading upp of the packaging material has to be peformed in a manner which allows determination that seeds were originally packed, i.e. the determination of every action which may damage the original package.

If the packaging material is closed by bracing, then the metal or plastic sitting is placed over it. The bracing is performed in a manner that doesn't allows packaging material to be opened without removal of the sitting, or its damaging. The sitting has to bear clearly written sign of the company who performed the packaging of the seed.

The packaging material is considered lead upp also when it is closed with the machine sewing or with adhesion (termic, under pressure, ventilation sacks, and similar).

IV. THE DECLARATION OF SEEDS

Article 24.

The declaration on the quality of the variety seeds of agriculture plants is issued by the company which declared that seeds along with the bill of lading, as it follows:

1) for the seed of agriculture plants – on Form No. 3;

2) for tubers and bulbs – on Form No. 4;

3) for allowed mixture of seeds – on Form No. 5.

The forms No. 3,4 i 5 are published along with this Rulebook and considered as its integral part.

Article 25.

The declaration on the quality of the variety seeds of agriculture plants is placed on the packaging material is issued as it follows:

1) for the seed of agriculture plants – on Form No. 6;

2) for tubers and bulbs – on Form No. 7.

For allowed mixture of seeds, besides the data from the Form No. 6, the declaration referred to in paragraph 1 of this Article, has to contain the data on content of particular varieties and species present in the mixture shown in percentage.

The forms No. 6 i 7 are published along with this Rulebook and considered as its integral part.

Article 26.

The declaration on the quality of the non-variety seed of the agriculture plant which circulation is allowed is issued on appropriate forms referred to in Articles 24 and 25 of this Rulebook, with the note “non-variety seeds” inscribed in the column “variety”, and with the dash inscribed in the column “category”.

Article 27.

For seeds of agriculture plants varieties which quality is not regulated in norms of the quality of seeds, in declarations referred to in Articles 24 and 25 of this Rulebook, all data on quality of that seed examined in a manner and procedure determined in methods of examination of seeds.

Article 28.

The date of the validity of the declaration referred to in Article 24 to 27 of this Rulebook is limited, and it is determined by the company who declared the seed; that deadline may not be shorter than next sowing season for the particular plant variety.

The data are inscribed in the declaration with printed letters.

The declaration referred to in Articles 24 to 27 of this Rulebook is issued for every shipment of seeds for which the quality has been determined; the exception is seed in the packaging material up to 250 g which doesn’t have to be declared, but has to have clearly printed data about the finisher of seeds, the variety, the germination, the number of the declaration with the bill of lading and the date of the validity of the declaration. The declaration, or its fotocopy, along with the bill of lading, has to be shown on the explicit request of the buyer of seeds for his insight.

Article 29.

If the seed was treated with the substance for plant protection (pesticide), the declaration with the bill of lading and the declaration which is placed on the packaging material have to bear the clear indication what pesticide was used for the treatment of seeds, and if that pesticide is poisonuos, the following clause shall be inscribed: " This seed is infected and it may not be used for feeding humans, livestock, fish, birds and the game."

Article 30.

If the seeds is in the coat, the declaration that is placed on the packaging material and the declaration with the bill of lading has to contain the indication whether the seed is peeled, unshelled, granulated, in stripes, segmented, i.e. calibrated, with the dimension and the indication of the fraction.

If the seed is packed per number of seeds, the declaration has to contain the number of seeds in the package.

Article 31.

If the packaging material is closed with the machine sewing, the declaration is sew up on the packaging material or it is imprinted, i.e. adhered on the packaging material.

If the packaging material is closed by adhesion-the declaration is imprinted or adhered on the packaging material,and in the case that the packaging material is transparent, the declaration may be placed on visible sight in the packaging material.

If the packaging material is closed by bracing, the declaration is braced for the packaging material and secured with the sitting.

The declaration with the packaging material has to be visible and made of material, i.e. printed imprint, in order to avoid its damaging during the packaging, transportation and usual handling.

V. TRANSITIONAL AND FINAL PROVISIONS

Article 32.

The provisions of the Rulebook on Norms of the Quality, Packaging, Lead Upp and the Declaration of Seeds of the Agriculture Plants ("The Official Gazette SFRY", No. 55/75 and 8/76) shall cease to apply on the date of application of this Rulebook.

The seed produced, i.e. finished before the July 1th, 1987, may be packed and declared in accordance with provisions of the Rulebook on the Norms of Quality, Packaging, Lead Upp and the Declaration of Seeds of the Agriculture Plants by December 31, 1987.

Article 33.

This Rulebook shall enter into force eight days after being published in the “The Official Gazette of Socialist Federal Republic of Yugoslavia”, and it shall be applied as of July 1, 1987.

No. 5846/3
March 17, 1987
Belgrade

The President of the Federal Commission for Agriculture
Sava Vujkov, p.s.

THE METHODS OF EXAMINATION OF SEEDS AND THE NORMS OF THE QUALITY OF SEEDS

1. The utensils, equipment and procedures foregoing the examination

1.1. The utensils used for sampling are used for taking of samples of single samples from the packaging material, i.e. from the package of the particular shipment of seeds:

1.1.1. The spiky sonde is consisted from the outer firm pipe that is finished with the lenghty pike. The outer sonde has openings which may overlap with the openings of the inner rotating pipe. When the sonde is stubed in the content of seeds, the inner pipe is turned for half of orbite, so that seeds may not enter in the sonde. In the moment of sampling, seeds enter into sonde or pass through the sonde in particular pot, so that the inner pipe is turned in the position in which openings of the outer and inner pipe are overlaped.

The samples of clover and other varieties of small seed, that is very soft, are taken with the sonde long 762 mm, with diameter of 25,4 mm, with 6 openings.

The samples from the shipment of seeds in bulk, are taken based on the same principle as samples from sacks, but using significantly longer sonde (up to 1.600 m), with the bigger diameter of the outer pipe (up to 38 mm) and with 6 or 9 openings. That sonde is used for samples of all varieties and from all types of packages, as well and seeds in the bulk, with the exception of seeds with a lot of chaf. After the sampling, paper sacks are attached with special adhesive stripes.

1.1.2. The Nobe’s addle bodkin is long 500 mm, and it is consisted of the pipe with the sharp top and with the longated opening toward the sharp part of the bodkin. The inner diameter of the bodkin intended for the sampling of wheat is around 14 mm, and for seeds of clovers varieties and other similar seeds- around 10 mm.

The Nobe's addle bodkin is exclusively used for sampling from the sack. The bodkin is stubbed in the sack from the opening toward the bottom under angle of 30°. The opening of the bodkin is stubbed until the middle of the sack is reached, the bodkin is rotated for angle of 180° (so the opening is turned up), and then the bodkin is easily pulled out with decreasing the speed of pulling out, in proportion to the approximation of the opening of the bodkin to the marginal part of the package.

1.1.3. The samples of the seed that is not soft, as well and samples of tubers and bulbs are taken by hand which has to be clean and dry. If the sample is taken by hand (single sample) from the package that is deeper than 40 cm, the seed needs to be shaked out on appropriate bedding and then certain number of samples are taken, afterward the seed is again returned in the package which needs to be adequately closed. During pulling out the sample, the hand has to be firmly closed so the content of the sample do not diffuse.

1.2. The sampling on the finishing line may be done with special, automatic sampler, made exclusively for that purpose. In that manner, the sampler get the summary sample, from which is at the venue, formed average sample and the humidity sample based on the prescribed procedure.

1.3. The methods for the preparation of the working sample

The working sample represents the appropriate part of the mass of the average sample and it is used for examination and determination of the clearness, the germination, the health condition and for other examinations.

The working sample may be formed applying the following methods and procedures, which vary depending on physical characteristics of the seed of particular plant varieties.

1.3.1. The method of usage of the aparatus suitable for fractioning, which may be used for all seeds varieties, with exception of seeds of varieties with a lot of chaf.

Using the apparatus for fractioning, the sample of seeds is divided into approximately equal halfs. One half is further divided in order to get the certain quantity for the working sample.

The following apparatus are used for fractioning of the seed:

a) the conus type (Boerner), b) simple fractioning apparatus (Soil divider) and v) centrifugal fractioning apparatus (Gamet type).

1.3.2. The method of random pots is applied for all plant varieties for which the working sample is over 10 g.

6 to 8 pots of the equal size (glasses,pots, etc.) are placed on the square shaped pot (plate). From the pot in which is the average sample, the seed is uniformly diffused over the whole surface in one direction, and afterward in the opposite direction. The seed that stayed in pots is representing the working sample. If it is necessary to decrease the quantity of seeds that stayed in pots, then the seed from pots is mixed again and the procedure is repeated. The size of the pot is determined based on the size of seeds.

This method is not recommended for seeds with extremely lot of chaf and for seed which refuse of and jump from the surface (eg. Brassica spp.).

Chart 1

The sample for size of pots in the square pot

The inner dimensions of pots, in mm	The dimensions of the square pot, in mm	The variety of seeds	The size of the sample, in g		
			The average	The working	
diameter	depth				
1	2	3	4	5	6
15	15	120-120	Festuca pratensis	50	5
12	14	100-100	Trifolium pratense, Medicago sativa	50	5
10	8	100-100	Trifolium repens	25	2
7	6	150-150	Agrostis spp.	25	0,5

1.3.3. The adjusted method of fractioning is applied in a manner that seeds is infused over the separate shallow pot which has even number of four-angle chambers (every second chamber is without the bottom). When the pot is taken, the half of the sample stays in the pot set below it and in that manner the sample in the pot is decreased as long as it takes to get certain quantity of the working sample.

1.3.4. The method of fractioning with the spoon: the seed is previously mixed properly, then uniformly diffused over the whole surface and in equally fat layer. With spoon in one and assisting ruler in other hand, the seed is taken from at least five random sites in order to get prescribed weight for the working sample.

This method is applied only for varieties of very small seeds (eg. Petunia).

1.3.5. The method of fractioning by hand is applied exclusively for the seed with chaf (Andropogon, Arrhenatherum) in a following manner:

- the seed is uniformly diffused on the smooth, flat surface;

- the seed is mixed properly with the flat side of the ruler;

- the pile is divided in two parts, and each part is mixed properly and divided again. That is repeated as long as it take to get eight piles that are arranged in two rows. Then piles 1 and 3 are sorted over from the first row, and piles 2 and 4 from the second row. That is repeated as long as it takes to get the size of the working sample.

1.3.6. The working sample of the seeds of Beta spp., seeds with the hank and segmented seeds is taken from the well mixed average sample in quantity of 2 · 25 g.

1.3.7. The working sample of the seeds with the coat is taken from well mixed average sample of 250 g, closed in the airtight packaging material. The working sample is divided with the apparatus for division (Soil divider) in which the seed is infused from the height of 25 cm. It is necessary to take 2 · 50 g of seeds (not less than 45 g and not more than 55 g), from 2 500 pellets. In case that the sample is smaller, it is necessary to state the number of pellets in the report. That quantity is sift through the sieve with round openings, in a following manner:

- the lower sieve with openings of 0,25 mm smaller than the lowest nominal size of the seed;

- the serie of sieves which divide the remaining seeds per size in fractions of four milimeters;

- the sieve with openings of 0,25 mm bigger than biggest nominal size of the seed.

The fractions which are sifted (including part which passed through the smallest sieve) are measured with the accuracy of two decimal numbers. The fractions are shown by percentage on one decimal number from the total mass. The result of analysis is the average value for two working samples, if the difference between sums and fractions determined inside is not more than 1,5%. If that tolerance is surpassed, than the third sample of 50 g is taken, and if necessary, even the forth sample is taken.

2. The clearness of the seed

2.1. The clearness of the seed means the relation of the quantity of the clean seed of the variety that is examined and the quantity of seed of other varieties of the agriculture plants, weeds and inert substances together.

2.2. The clean seed means the seed that belongs to the declared variety or which was identified as such in the laboratory for the examination of seeds:

- the mature and not-damaged seeds and harvests of normal size;
- non-mature, week or germinated seeds above the half of the normal size;
- the parts of seeds and harvests bigger of halfs of normal size;
- the seed without skin (Leguminosae and Cruciferea), as well and naked seeds of sunflower up to 1%;
- the seeds (botanical harvests), whether or not contains the real seed (Beta, Tetragonia) and one-seed harvests (Valerianella, Cichorium, Lactuca, Helianthus and Fagopyrum) and legumes or parts of legumes with one seed;

- one-seed or two-seeds harvests above the half of normal size (Umbeliferae), whether or not they have the real seed;

- the harvests of seed which may be determined without exhausting, sterescope, diafanscope or other devices, if the embryo is not visible;

- the flowers of grasses and cereals with visible cariopsa, including endosperm with sterile flowers or without sterile flowers;

- the naked cariopsa of grasses and cereals above the half of normal size;

- the fractions of the clean seed of grasses, separated by application of special methods;

- the clews or parts of clews of Beta variety with the real seeds or without real seeds, which stay on sieve of 200 · 300 mm size with rectangle shaped openings of 20 · 1,5 mm size after one minute of sift. The clew or parts of clews or single-germinated varieties, including the petiole, which is not longer than the largeness of the clew, without visibly present seed, partially or completely naked seed, above the half of the normal size.

2.3. The seed of other varieties and the seed of weeds are making all varieties of seeds which fulfill conditions for the clean seed referred to in the item 2.2.

2.4. The inert substances include parts of the seed (kernels) of agriculture plants varieties and weeds, as well and impurities which do not come from seeds, as it follows:

- the parts of broken or damaged seeds smaller than the half of the normal size;

- the seed without the seed skin (Leguminosae and Cruciferae) and the naked seed of the sunflower over 1%;

- the empty chaf and free empty flowers;

-the flowers of varieties of grass with cariopsa smaller than prescribed. Broken sterile flowers, with the exception of grasses (Arrhenatherum, Avena, Chloris, Dactylis, Festuca, Holcus, Poa and Sorghum), which keep the sterile flowers;

- the clews and parts of clews of the Beta variety, which fell through the sieve with rectangle openings of 20 · 1,5 mm size, after sift of one minute (shaking, vibrating) with the exception of genetically single-germinated varieties. The legumes and cocoons with the seed needs to opened, seeds is taken out and grouped in clean seeds, and other parts are grouped as inert substances;

- the damaged seeds without the embryo: the sterile flowers, the empty chaf, petioles, leaflets, hard and fragile seeds, "black seed" (Plantago lanceolata), whether or not misshapen, bobs of soil, sand, stones, the parts of spires, the parts of other parts of plants and other impurities which are not seed;

- the waste material, the light fractions resulted from the application of exhausting method.

2.5. The examination of the clearness of seed with the coat: the coat of the seed needs to be rinsed or removed in dry condition. The seed in stripes is removed from the stripe in order to get 100 seeds for the examination (peeling, infusing). In case that other seed is coated, the procedure prescribed for such seeds shall be applied. The working sample has to have at least 2.500 seeds, which are infused in the water on small sieve and then shaked. It is recommended to use sieve with the dimensions of openings from 0,5 to 1,0 mm. The coat of the seed is rinsed with the water, the seed is desiccated during the night on the filtr-paper, and afterward in the oven, in accordance with the method prescribed for the examination of the humidity for a particular variety. The clearness is examined in a manner that is indicated for the examination of the clearness of the seed (the clean seed, the impurities of other agriculture plants, weeds and dead impurities). The quantity of the coat of the seed is determined only if that is explicitly requested.

2.6. The principles of the procedure

2.6.1.The examination of the clearness of the seed, determines the integral parts of the working sample of the seed, as well and matching of different varieties of seeds and inert substances. In the course of the examination of clearness of the seed, the samples are divided in four basic groups:

2.6.1.1. the clean seeds of the basic culture;

2.6.1.2. the seed of other varieties;

2.6.1.3. the weeds seed;

2.6.1.4. the inert substances.

2.6.2. The clearness of the seed is shown in percents, based on the measurement of the mass of each of separated groups.

2.7. The apparatus: auxilliary means (lenses, reflecting lights, sieves and blow pipes) are used for dividing seeds into fractions, as well and for separation of impurities from the seed.

2.8. The working sample: the analysis of the clearness is performed on the working sample which is formed from the average sample using one of methodes referred to in the item 1.3. The working sample has to have at least 2.500 seeds. The analysis is performed on one working sample or on two working samples whose mass is equal to at least one half of the mass of the whole working sample.

The results of measurement for each of four separated basic groups are shown in grams and with more decimals. The number of decimals depends on the mass prescribed for the working sample.

Chart 2

THE MASS OF THE WORKING SAMPLE AND THE NUMBER OF DECIMALS DURING THE MEASUREMENT

The mass of the working sample, in g	The number of decimals
1	2
Less than 1,000	4
1,000-9,999	3
10,00 - 99,99	2
100,0 - 999,9	1
1.000 and more	0

2.9. Separation

2.9.1. All families, with the exception of the family Graminea: the seeds and the harvest are examined on the surface, without usage of the pressure, lenses, diafanoscope or other special devices. If appears that the harvest is without the seed, it is considered as inert substance.

2.9.2. The Gramineae: the cariopse of varieties Lolium, Festuca i Agropyron repens long as one third or more from the upper chaf (palea), measured from the base, are considered as the clean seed. If the cariopse is shorter, than it is divided in inert substances. In other species or varieties, the flower with the endosperm and cariopse is considered as the clean seed. If sterile leaflets of varieties Arrhenatherum, Avena, Dactylis, Festuca, Holcus, Poa and Sorghum are not broken and divided from fertile spikes, they are considered as the clean seed, which is applied on Lolium as well, if the sterile spike doesn't exceed the longitude of the fertile spike without the tuft.

2.9.3. The damaged seeds are determined in accordance with the item 2.2. (the rule on half of a seed).

2.9.4. Un-determined varieties: if certain plant variety cannot be identified, then only the name of the species is stated (eg. Lolium with the tuft or without the tuft) as the clean seed, and similar seed is taken from other fractions and measured together. By random method, 400 to 1.000 seeds are taken from the mixture, separated and determined by the quantity, and based on the item 2.10, calculate the final result. The fractions are stated based on the number of seeds, and this method is applied if the sender stated varieties Agrostis, Brassica, Lolium, Poa, Festuca or in cases when the analyst choose to do so.

2.9.5. The exhausting method is mandatory for varieties Poa pratensis and Dactylis glomerata. The mass of the working sample is 1g for Poa pratensis and 3 g for Dactylis glomerata. Before the calibration, seeds needs to be at room temperature. The working sample is placed in the pipe of blowing pipe (the exhausting is regulated in accordance with the instructions prescribed for that type of the apparatus) and exhausted 3 minutes.

2.9.6. The division of preponderant fraction: from the remainings in the pipe after the exhausting, in clean seed are counted un-damaged single-flower spikes, all un-damaged multi-flower spikes for the variety Poa pratensis and multi-seeds units of the Dactylis glomerata, flower spikes with funghi fertilizing spots (sclerocia and Claviceps) closed between the pre-chaf and surface chaf, flower spikes and cariopse which are damaged from harmful organisms and diseased (including empty crisp, sickened or crashed cariopse) and broken spikes or cariopse bigger than half of normal size. The flower spikes with visible sclerocia, broken spikes and cariopse, as well and all other impurities or organic and non-organic origin are dead impurities, i.e. the seed of other plants.

2.9.7. The division of lighter fraction: all flower spikes and cariopse in the lighter fraction are dead impurities. The other seed (and Poa spp. in Poa pratensis), roots, leaflets, sand etc. are considered in other varieties of seeds and dead impurities, in accordance with methods for the examination of clearness. If there are 1 to 3% of fertile spikes of Poa Spp. in Poa pratensis, it is easier to choose all spikes from the preponderant and lighter fraction and indicate them together as impurities of other agriculture plants. If that percentage is higher, than the alternative method is applied.

2.9.8. The alternative method for the determination of Poa spp. in Poa pratensis: 400 to 1.000 fertile flower-spikes are choosen from both fractions by random choice; the individual Poa spp. are determined under the sterescope and the percentage for each of them is also determined.

2.9.9. The multi-seeds units: the multi-seeds units are separately measured in varieties Dactylis and Festuca, as it follows: the fertile spike with the one attached sterile spike not longer than the top of the fertile spike without the tuft; the fertile spike with more fertile or sterile spikes long as the fertile spikes; the fertile spike with the sterile spike attached on rahil (the flower petiole) regardless of the longitude. The spikes with one fertile and sterile spikes shorter than the top of the fertile spike without the tuft are considered as single-unit groups. The sterile spike is not broken from the fertile spike. The multi-seeds units are separately measured and calculated in accordance with the procedure referred to in the item 2.11.

2.10. The processing of results for un-determined species

The quantity average of the component is the sum of the mass of that component from all samples divided with the sum of mass of all components from all samples and multiplied with 100. The formula:

$$\text{the percentage of the variety} = \frac{m_3 \cdot m_1}{m_2 \cdot m} 100;$$

where:

m – is the mass of the whole sample;

m_1 – is the mass of similar seeds from the working sample;

m_2 – is the mass of the fraction of 400 or 1.000 similar seeds taken for the final separation;

m_3 – is the mass of the wanted variety, in m_2.

2.11. The calculation of the result

The result of the clearness is calculated at one decimal, and all components should result as 100%. For all components less than 0,05%, it is stated: "in traces".

The report has to contain the latin name of all found other varieties and weeds, and inert substances may also be reported. If one variety in the fraction is above 1% or if the applicant of the application for the examination of seeds request separate results above 0,1%, than in such cases the percentage is separately stated.

2.12. Tolerances

2.12.1. **DELETED-with 81/89**

2.12.2. If the clearness of the seed is examined on two halfs of one working sample or on two working samples, then it is checked whether results of the examination are within the limits of allowed derogations. If the results of the examination of the clearness of seed are not within the limits of allowed derogations, the determination of clearness is repeated in a same manner once or more times. As the final result of the examination of the clearness are taken the average values of the clearness which resulted after all examinations.

Chart 3

THE ALLOWED DEROGATIONS FOR THE EXAMINATION OF CLEARNESS OF SEED OF TWO WORKING SAMPLES, RECEIVED FROM THE SAME AVERAGE SAMPLE (FOR SEED WITH THE CHAF AND SEED WITHOUT THE CHAF) WITH THE PROBABILITY OF 0,05

The average analysis of two halfs or two whole samples

		The half of working samples	The whole working sample
1	2	3	4
99,95-100,00	0,00- 0,04	0,23	0,16
99,90-99,94	0,05- 0,09	0,34	0,24
99,85-99,89	0,10- 0,14	0,42	0,30
99,80-99,84	0,15- 0,19	0,49	0,35
99,75-99,79	0,20- 0,24	0,55	0,39
99,70-99,74	0,25- 0,29	0,59	0,42
99,65-99,69	0,30- 0,34	0,65	0,46
99,60-99,64	0,35- 0,39	0,69	0,49
99,55-99,59	0,40- 0,44	0,74	0,52
99,50-99,54	0,45- 0,49	0,76	0,54
99,40-99,49	0,50- 0,59	0,82	0,58
99,30-99,39	0,60- 0,69	0,89	0,63
99,20-99,29	0,70- 0,79	0,95	0,67
99,10-99,19	0,80- 0,89	1,00	0,71
99,00-99,09	0,90- 0,99	1,06	0,75

98,75-98,99	1,00- 1,24	1,15	0,81
98,50-98,74	1,25- 1,49	1,26	0,89
98,25-98,49	1,50- 1,74	1,37	0,97
98,00-98,24	1,75- 1,99	1,47	1,04
97,75-97,99	2,00- 2,24	1,54	1,09
97,50-97,74	2,25- 2,49	1,63	1,15
97,25-97,49	2,50- 2,74	1,70	1,20
97,00-97,24	2,75- 2,99	1,78	1,26
96,50-96,99	3,00- 3,49	1,88	1,33
96,00-96,49	3,50- 3,99	1,99	1,41
95,50-95,99	4,00- 4,49	2,12	1,50
95,00-95,49	4,50- 4,99	2,22	1,57
94,00-94,99	5,00- 5,99	2,38	1,68
93,00-93,99	6,00- 6,99	2,56	1,81
92,00-92,99	7,00- 7,99	2,73	1,93
91,00-91,99	8,00- 8,99	2,90	2,05
90,00-90,99	9,00- 9,99	3,04	2,15
88,00-89,99	10,00-11,99	3,25	2,30
86,00-87,99	12,00-13,99	3,49	2,47
84,00-85,99	14,00-15,99	3,70	2,62
82,00-83,99	16,00-17,99	3,90	2,76
80,00-81,99	18,00-19,99	4,07	2,88
78,00-79,99	20,00-21,99	4,23	2,99
76,00-77,99	22,00-23,99	4,37	3,09
74,00-75,99	24,00-25,99	4,50	3,18
72,00-73,99	26,00-27,99	4,61	3,26

70,00-71,99	28,00-29,99	4,71	3,33
65,00-69,99	30,00-34,99	4,86	3,44
60,00-64,99	35,00-39,99	5,02	3,55
50,00-59,99	40,00-49,99	5,16	3,65

2.13. The presence of all other plant varieties which do not belong to the shipment of seed used for sampling, is determined from the sample for determination of presence of other varieties taken from the average sample of that shipment of seeds.

2.13.1. If it is impossible to determine the variety, than the species is stated.

2.13.2. The examination is terminated in a moment when the presence of the variety whose single kernel is forbidden to be found in the sample, is determined (eg. Cuscuta, Orobanche etc.).

2.13.3. The result of the examination is stated with the number of seeds of other varieties determined in the sample and in their percentage. The difference of results of the examination of two samples may not be higher than the allowed derogation (tolerances referred to in chart 4).

Chart 4.

Tolerances for results of two examinations with the probability of 0,05

The average of two evaluat	The biggest allowed difference	The average of two evaluations	The biggest allowed difference	The average of two evaluations	The biggest allowed difference

ions					
1	2	1	2	1	2
3	5	76-81	25	253-264	45
4	6	82-88	26	265-276	46
5-6	7	89-95	27	277-288	47
7-8	8	96-102	28	289-300	48
9-10	9	103-110	29	301-313	49
11-13	10	111-117	30	314-326	50
14-15	11	118-125	31	327-339	51
16-18	12	126-133	32	340-353	52
19-22	13	134-142	33	354-366	53
23-25	14	143-151	34	367-380	54
26-29	15	152-160	35	381-394	55
30-33	16	161-169	36	395-409	56
34-37	17	170-178	37	410-424	57
38-42	18	179-188	38	425-439	58
43-47	19	189-198	39	440-454	59
48-52	20	199-209	40	455-469	60
53-57	21	210-219	41	470-485	61
58-63	22	220-230	42	486-501	62
64-69	23	231-241	43	502-518	63
70-75	24	242-252	44	519-534	64

3. The germination of seeds

3.1. The germination of seeds means energy of germination and the germination of seeds examined and determined under laboratory conditions from the sample of seeds from one shipment of seeds.

3.1.1. The energy of germination means number of normal germinated seeds compared with the number of seeds which are placed for germination determined after period of time prescribed for the first evaluation, i.e. for the determination of the energy of germination.

3.1.2. The germination of seeds means number of normal germinated seeds compared with the number of seeds which are placed for the germination determined after period of time prescribed for final evaluation.

3.1.3. The energy of germination and the germination of seeds are shown in percentage and reported in the report.

3.1.4. The normal germinated seeds, depending on the plant variety, contains the specific combination of certain structures necessary for growth and development, such as:

- the root system (primary root, secondary root and seminal root);

- the sprouts (hypocotil, epicotil, mezocotil, topical-scalp bud);

- the cotiledons;

- the coleoptils (all Gramineae).

3.2. The category of normal germinated seeds includes:

- un-damaged, healthy germinated seeds, with well developed basic structures;

- the germinated seeds with low mechanical damages of the basic structure, whose development do not outstand compared with un-damaged germinated seeds;

- the germinated seeds with secondary non-pest infections caused by funghi and bacteria.

3.2.1. Un-damaged, healthy germinated seeds, with well developed root system which is consisted of:

- the long and withy primary root, usually covered with numerous root piles, which is ended with the slim top;

- the secondary root, which is developed in the course of the prescribed period of the examination;

- few seminal roots, instead of one primary root in some species, including species: Avena, Hordeum, Secale, Triticum, Triticosecale, Cyclamen.

The well developed sprouts and scalp bud:

- perpendicularly longated and withy hypocotil in varieties with the epigeal type of germination;

- well developed epicotil in species with hypogeal type of germination;

- well developed hypocotil and epicotil in certain species with epigeal type of germination;

- longated, well developed mezocotil in certain species Gramineae.

The cotiledones:

- the one cotiledones of monocotile or exceptionally dicotile (if colored green, similar to leaf or changed, but whole or partially in seeds);

- the two cotiledones of dicotile with epigeal germination, if green and similar to leaf, of size and shape which vary inside varieties which are examined. The germinated seeds which show hypogeal type of germination they are hemispheric, pulpous (bold-emphasized) and stay partially in the coat of the seed.

The primary leafs:

- green and well developed;

- one primary leaf, to which few alternately layers of leafs in the germinated seed forego sometimes;

- two primary leafs, one across the other in the germinated seed.

The topical bud or sprouts, whose development vary depending on the variety that is under the examination.

The well developed and longated coleoptiles in Gramineae, which includes green leaf which reach after the half of the longitude of the coleoptile or sometimes already left the coleoptile.

3.2.2. The germinated seeds with low (tempered) damages; low damages are considered as it follows:

- the primary root with limited damages or insignificantly outstand, retarded growth;

- the primary root is damaged, but with well developed secundary roots in some species Leguminosae (big seed of species Phaseolus, Pisum, Vicia) and Gramineae (eg. Zea) and all species Cucurbitaceae and Malvaceae;

- only two well developed seminal roots in species Avena, Hordeum, Secale, Triticum, Triticosecale;

- the hypocotil, epicotil and mezocotil with limited damage;

- the cotiledone with weak and limited damage (if half or more than half of total surface of the tissue is normal and if there are no visible damages or rot around the topical part of the sprouts or surrounding tissue caused by saprofite microorganisms);

- only one normal cotiledone in dicotiles (if there is no visible damage or rot around the topical part of the sprouts or surrounding tissue caused by saprofite microorganisms);

- three cotiledones instead of two (under condition that half or more than half is of normal size);

- primary leafs with the limited damage (if the half or more than a half of total tissue is capable for normal functions);

- only one primary leaf (species Phaseolus, if there are no visible damages or rot toward the topical bud);

- primary leafs (Phaseolus) normally shaped, of decreased size, but wider than quarter of normal size;

- three primary leafs instead of two (eg. Phaseolus), under condition that at least half are of normal size;

- the coleoptile with limited damages;

- the coleoptile flaw from the top to the bottom, but no more than third of its longitude;

- the coleoptile crumpled or springe shaped (because it was long in chaf or in the coat of the seed);

- the coleoptile with green leaf, which reach out at least half of the longitude of the coleoptile.

3.2.3. The germinated seeds with the secondary infection, rot germinated seeds attacked by funghi or bacteria, are counted as normal if it is visible that seed is not the cause of the infection and if it is evaluated that all basic structures are present.

3.3. The abnormal germinated seeds are those for which is assesed that they do not have the ability to develop in normal plant in favorable rural conditions, because one basic structure or more basic structures are irreparably damaged. The abnormal germinated seeds are not counted in the percentage of germination. The abnormal germinated seeds include three main groups as it follows:

- damaged (any of basic structures is missing or it is damaged);

- misshapen and unbalanced (defect, un-developed, physiologically disordered, incommensurate any of important structures);

- rot (rot germinated seeds, i.e. diseased or rot some of basic structures due to primary infection of seeds uncapable for development).

The germinated seeds with one damage or combination of these damages are counted in abnormal germinated seeds.:

3.3.1. The primary root: rudimentary, bold-emphasized, undeveloped, missing, broken, flaw from the top, spindly, narrowed, closed with the coat of the seed, with the negative geotrophy, glassy, rot as result of primary infection, with one secondary root or without secondary roots. The seminal root: only one or none. The germinated seeds with secondary or seminal roots which show one or more deficiencies mentioned above cannot replace the primary root.

If there are few secondary roots (eg. Cucumis), or at least two seminal roots (eg. Triticum) these are evaluated as normal germinated seeds.

3.3.2. The hypocotil, epicotil, mesocotil: short and bold-emphasized (with exception of Cyclame, where the bold-emphasized part – bulb, has to exist), deeply flaw or broken, totally cloven, missing, narrowed, extremely braided and twisted, reflective, forming small lassos or spirals, spindly, glassy, rot as result of the primary infection.

3.3.3. The cotiledone (the rule is that there have to be 50% and more of them): bold-emphasized and frizzly, misshapen, halved or damaged otherwise, separated or missing, necrotated, glassy, rot as the result of the primary infection.

The germinated seeds whose cotiledones are damaged or rot on the spot where they grow to with the axis of the germinated seed or around the topical sprouts are evaluated as abnormal, regardless of the size of damage.

The special damages of cotiledones in Allium spp.: short and bold-emphasized, narrowed, reflected, forming small lasso or spirale, without marked “knee”, spindly.

3.3.4. Primary leaves (the rule is there have to be 50% or more): misshapen, damaged, missing, colorless, necrotated, rot as the result of the primary infection, normally shaped, but less than the quarter of the normal size.

3.3.5. The topical bud and the surrounding tissues: misshapen, damaged, missing, rot as the result of the primary infection.

If the topical bud is damaged or is missing, the germinated seed is abnormal even when one or two arm-pit buds (Phaseolus) or sprouts (Pisum) are already developed.

3.3.6. The coleoptile and the first leaf (Gramineae):

The coleoptile: misshapen, damaged, missing, with the damage or without the top, significantly curved, forming lasso or spirale, firmly braided, flaw more than one third of longitude from the top, flaw in the base, longated and spindly, rot as the result of the primary infection.

The first leaf: stagnant in development (reach out below the half of normal longitude of the coleoptile), missing, damaged, ruptured, frizzly or misshapen otherwise.

3.3.7. The germinated seed as a whole: misshapen, broken and damaged, cotiledone appears before the root, two germinated seeds are jointed, yellow or white, longated and spindly, glassy, rot as the result of the primary infection.

3.4. The multi-germination seed is characteristics of certain plant varieties. More than one germinated seed may arise from it in case that:

- the seed contain more than one real seed (multiseed units of Dactylis and Festuca, unseparated shisocarpie of Umbelliferae, clews of Beta vulgaris etc.);

- the real seed contains more than one embryo (typical for polyembryo varieties) or exceptionally in other varieties (twins) when on of germinated seeds is weak or spindly, and sometimes both of them are with normal size;

- united embryo (sometimes two germinated seeds which arise from one seed are jointed).

3.5. The non-germinated seed is the seed which doesn’t germinate until the expiration of the period prescribed for the duration of the examination:

3.5.1. The hard seed is the form of dormant, common to many varieties of Leguminozae, but may also occur in other families. That seed cannot resorb water under given conditions and therefore it stays hard.

3.5.2. The fresh seed, which is not hard, and also is not germinated by the end of the examination, is the result of the physiological dormant. It can resorb water under given conditions, but its future development is blocked, although it is obviously capable for life.

3.5.3. The dead seed: soft, colorless or with changed color, with chaf, often attcked by microorganisms and it doesn’t show signs of the development of the germ.

3.5.4. The other non-germinated seed includes:

- the empty seed which contain fresh endosperm or gametofit tissue in which do not exist the embryonal chamber and embryo;

- the completely empty seed (which is completely empty or contains small remainings of the tissue);

- the seed damaged by insects (the seed which contains larva of insects or shows other signs of attack by harmful organisms), which may influence on its germination capability.

3.6. The germination is examined from the seed of the basic group “clean seed” under prescribed conditions.

3.7. The foilts for the examination of germination

3.7.1. The paper foilt may be filtr, blotter or paper which well resorb humidity (paper towels). This type of foilt should be made of hyndred percent clean wood, cotton or cleaned celulose fibre, without presence of funghi, bacteria or toxical supplements which may influence the germination. The paper foilt needs to be porous, but impact in a way that root grows at the surface and it doesn’t penetrate in the foilt, while paper may not be fissured. The foilt needs to resorb enough water in order to stay wet during the whole period of the germination, with the pH value between 6,0 and 7,5. The paper foilt is kept in cold, sterile and dry facility, protected from possible damages.

The unknown quality of the paper foilt is checked with the biological test using it for the examination of the germination of varieties sensitive on toxical substances (eg. Phleum pratense, Agrostis gigantea, Eragrostis curvula, Festuca rubra var. commutata and Lepidium sativum). Then the development of the root is compared on known and unknown foilt during the first evaluation of germinated seed.

3.7.2. The sand needs to be unified, and the size of kernels such that they pass through the sieve with the diameter of openings of 0,8 mm and stay on the sieve with openings with diameter of 0,05 mm. The sand may not contain impurities, seeds, funghi, bacteria, organic or toxical substances which may influence the germination. The humidity of watered sand should be optimal during the whole period of the germination and there may not be water in quantity to enable circulation of air through the foilt. The pH value should be between 6,0 and 7,5. The sand should be sterilised and washed if needed, and as such, may be used few times, if the seed which is examined is not chemically treated.

3.7.3. The soil needs to be of good quality, without impurities of bigg particles, funghi, bacteria, nemathodes or toxical and chemical substances which may influence the germination. The humidity should be such to enable air to reach out the root that is developing, with the pH value between 6,0 and 7,5. If the soil contains abovementioned unwanted impurities or substances or it is used few times, than it has to be sterilised in accordance with the same procedure as sand.

3.7.4. The water may not contain organic and non-organic impurities, and also destiled or de-ionizated water with the pH value between 6,0 and 7,5 may be used. .

3.8. The equipment for placement of the seed for germination

3.8.1. The counting plate: it is usually used during disposal or big-kernels seed on germinated foilt. It has 50 or 100 uniformly spaced openings at the upper plate, and when these are filled with the seed, the lower plate or the bottom are oversliped and the seed drip on the foilt.

3.8.2. The vacuum counters: they are used for normally shaped and smooth seeds (cereals, Brassica, Trifolium). 50 or 100 seeds are absorbed on openings of the head for counting which drop on the germination foilt with the switch off of the vaccum system. The heads are with different size, and openings, whose diameter is different in order to fit with the variety of seeds, is usually placed in the circle. The each opening needs to have only one seed. The counting heads may not be infused in the seed, because then only ligther seeds are absorbed.

3.9. The germination posts

3.9.1. The Jakobsen apparatus (the Copenhagen type of the germination post) is contained of the germination plate on which the filtr-paper with the seed is placed. The filtr is constantly watered using the stripe which reach through openings the pot with the water. The filtr with the seed covers the bel on whose top is the radiation opening. The temperature is usually regulated automatically. The apparatus is usable for all constant or modifiable temperatures.

3.9.2. The germination chamber is closed space for the germination of seeds in dark or in light. Modern chambers have the cooling and heating systems, which automatically regulate the appropriate temperatures (which is modified or uniformed) and the light and the humidity of the air (if that is “wet” chamber). If the temperature in the chamber is unified, and there is a need for modifiable temperature, test need to be moved from one chamber into another chamber with the appropriate temperature. The tests in the dry chamber need to be placed in closed dishes which are also recommendable for wet chambers.

3.9.3. The germination room works on the same principle on which the germination chamber works, only it is larger and more traversable for humans. The lightening, the temperature and the humidity of air are automatically regulated and controlled.

3.9.4. The working sample is 4 · 100 seeds which are randomly taken from the basic group “the clean seed” and uniformly spaced on the appropriate foilt for germination. The repetitions depend upon the variety of seeds and the type of the germination pot, and may be divided on sub-repetitions of 8 · 50 or 16 · 25 seeds. If seed is extremely infected, it may be moved on a new paper foilt during the repeated counting.

3.10. The conditions for the examination of germination of seeds for specific plant varieties are given in the chart 12 in norms of the quality and conditions for the germination of seeds.

3.11. The methodes of usage of the germination foilts

3.11.1. The paper foilts:

- On paper:the seed is germinating on one or more paper foilts in the Jakobsen apparatus, in separate pots or in Petry boxes or directly on plates in germination chambers (if the humidity inside them is high enough).

- Between the paper: the seed is germinating between the two layers of the paper foilt, in a manner that is covered with the layer of paper or it is placed between the crisp paper or between the paper which is scrolled in tubes and placed horizontally or vertically in the chamber. The seed may germinate in plastic dishes or directly on plates of germination chambers under condition that the humidity of the air is close to the level of saturation.

- The crisp paper: the seed germinates between the wrincles of paper in dishes or in the “wet” chamber for the germination.

3.11.2. The sand

On the sand: the seed is sift on the surface of the sand.

In the sand: the seed is placed on the layer of wet sand and covered with the layer of the same sand which is fat between 10 to 20 mm, but in a manner that ventilation is enabled. The sand may be used instead of the paper foilt due to the development of the disease. The sand is sometimes used and during the research of development of suspicious germinated seeds, although soil is more suitable for that.

3.11.3. The soil or compost are not recommendable for the first examination, because it is difficult to get the uniform foilt and when the germinated seeds show phyto-toxical signs or when their development on the paper is suspicious. The soil is most frequently used for the comparative examination or for research purposes, when only one-shot usage is recommended.

3.12. The humidity and the access of air

During the whole period of the germination, the foilt needs to be wet enough, but it may not contain a lot of water, which would disable access of air. The initial quantity of added water depends of the nature and the size of the foilt and the size of the seeds. The optimal quantity is determined by testing. Adding water in the meantime should be avoided because that may cause differences between the repetition in the test. The ventilation of the test on the paper and between the paper is not necessary, while for the crisp paper and for the sand should enable that there is enough air around the seed, due to which the seed is incoherently covered during application of methods with the sand and with the soil.

3.13. The temperatures

The tolerance on prescribed temperature may be at most ± 1°C. If there are prescribed alternate temperatures, the lower temperature should last 16, and higher 8h. Switching from one temperature to another temperature may last up to 3h, and for seed which is in stagnation phase, the temperature should be changed within 1h or faster and tests should be moved into another germination space with the lower temperature. If changing the temperature may not be surveillanced (Sundays, holidays), tests should be kept at the lower temperature.

3.14. The lightening

The seed germinate in light or in dark. The lightening with the artificial or daily light is recommendable for the better development of germinated seeds, which etiolate in the complete dark and may be attacked by the microorganisms, which cause difficulties in the evaluation of the germination. The light, for example, speed up the germination of grasses, while in other cases (eg. Phacelia tanacetifolia) light cause difficulties for the germination, therefore the special recommendations are prescribed for lightening or for the dark.

3.15. When too much hard or fresh seeds stay at the end of the examination (eg. Physiological stillness-dormant – inhibitory substances, hard seed) or if there is a presumption that there will be such phenomena on the seed, there are few methodes prescribed which may provide more complete insight in the germination of seeds.

3.15.1. The methodes for termination of the stillness of the seed:

the dry keeping: the seed which by its nature requires longer period of stillness is kept longer in the dry room;

the previous cooling: the seed of agriculture plants, vegetables and flowers is usually cooled on germination foilts, at the temperature between 5° to 10 °C, seven and more days before it is placed on appropriate temperature. Sometimes previous coolling needs to be longer or repeated, but that is not counted in period of time needed for the germination;

the previous heating of the seed on the germination foilts is necessary in some cases at the temperature between 30 to 35°C, seven or more days before it is placed in appropriate conditions for germination. That period of time is not counted in the period of time needed for the germination. For some tropical and sub-tropical varieties, it is necessary to provide the temperature between 40 to 50°C (eg. Arachis hypogea 40°C);

the lightening: the test is lightened for eight hours in duration of 24 h in period when the temperature is higher and during the modifiable temperature. The intensity of lightening with the cold white light should be between 750 to 1.250 lux. The lightening is particularly recommended for tropical and sub-tropical grasses (eg. Cynodon dac tylon);

The potassium-nitrate (KNO_3): (0,2%-water solvate) which is at the beginning used for watering the germination foilt. For afterward watering, should use the water;

Giberelin acid (GA_3): is recommended for varieties Avena sativa, Hordeum vulgare, Secale cereale, Triticosecale and Triticum aestivum. The germination foilt is watered with the 0,05% solvate of GA_3. If the stillness of the seed decreased, it is enough to use 0,02%, and if it is strong, then 0,1% solvate is used. If the concentration is higher than 0,08%, then dissolution of GA_3 in phospate powder solvate (1.7799 g Na_2 $NPO_4 \cdot 2H_2O$ and 1.3799 g Na $H_2PO_4 \cdot H_2O$ dissoluted in one liter of destiled water) is recommended;

Closed polyethilen wraps are when at the end of testing when there is left enough fresh seed. The repeated testing in closed polyethilen wraps of the appropriate size is recommended for the emanation of germination of fresh seed.

3.15.2. The method of softening the hard seed

It is typical that the hard seed which is inscribed in the declaration, stays at the end of the test of numerous varieties. In order to get more realistic result of the germination, it is necessary to use various methods to influence on decrease of percentage of hard seed in favour of germinated seed.

Infusing: seed with hard seed epiderm is infused in water for 24 to 48.

The mechanical damage of epiderm: the termination of stillness due to impermeable epiderm is achieved if the seed is stubbed, incised or rub out with sand, taking care that embryos are not damaged, therefore mechanical interventions are better at the opposite side from the embryo.

The processing of the seed with the acid: this method is applicable when concentrated sulphid acid (H_2SO_4) is used for softening of the hard hull. The seed is infused in the acid as long as it takes to begin to crisp, which lasts between few minutes and 1 hour. During the infusion, the seeds should be examined every few minutes, and after infusion, should be rinsed properly in current water and placed for germination under appropriate conditions. The seed of variety Oryza sativa is infused in normal azote acid (HNO_3) 24 h (after previous heating at the temperatures of 50 °C).

3.15.3. The methods of removal of inhibition substances:

rinsing: the natural substances in pericarp or in seed epiderm, which inhibit the germination, may be removed by rinsing with the current water at the temperature of 25°C before the seed is placed for germination. After rinsing, the seed should be desicated at the temperature of at most 25°C (eg. Beta vulgaris);

the removal of structures around the seed: the germination may be speed up if various structures are removed, such as piles or pre-chaf and surface chaf in some varieties of Gramineae;

the desinfection of seed may be applied before sifting of seed only in variety Beta vulgaris when it known that the seed is not treated.

3.16. The duration of examination of the germination

The duration of examination of the germination is determined for particular plant varieties. If it is noticed that some seeds are going to germinate even after that term, the germination period is prolonged up to seven days or for half of prescribed period, which has to be recorded, and when the highest possible germination is achieved, the examination may be finished before the prescribed time. The period for first evaluation is prescribed approximately, but it has to fit with the period when germs reached development phase in which their important characteristics may be evaluated. The time for evaluation is given for highest temperatures, while for lower temperatures first evaluation is moved for later moment. For examination in sand which lasts between 7 to 10 days, first evaluation may be avoided. If it is necessary, the evaluation may be performed in the meantime and the well developed germinated seeds may be removed. The analyst determines dates for the evaluation, having in mind the lowest risk for damage of insufficient developed germinated seeds.

3.17. The evaluation

3.17.1; The germinated seed: during the first and all other evaluations, the germinated seed whose all life structures are well developed, are separated. The diseased germinated seed, with mandatory determination of the agent, are separated before the final counting. The insufficiently developed and abnormal germinated seeds, as well and non-germinated seeds are left until the end of the examination of the germination. If there are signs of limited development or phyto-toxicology, the examination should be repated in the sand or in soil, at the temperature that is prescribed for that variety of seed.

3.17.2. Every multi-germination units with one or more germinated seeds is counted as one percentage of germination. If goal is the findling per number of germinated seeds on 100 units or per number of units which give one, two or more germinated seeds, than all normal germinated seeds are counted in the germination.

3.17.3. The non-germinated seeds:

the hard seed: at the end of period prescribed for the germination, the hard seed is counted, and its percentage is inscribed in the column of report: “hard seed”;

the fresh seed: recommendations for speed up of the germination are used, particularly if there is a big number of fresh seeds. The vitality of the fresh seed may be determined by biochemical method and inscribed in the report as “fresh seed”;

the dead seed: it doesn’t germinate, not hard nor fresh, it is soft and with chaf, with mandatory determination of the cause;

the other non-germinated seeds: the empty seeds and seeds which didn’t germinated. The number of empty seeds (damaged by harmful organisms) or seeds without the embryo is reported at the request.

For determination of these groups, the following methods may be applied: (1) before the examination of germination – radiation of test with X rays which are used for radiation of repetitions for the examination of germination, and by intersection of seeds, where each of four repetitions of 100 of seeds infused separately in water 24 h (-) at the room temperature, and each seed is intersected on longitudinal axis and evaluated; (2) after the examination of seeds, fresh seed which didn’t germinated, is intersected and evaluated. If tetrazol-test is applied (biochemical method), during preparation is evaluated the percentage of empty seed and seed damaged by harmful organisms.

3.18. The repetition of the examination

If the result of the examination is not acceptable, the examination shall be repeated using the same procedure or other more suitable method shall be choosen. The reasons for repeated examination are as follows:

- the suspicion on stillness of seed (the fresh seed);

- the determined (found) economically harmless plant diseases and harmful organisms;

- the errors related to prescribed conditions for development of germs or errors in evaluation.

3.19. The examination of germination of seeds with the coat

The seed with the coat from the basic group of "clean seed" is examined in a manner that the coat of seed is not removed. The paper, sand, and in some cases, soil is used as the germination foilt. For seed with the coat, the crisp paper (the recommendation: the crisp paper weighting 100 to 120 g on 1 m^2 and crisp filtr weighting 70 g on 1 m^2, with the possibility of absorption of water 220 to 240%) is used. The content of water vary depending on the coat of the seed and the variety of plant. If the coat of the seed is tightened to cotiledones, then it should be rinsed with the pulverized water. The seed from the stripe is placed between the paper and flexed in vertical packages. The working sample is $4 \cdot 100$ seeds with the coat. The seed in stripes is slivered randomly in order to form on stripe in small pieces four repetition of 100 seeds. The apparatus and the examination conditions are equal as for seed without the coat, and also are same as conditions for the termination of stillness. The slowing down of germination may be result of improper conditions for the germination or firm coat of the seed. The evaluation of development of germinated seeds, as well and evaluation of multi-seed units is same as evaluation of germination of seeds without the coat. The report contains the percentage of normal and abnormal germinated seeds and dead seeds. The number of normal germinated seeds per one meter of stripe is reported for seeds on stripes.

3.20. The calculation and reporting of results

The result if given as percentage of normal and abnormal germinated seeds, hard, fresh and dead seed, which is 100 in total. Each repetition is calculated separately (if there are 25 or 50 seeds, the result is sum of repetitions for 4 · 25 or 2 · 50 seeds). The average percentage of all repetitions is shown in whole number, without decimals.

The result of the biggest and the smallest percentage in repetition should be within the limits of allowed derogation, as well as in cases when the same sample is examined two times.

If derogations are higher, the examination has to be repeated.

Chart 5

The biggest possible tolerance between the repetitions

The average percentage of germination	The biggest derogation limit	The average percentage of germination	The biggest derogation limit		
1	2	3	1	2	3
99	2	5	87 to 88	13 to 14	13
98	3	6	84 to 86	15 to 17	14
97	4	7	81 to 83	18 to 20	15

96	5	8	78 to 80	21 to 23	16
95	6	9	73 to 77	24 to 28	17
93 to 94	7 to 8	10	67 to 72	29 to 34	18
91 to 92	9 to 10	11	56 to 66	35 to 45	19
89 to 90	11 to 12	12	51 to 55	46 to 50	20

The chart shows the biggest difference in percentage of germination which is tolerated between the repetitions. The allowed derogation between values of smaples is tolerated with 0,025 probability. In order to determine the biggest possible tolerance, the average percentage for all four repetitions is calculated, for the whole number. The average percentage of germination in chart columns 1 and 2 is determined and in the column 3 the biggest possible tolerance may be read.

Chart 6

CORRESPONDENCE OF EXAMINATIONS

The average percentage of germination	The biggest derogation limit	The average percentage of germination	The biggest derogation limit		
1	2	3	1	2	3
98 to 99	2 to 3	2	77 to 84	17 to 24	6
95 to 97	4 to 6	3	60 to 76	25 to 41	7
91 to 94	7 to 10	4	51 to	42 to 50	8
85 to 90	11 to 16	5			

		59

This chart shows the tolerance which may be used during deciding, for test with the random choice of variation, whether two examinations are correspondent with only 0,025 probability. In order to determine whether two examinations are correspondent, the average percentage of germination for two examinations is calculated, for whole closest number and it is determined in columns 1 and 2 of this chart. The tests are correspondent if the difference beween percentages of germination of two examinations doesn’t exceed tolerance referred to in column 3.

4. The biochemical examination of the vitality of seed (topographic tetrazol-test)

4.1. The biochemical examination is applied for fast determination of the vitality of seed in general, and particularly in case of long stillness (dormant) of seed:

- if at the end of the examination of germination a lot of non-germinated still seed (dormant) stayed, the vitality of single still seed or the vitality of the whole working sample is determined;

- the test is valid for all plant varieties for which there are prescribed methods.

4.2. The substances for the biochemical examination

The colorless solvate of 2, 3, 5, - threefenil-tetrazol-chloride or bromide as indicator of reduction processes which occur in live cells with help of hydogenaze is used in topographic tetrazol-test. That creates threefenil-formazan, which color live cells in red, while dead cells stay colorless. Watching difference of parts of necrotic tissue, the location and the size in embryo and/or endospermal, gametophyto tissue and per intensity of color, it is assessed which seed is live and which is dead. The difference in color are determinant for the determination of healthy, weakened or dead tissue.

0,1% to 1,0% water solvate of 2, 3, 5-threefenil-tetrazol-chloride or tetrazol-bromide is used. The concentration vary for different varieties. If powder-solvates of destiled water are not within pH value limits of 6,5 to 7,5, the solvate should be prepared in accordance with the following procedure:

A solvate is made of 9,078 g KH_2PO_4 in 1.000 ml of water;

B solvate is made of 9,472 g NA_2HPO_4 in 1.000 ml of water or 11,876 g $Na_2HPO_4 \cdot 2H_2O$ in 1.000 ml of water.

Two parts of A solvate are mixed with three parts of B solvate. Necessary quantity of tetrazole salt (or chloride or bromide) is dissoluted in that mixture in order to get wanted concentration (eg. 1 g of salt in 100 ml of mixed solvate gives 1% solvate).

4.3. The working sample is made of 4 · 100 seeds randomly choosen from basic group “clean seed” or single seeds for which is determined at the end of the examination of germination that they are still in stillness phase.

4.4 The preparation of seeds and procedures

4.4.1. The infusion of seeds prior coloring is recommended for all plant varieties. Wet seed is less fragile than dry seed, it is easier to be incised or stubbed and coloring is more uniform. (The infusion time is indicated in the chart). If the seed skin dooesnt allow goffering of seed, than it should be punctured.

- Slow watering is recommended for seed which may broke in water or for old and dry seed. The seed is watered between the two wet papers. The seed of certain varieties during slow watering doesn’t goffer, therefore it should be infused in the water.

- Infusing in water: the seed is infused in water, and if infusing lasts for 24h, the water should be replaced. The percentage of the hard seed in family Leguminosae is determined by infusion duting 22h at the temperature of 20°C, since other procedures do not provide valid results.

4.4.2 The preparation of the seed before coloring: the preparation of seed should be precise in order to avoud damaging of life important parts of tissue. Different techniques are applied for opening of the seed skin. The seed prepared in such a manner should be infused by the end of preparation for all repetitions. During prior infusion, seeds of certain plant varieties becomes pituitous. The mucilage is removed with surface drying or it is rubbed off with rubber or paper towel or it is infused for five minutes in 1 to 2% solvate of alluminum-potassium sulphide $AIK\ (SO_4)_2 \cdot 12H_2O$.

The seed which is previously infused or hard is punctured by needle or scalpel on life irrelevant side of the seed.

Longitudinal cut - halving:

- the cereals and grasses of size Festuca spp. and bigger are cut by longitude, amidst embryo axis and approximately three quarters of longitude of endosperm;

- the varieties of dicotile without endosperm and with flat embryo are cut by longitude through the middle between cotiledones, in a way that embryo stays undamaged;

- the varieties whose embryo is covered with endosperm or gametofite tissue, their embryo should be careffuly cut by longitude.

The crossing section of seed is performed on life irrelevant parts of tissues:

- the seed of grass is cut above the embryo, and the embrional part should be colored. The seed of dicotile without endosperm and with flat embryo should have one third of cotiledone cut;

- the crossing section is method suitable for small seed of grass sized as Agrostis, Phleum and Poa;

- peeling of embryo is method applied for barley, rye and wheat. The lancet is used to cave embrios with scutelum from endosperm and place them in solvate of tetrazole;

- The removal of the seed epiderm is method which is applied if previous procedures are suitable. If stone of the seed is hard (nutmegs and wooden fruits), than it should be careffuly opened or crashed when the seed is dry or after the infusion in order to avoid damaging embryo. The inner epidermis is removed after infusion.

4.5. The coloring

The seed should be totally covered with the solvate of tetrazole, and it shouldn't be exposed to direct light which provokes reduction of tetrazole salts. The time for coloring may be prolonged if the seed is not colored enough during the prescribed time. The lighter color may be result of damage after frost, weak seed, etc. A small quantity of funghicides or antibiotics (eg. 0,01% preventol 115) may be added to seed of certain varieties in order to prevent froting of the solvate with dark sludge. The small seed may be previously watered on paper which should be twisted or crumpled and placed in the solvate of tetrazole afterward.

4.6. The evaluation: the live and dead seed is evaluated. It is necessary to carefully evaluate characteristics which determine group of live or dead seed. The live seed shall be capable to develop normal germs during testing of the germination under favorable conditions when stillness (dormant) is terminated, and after appropriate desinfection, healthy. The seed or embryo which is totally of only partially colored on typical parts of tissue is considered as live. The dead seed is seed which doesn't have these characteristics or which is colored in non-characteristics manner, i.e. which has misty colored life important parts of cells. The seed with visible abnormaly developed embryo or abnormal life important parts, is evaluated as dead whether colored or not colored. The seed with small necrose on life irrelevant parts is evaluated as live.

4.7. The calculation and reporting of results: the number of live seeds from each repetition, shown in percentage, is calculated with joint percentage closest to the whole number. The derogations between repetitions are equal like during the examination of germination.

In the report, i.e. in the declaration it is stated: "Tetrazol test.... the percentage of live seed". In family Leguminosea, the percentage of hard seed found during the testing may be also indicated. If the individual seed is tested, the result is included in the percentage of germinated seed at the end of the germination test.

Chart 7

THE PROCEDURES OF TETRAZOL-TEST FOR VARIETIES CORYLUS SPP., MALUS SPP., PYRUS SPP. AND PRUNUS SPP.

The plant variety	Previous procedure	The preparation before the coloring	The coloring at 30°C		The preparation for the evaluation	The evaluation of maximum un-colored zone and allowed weak and necrotate tissue
			Solvate in %	Time (hours		
1	2	3	4	5	6	7

Corylus avellana	Break the stone and infuse seed in water for 18h	Remove the epidermis of the seed and by longitude cut between the cotiledones, infuse part with the cotiledone and embryo axis	1,0	16-24	Observation of embrios	The peak of the root, 1/3 of the surface of cotiledone, the middle part in diameter
Malus spp. Pyrus spp.	Infuse in water for 18h	Made the longitudinal cut at 1/3 from the peak	1,0	16-24	Observation of embrios	The peak of the root, 1/3 of the surface of cotiledone, and 1/2 of surface
Prunus spp.	Break the stone and take out the seed	Remove the epidermis of the seed, infuse for 5h and change water every hour	1,1 or 0,5	4-8	Promulgate (space) cotiledones	The peak of the root, 1/3 of the surface of cotiledone

The chart shows the procedure for preparation of the seed before coloring, the coloring (the concentration of solvate and the time at the temperature of 30°C), preparation for evaluation and the evaluation of colored samples. The seed with totally colored embryo and with un-colored or necrotated parts (as showed in the column 7) is capable for life.

5. The humidity of seed

5.1. The humidity of seed means the quantity of water in the seed expressed in percents. Prescribed methods for the examination of humidity disable reduction, retrogression or loss of perspirable substances.

5.2. The apparatus

5.2.1. The mill for milling of seed should be made of non-absorption and non-corrosive material, so that during the milling, seed or milled material are protected to the extent possible from the air from the environment; it should uniformly mill the seed and shouldn’t cause heating of the milled material; the circulation of air should be normal in order to prevent loss of the humidity and it should be prepared in a manner that fulfill the requirements for size of milled particles.

5.2.2. The owen with the constant temperature and appendixes should be electrically heated and supervised with the termostate, should be isolated properly, the temperature should be uniform in the whole chamber, should be equiped with the termometer with accuracy of 0,5°, that is can be heated on wanted temperature again within 15 minutes after it has been opened after previous heating for placement of dishes.

5.2.3. The dishes have to be made of non-corrosive metal or glass which is fat around 0,5 mm, they have to have panels which prevent loss of humid from the milled material, they have to be round, with the flat botton and smoothly grounded. The dishes should be dessicated before the usage for 1h at the temperature of 104 °C and cooled in the excitator. The milled material is disposed in a manner that there are 3 g on 1 cm^2 at most, and the excitator should enable fast cooling and it should be filled with the excitate material.

5.2.4. The analytical libra is used for fast measurement with the accuracy up to 0,001 g.

5.2.5. The sieves should have openings of 0,50 mm, 1,00 mm and 4,00 mm.

5.3. The procedures

5.3.1. The protection measure: the humidity sample should be closed in airtight packaging material from which the air has been maximaly removed, and the procedure of the determination of the humidity should be fast, while the sample is minimaly exposed to the outside atmosphere (laboratories). For varieties which are not milled, there may be 1 minute at most between the moment of taking the seed and the time when the working sample is closed in the drying pot and measured.

5.3.2. The result of measurement is shown in grams, with three decimals.

5.3.3. The humidity is examined in two repetitions from the humidity sample in quantity which fits the size of diameter of dishes:

- less than 8 cm - 4 to 5 g

- bigger than 8 cm - 10 g

5.3.4. The milling: the seed with big kernels should be minced before the dessication, with the exception of the seed which contains oil, which complicates mincing and increase the weight by oxidation (eg. Seeds of variety Linum with oils of high iod number). Before the preparation of the working sample, the humidity sample is minced. The seed of cereals and cotton is minced in particles of which at least 50% pass through the sieve with openings of 0,50 mm, and on the sieve with openings of 1,00 mm at least 10%. Minced particles of Leguminozeae are boisterous, so at least 50% stays at the entanglement with openings of 4,00 mm. When the mill for milling is regulated at wanted size of particles, then the small testing quantity of sample is minced and discarded afterward, and then the mass of sample bigger than mass needed for the examination of humidity is minced.

5.3.5. Previous drying: previous drying is necessary for the seed which has to be milled and the content of humidity is higher than 17% or 10% for Glycine max. or higher than 13% for Oryza sativa. Applying two repetitions of 25 g (measured at accuracy of 2,0 mg), they are placed in measured pots and desicated at the temperature of 130 °C, between 5 to 10 minutes. If the humidity of the seed Zea mays is above 25%, than it is disposed in layer fat up to 20 mm and desicated at the temperature of 70 °C, between two to five hours, depending on initial quantity of humidity. Other varieties whose seed contain humidity higher than 30%, are dessicated during the night in warm room (eg. on oven). In other cases also, seed is previously dessicated in the oven at the constant temperature of 130 °C in duration of 5 to 10 minutes. The dessicated seed is left in laboratoiry conditions for two hours. After previous desication, samples in dishes are measured again in order to determine the quantity of lost humidity, and then both are repeated, minced and examined in accordance with following methods:

- the method with the low constant temperature: the working sample is disposed in dishes for dessication which is measured with the panel before and after filling. The dishes with opened panels are then placed fast in the dessication oven to be dessicated at the temperature of 103 °C ± 2 °C within 17 h ± 1 h. The dessication begins when the temperature in the oven is again at the requested level. After prescribed time elapsed, the dishes are covered and moved to the excitator in which they are cooled 30 to 45 minutes, and measured, with panels, in conditions of relative humidity below 70%;

- the method with the high constant temperature: the procedure with the working sample is the same as it is in case of application of transitional method, but the dessication temperature is 130 to 133°C, and timing: 4 h for Zea mays, 2 h for other cereals and 1 h for other varieties of cultural plants, while there are no special requirements for level of relative humidity in the environment.

5.4. The calculation and the reporting of results: the humidity content is reported (calculated) in percent, on one decimal, using the following formula:

$$(M_2 - M_3) \cdot \frac{100}{M_2 - M_1} \text{ where:}$$

M_1 – is the mass of the pot and the panel in grams;
M_2 – is the mass of the pot, panel and the content before the dessication;
M_3 – is the mass of the pot, panel and the content after the dessication.

In case that seed is previously dessicated, both results are valid (from previous dessication and dessication). If S_1 is loss of humidity in the first phase and the loss of humidity in the second phase, both are calculated using the above formula and expressed in the percentage. The percentage of the real humidity is calculated using the following formula:

$$\text{The content of humidity, in percentage} = S_1 + S_2 \frac{S_1 \cdot S_2}{100}$$

Chart 8

THE VARIETIES FOR WHICH THE SAMPLE FOR THE EXAMINATION OF HUMIDITY IS MILLED

Arachis Hypogaea	Oryza sativa
Avena spp.	Phaseolus spp.
Cicer arietinum	Pisum sativum (svi var.)
Citrullus lanatus	
Fagopyrum esculentum	Quercus spp.
	Ricinus communis
Glycine max	Secale cereale
Gossypium spp.	Sorghum spp.
Lathyras spp.	Triticum spp.
Lupinus spp.	Zea mays

Chart 9

THE VARIETIES WHICH ARE DESSICATED AT THE LOW CONSTANT TEMPERATURE

1	2
Allium spp.	Malus spp.
Arachis hypogaea	Pyrus spp.
Brassica spp.	Prunus spp.
Camelina sativa	Raphanus sativus
Capsicum spp.	Ricinus communis
Corylus spp.	Sesamum indicum
Glicine max	Sinapis spp.
Gossypium spp.	Solanum melongena
Helianthus annus	
Linum usitatissimum	

Chart 10

THE VARIETIES WHICH ARE DESSICATED AT THE HIGH CONSTANT TEMPERATURE

Agrostis spp.	Medicago spp.
Alopecurus pratensis	Melilotus spp.
Anethum graveolens	Nicotiana tabacum
Anthoxanthum odoratum	Onobrychis viciifolia
	Ornithopus sativus
Anthriscus spp.	Oryza sativa
Apium graveolens	Papaver spp.
Arrhenatherum spp.	Papaver somniferum
Asparagus officinalis	Paspalum dilatatum
Avena spp.	Pastinaca sativa
Beta vulgaris (all varieties)	Petroselinum crispum
	Phallaris spp.
Bromus spp.	Phaseolus spp.
Cannabis sativa	Phleum spp.
Carum carvi	Pisum sativum (all varieties)
Chloris gayana	
Ciceer arietinum	Poa spp.
Cishorium spp.	Scorzonera hispanica
Citrullus lanatur	Secale cereale
Cucumis spp.	Sorghum spp.
Cucurbita spp.	Spinacia oleracea
Cuminum cyminum	Trifolium spp.
Cynodon dactylon	Trisetum flavescens
Cynosurus cristatus	Triticum spp.
Dactylis glomerata	Valerianella locusta

Dacus carota Deschampsia spp. Fagopyrum esculentum Festuca spp. Holcus lanatus Hordeum vulgare (all varieties) Lactuca sativa Lathyrus spp. Lepidium sativum Lolium spp. Lotus spp. Lupinus spp. Lycopersicon lycopersicum	Vicia spp. Zea mays

5.5. The a**llowed derogations during the determination of the humidity content in the seed**

5.5.1. The arithmetic average for both repetitions is calculated. If the difference between both results is more than 0,2%, the procedure needs to be repeated. For varieties of seed Malus spp., Pyrus sp. and Prunus spp. and similar, allowed derogations are between 0,3% to 2,5%, depending on the size of the seed.

Chart 11

THE ALLOWED LEVEL OF DIFFERENCES BETWEEN TWO DETERMINATIONS OF THE HUMIDITY CONTENT FOR THE FRUIT SEED

The size of the seed, the number of seed, in kg	The initial humidity content, in %	The tolerance, in %
Small seed more than 5000	Less than 12	0,3
	Bigger than 12	0,5
Small seed more than 5000	Less than 12	0,4
	12-25	0,8
Bigg seed less than 5000	Bigger than 25	2,5
Bigg seed less than 5000		
Bigg seed less than 5000		

6. The mass of 1.000 seeds

6.1. The examination of mass for 1.000 seeds is performed by taking 1.000 seeds from the fraction "clean seed" and by their measurement, it is determined the average mass of 1.000 seeds, expressed in grams.

The special or simple apparatus for counting which is used for the examination of germination is used for sampling. The working sample may be the whole fraction "clean seed" or repetitions in this fraction.

6.2. The counting procedures

6.2.1. The counting of the whole working sample: the whole working sample (fraction "clean seed") is passed through the apparatus, and the number is readout at the indicator, measured in grams, at the same decimals as during the analysis of clearness.

6.2.2. The repetition of counting: eight repetitions are choosen randomly (manualy) or with the counter for germination, each of them contains 100 seeds, which are measured at the same decimals as during the analysis of clearness, and the variability is calculated, as well and the standard deviation and variable coeficient, iin accordance with following formulas:

$$\text{The variability} = \frac{n\,(\square x^2) - (\square x^2)}{n\,(n - 1)} \quad \text{where:}$$

x – is the mass of each repetition in grams;
n – is the number of repetitions;
□ -is the total sum.

The standard deviation (s) = $\sqrt{}$ variability

$$\text{The variability coeficient} = \frac{s}{\bar{x}} \cdot 100$$

$\bar{x}$= is the average mass of 100 seeds.

If the variability coeficient doesn’t exceed 6,0 for grasses with chaf or 4,0 for other seeds, than the result may be calculated. When the variability coeficient exceeds any of these limits, than that is reported, eight repetitions are measured again and the standard deviation is calculated for 16 repetitions, and each repetition which differ from the average for more than the double standards deviation is isolated.

6.3. The calculation and the reporting of results

6.3.1. If the counting is done with the apparatus from the quantity of whole working sample, then the mass of 1.000 seeds is calculated. If eight or more repetitions of 100 seeds are counted, then the number is multiplied with the average mass of 100 seeds and the average mass of 1.000 seeds is the result (eg. 10times $\bar{x}$).

6.3.2. The mass and the size of the seed with the coat is examined in a manner that the whole fraction of 1000 seeds with the coat is counted, measured and calculated. For that procedure, the sample of appropriate size is taken, sift with the sieve (the clearness of the seed with the coat) and each sift fraction is determined. For the determination of the mass are used appopriate apparatus for counting, and for the determination of size-the appropriate sifts in accordance with procedures determined for determination of the clearness of the coated seed (the recommendation for Beta seed and for polished seed).

Chart 12

7. The norms of quality and conditions for germination of seeds

THE SIZE OF SHIPMENT, THE MASS OF THE SAMPLE, NORMS OF QUALITY AND CONDITIONS FOR EXAMINATION OF GERMINATION OF SEEDS

The explanation of symbols for reading the chart:

1) The foilts for germination:

IF – between the filtr paper, i.e. blotter;
NF – on the filtr paper,. i.e. blotter;
P - sand.

2) The temperature:

- one number indicates the constant temperature (eg. "20; 15");
- two numbers divided with the dash indicate reciprocal temperatures (eg. "20 - 30").

3) The light:

S – plant varieties examined in the light;
T - plant varieties examined in the dark.

4) The procedure for suspension of stillness and other recommendations:

Ph – previous cooling;
PS – previous drying;
KNO_3 - 0,2% - solvate of Potassium-nitrate;
GA_3 – solvate of giberelin acid;
T T. - tetrazolium test

Ordinal number	Plant variety (latin name)	The size of a shipment at most - kg	The mass of a sample (g)			The norms of the quality of seeds				The conditions for examination of germination			
			Average	Working	For presence of other varieties and weeds	Purity at least %	Presence of	Germination at least %	Content of humidity at most %	Additional norms and working orders	Foilt	Temperature in °C	Number of days

							Other species at most %	Weeds at most %						First evaluation	Final evaluation	Procedure for suspension of stillness and other recommendations
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
12.1. Cereals, industrial, plants for animal feed and vegetables																
1	Agropyron spp.	10000	150	15	150	88	3		65	13	-	NF	20-30;15-25	5	14	Ph, KHO3
2	Agrostis canina L.	10000	25	0,5	5	82	2	1	70	12		NF	20-30-; 15-25;10-30	7	21	Ph, KNO3
3	Agrostis gigantea Roth	10000	25	0,5	5	82	2	1	70	12	-	NF	20-30; 15-25;10-30	5	10	Ph, KNO3
4	Agrostis stolonifera L. sa A.	10000	25	0,5	5	82	2	1	70	12	-	NF	20-30; 15-25;10-30	7	28	Ph, KNO3

	palustris Hudson i A. tenuis															
5	Allium cepa L.	10000	80	8	80	96	0,2	0,3	65	12		NF,IF	20;15	b	12	Ph
6	Allium fistulosum L.	10000	50	5	50	96	0,3	0,2	65	12	-	NF,IF	20;15	6	12	Ph
7	Allium porrum L.	10000	70	7	70	96	0,2	0,3	65	12		NF,IF	20;15	6	14	Ph
8	Allium shoenoprasum L.	10000	30	3	30	96	0,2	0,3	65	12	-	NF,IF	20;15	6	14	Ph
9	Alopecurus pratensis L.	10000	30	3	30	82	3	2	60	13	-	NF	20-30; 15-25;10-30	7	14	Ph, KNO_3
10	Aethum graveolens L.	10000	40	4	40	90	0,5	0,5	60	13		NF,IF	20-30; 10-30	7	21	Ph

11	Anthoxanthum odoratum L.	10000	25	2	20	88	2	2	60	13	-	NF	20-30	6	14	
12	Anthyllis vulneraria L.	10000	60	6	60	82	2	1	65	13		NF,IF	20	5	10	Ph
13	Apium graveolens L.	10000	25	1	10	94	0,5	0,5	60	13	-	NF	20-30	10	21	Ph, KNO3
14	Arachis hypogaea L.	20000	1.000	1.000	1.000	67	0	0	65	11		IF,P	20-30;25	5	10	Remove the coat; PS (40°C)
15	Arrhenatherum elatius (L.) P. Beauv. ex J.S. et KB. Presl	10000	80	8	80	88	3	2	65	13		NF	20-30	6	14	Ph

16	Asparagus officinalis L.	20000	1.000	100	1.000	97	0,5	0	65	13	-	NF,IF,P	20-30	10	28	
17	Avena sativa L.	20000	1.000	120	1.000	97	0	0	82	15	Examine the mass of 1000 seeds	IF.P	20	5	10	PS (30° -35°C) Ph, GA3
18	Beta vulgaris L (all varieties)	20000	500	50	500	96	0,3	0	65	14	Examine the mass of 1000 seeds	NF,IF, P	20-30:15-25	4	14	Previous rinsing: 2 h for multi-germination, 4 h for single-germination
19	Beta vulgaris saccharifera lange – multi-germination	20000	500	50	500	97	0,3	0,1	80	15	Examine the mass of 1000 seeds. Single germination varieties have to	NF,IF P	20-30:15-25	4	14	Previous rinsing: 2 h for multi-germination, 4 h for single-germination,

											have at least 90% of single germinated seeds					
	- segmented	20000	500	50	500	97	0,3	0,1	85	15		NF,IF,P	20-30;15-25	4	14	
	- Single germination	20000	500	50	500	97	0,3	0,1	85	15		NF,IF,P	20-30;15-25	4	14	
20	Borago officinalis L.	10000	450	45	450	97	0,2	0,1	75	13	-	NF,IF	20-30;20	5	14	-
21	Brassica chinensis L.	10000	40	4	40	96	0,5	0,3	75	12	-	NF	20-30,20	5	7	-
22	Brassica	10000	100	10	100	96	0,5	0,3	75	12		NF	20-30;20	5	7	Ph
23	napus															

	L. Brassica napus L. var. napobrassica (L.) Reichb.	10000	100	10	100	96	0,5	0,3	75	12	NF	20-30;20	5	14	Ph
24	Brassica nigra (L.) Koch.	10000	40	4	40	97	0,2	0,3	75	12	NF	20-30;20	5	10	Ph,KNO3
25	Brassica oleracea L. (all varieteis)	10000	100	10	100	96	0,5	0,3	75	12	NF	20-30;20	5	10	Ph,KNO3
26	Brassica pekinensis (Lour.)	10000	40	4	40	96	0,5	0,3	75	12 -	NF	20-30;20	5	7	Ph

	Rupr.															
27	Brassica rapa L. (including B. campestris L.)	10000	70	7	70	96	0,5	03	75	12	Examine the mass of 1000 seeds	NF	20-30;20	5	7	Ph,KNO3
28	Bromus arvensis L.	10000	60	6	60	88	3	1	65	13		NF	20-30;15-25	7	21	Ph,KNO3
29	Bromus carinatus Hook et. Arn.	10000	200	20	200	88	3	1	65	13		NF	20-30; 15-25;10-30	7	14	Ph,KNO3
30	Bromus catharticus Vahl.	10000	200	20	200	88	3	1	65	13	-	NF	20-30	7	28	Ph,KNO3

31	Bromus inermis Leysser i B. unioloides	10000	90	9	90	88	3	1	65	13	-	NF	20-30;15-25	7	14	Ph,KNO3
32	Bromus marginatus Nees ex Steudel	10000	200	20	200	88	3	1	65	13	-	NF	20-30;15-25	7	14	Ph,KNO3
33	Bromus mollis L.	10000	50	5	50	88	3	1	65	13	-	NF	20-30	7	14	Ph
34	Bromus sitchensis Trin.	10000	200	20	200	88	3	1	65	13	-	NF	20-30;15-25	7	21	Ph
35	Camelina sativa (L.)	10000	40	4	40	95	0,2	0,5	70	14	-	NF	20-30	4	10	-

	Crantz															
36	Cannabis sativa L	10000	600	60	600	96	0,2	0,2	70	13	Examine the mass of 1000 seeds	NF,IF	20-30;20	3	7	
37	Capsicum spp.	10000	150	15	150	97	0	0	65	12	-	NF,IF	20-30	7	14	KNO3
38	Carum carvi L.	10000	80	8	80	94	0,5	0,5	60	12	-	NF,IF	20-30	7	21	-
39	Cicer arietinum L.	20000	1.000	1.000	1.000	97	0	0	75	13	-	IF,P	20-30;20	5	8	
40	Cichorium endivia L.	10000	40	4	40	94	0,5	0,5	70	14	-	NF	20-30;20	5	14	KNO3
41	Cichorium intybus L.	10000	50	5	50	94	0,5	0,5	70	14		NF	20-30;20	5	14	KNO3
42	Citrullus lanatus	20000	1.000	250	1.000	98	0	0	80	14		IF,P	20-30 ;25	5	14	

	(Thunb) Matsum.et Nakai															
43	Coriandrum sativum L.	10000	400	40	400	90	0,2	0,2	65	12		NF,IF	20-30;20	7	21	-
44	Coronilla varia L.	10000	100	10	100	95	3	1,5	65	13		NF,IF	20	7	14	-
45	Cucumis melo L.	10000	150	70	150	98	0	0	80	14	-	IF,P	20-30;25	4	8	-
46	Cucumis sativus L.	10000	150	70	150	98	0	0	80	14		NF IF,P	20-30;25	4	8	
47	Cucurbita maxima Duchesne i C. mosch	10000	350	180	350	98	0	0	80	14	-	IF,P	20-30 ;25	4	8	

	ata (D.) D.ex.P .																
48	Cucurbita pepo L.	20000	1.000	700	1.000	98	0	0	80	14		IF,P	20-30	;25	4	8	-
49	Cuminum cyminum L.	10000	60	6	60	94	0,2	0,3	65	13		NF	20-30		5	14	-
50	Cynara scolymus L.	20000	1.000	120	1.000	94	2	2	70	13		IF,P	20-30		7	21	-
51	Cynodon dactylon (L.) Pers	10000	25	1	10	94	2	2	70	13	-	NF	20-35:20-30		7	21	Ph,S, KNO3
52	Cynosurus cristatus L.	10000	25	2	20	94	2	2	70	13	-	NF	20-30		10	21	Ph,KNO3
53	Dactyl	10000	30	3	30	82	2	2	70	13	-	NF	20-		7	21	Ph,KNO3

	is glomerata L.												30:15-25			
54	Daucus carota L.	10000	30	3	30	94	0,5	0,5	60	12	-	NF, IF	20-30;20	7	14	-
55	Deschampsia spp.	10000	25	1	10	94	2	2	70	13		NF	20-30;20	7	16	Ph,KNO3
56	Eragrostis curvula (schrader) Nees	10000	25	1	10	94	2	2	70	13		NF	20-35;15-30	6	10	Ph,NO3
57	Eragrostis tef (Zuccagni) Trotter	10000	25	1	10	94	2	2	70	13		NF	20-30	4	10	Ph.KNO3
58	Fagopyrum esculentum Moenc	10000	600	60	600	94	1	1	75	14	At most 30 seeds of F.	NF,IF	20-30 ;20	4	7	

	h										tata-ricum in 500 g. Examine the mass of 1000 seeds					
59	Festuca arundinacea Schreber	10000	50	5	50	94	3		75	13		NF	20-30;15-25	7	14	Ph,KNO3
60	Festuca heterophylla Lam	10000	60	2	20	94	3	1	75	13	-	NF	20-30;15-25	7	21	Ph,KNO3
61	Festuca ovina L.	10000	30	3	30	94	3	1	75	13	-	NF	20-30;15-25	7	21	Ph,KNO3
62	Festuca	10000	50	5	50	94	3	1	75	13	-	NF	20-30;15-25	7	14	Ph,KNO3

	pratensis Hudson															
63	Festuca rubra L.	10000	30	3	30	90	3	1	70	13	-	NF	20-30;15-25	7	14	Ph,KNO3
64	Foeniculum vulgare Miller	10000	180	18	180	94	0	0	65	13	-	NF,IF	20-30	7	14	-
65	Glycine javanica L.	10000	150	15	150	96	0	0	75	14	Examine the mass of 1000 seeds	NF	20-30;10-35	4	10	
66	Glycine max (L.) Merr.	20000	1.000	500	1.000	**94**	0	0	**70**	14	Examine the mass of 1000 seeds	IFL	20-30;25	5	8	
67	Gossypium	20000	1.000	350	1.000	97	0	0	70	12	-	IF,P	20-30; 25	4	12	-

	spp.															
68.	Helianthus annuus L.	20000	1.000	200	1.000	97	0	0	80	11	Examine the mass of 1000 seeds	IF,P	20-30;25;20	4	10	PS,Ph
69	Hibiscus esculentus L.	20000	1.000	140	1.000	94	1	0,2	65	12	-	NF,IF,P	20-30	4	21	-
70	Holcus lanatus L.	10000	25	1	10	82	3	2	65	13	-	NF	20-30	6	14	Ph,KNO3
71	Hordeum vulgare L. For seeds of jarnog barley produced in year	20000	1.000	120	1.000	97	0	0	88	14	Examine the mass of 1000 seeds	IF,P	20	4	7	PS (30-35°C) Ph,GA3

	1997, level of germination is 82%																
72	Lactuca sativa L.	10000	30	3	30	94	0,5	0,5	70	12	-	NF,IF	20	4	7	Ph
73	Lagenaria siceraria (Molina) Standley	20000	1.000	500	1.000	98	0	0	80	14	-	IF,P	20-30	4	14	
74	Lathyrus hirsutus L.	10000	700	70	700	94	2	1	75	15	-	IF,P	20	7	14	-
75	Lathyrus sativus L.	20000	1.000	450	1.000	94	2	1	75	15	Examine the mass of 1000	IF,P	20	5	14	

											seeds					
76	Lens culinaris Medikus	10000	600	60	600	96	0,5	0,2	75	15	-	IF,P	20	5	10	Ph
77	Lepidium sativum L.	10000	60	6	60	96	0,3	0,3	75	14	-	NF	20-30;20	4	10	Ph
78	Linum usitatissimum L.	10000	150	15	150	97	0,5	0,5	75	12		NF,IF	20-30;20	3	7	Ph
79	Lolium X boucheanum Kunth.	10000	60	6	60	94	2	1	70	13	-	NF	20-30;15 25;20	5	14	Ph,KNO3
80	Lolium multiflorum Lam.	10000	60	6	60	94	2	1	70	13	-	NF	20-30;15 25;20	5	14	Ph,KNO3
81	Lolium perenne L.	10000	60	6	60	94	2	1	70	13	10% of fluoroscent	NF	20-30;15 25;20	5	14	Ph,KNO3

											sprouts is considered as English ljulj					
82	Lotus corniculatus L.	10000	30	3	30	94	3	1	65	13	-	NF,IF	20-30;20	4	12	Ph
83	Lotus uliginosus Schk.	10000	25	2	20	94	3	1	65	13	-	NF,IF	20-30;20	4	12	Ph
84	Lupinus albus L.	20000	1.000	450	1.000	97	0,5	0,2	75	15	-	IF,P	20	5	10	Ph
85	Lupinus angustifolius L.	20000	1.000	450	1.000	97	0,5	0,2	75	15	-	IF,P	20	5	10	Ph
86	Lupinus luteus L.	20000	1.000	450	1.000	97	0,5	0,2	75	15	-	IF,P	20	10	21	Ph

87	Lycopersicon lycopersicum (L.) Karsten	10000	15	7	15	97	0	0	75	12	-	NF,IF,	20-30	5	14	KNO3
88	Medicago lupulina L.	10000	50	5	50	95	3	1,5	65	13	-	NF,IF	20	4	10	Ph
89	Medicage sativa L. M.X varia T. Martyn	10000	50	5	50	95	2	0,5	70	13	-	NF,IF	20	4	10	Ph
90	Melilotus alba Med.i M.officinal-ls (L.) Pall.	10000	50	5	50	95	3	1	65	13		NF,IF	20	4	7	Ph
91	Nicoti	10000	25	0,5	5	97	0	0	70	10	-	IF	20-30	7	16	KNO3

	ana tabacum L.															
92	Ocimum basilicum L.	10000	40		4	40	90	0,3	0,2	65	12	-	NF	20-30	4	14	KNO3
93	Onobrychis viciaefolia Scop. (harvest/seeds	10000	600	400	60 40	600 400	96	0,5	0,5	75	13		NF,IF, P	20-30;20	4	14	Ph
94	Origanum majora na L.	10000	25		0,5	5	95	0,2	0,2	65	12	-	NF	20-30;20	7	21	-
95	Ornithopus sativus Brot.	10000	90		9	90	96	2	I	65	13	-	NF,IF	20	7	14	
96	Oryza sativa L.	20000	400		40	400	96	0,5	0,2	85	14	Examine the mass of	NF, IF,P	20-30:25	5	14	PS 50°C. Infuse seeds in H2O or HNO3 (24 h)

											1000 seeds					
97	Panicum antidotale Retz.	10000	25	2	20	97	1	0,2	75	13	-	NF	20-30	7	28	
98	Panicum coloratum L.	10000	25	2	20	97	1	0,2	75	13	-	NF	20-35;	7	28	
99	Panicum maximum Jacq.	10000	25	2	20	97	1	0,2	75	13	-	NF	15-35;20-30	10	28	Ph,KNO3
100	Panicum miliaceum L.	10000	150	15	150	97	1	0,2	75	13		NF,IF	20-30;25	3	7	-
101	Panicum ramosum L.	10000	90	9	90	97	1	0,2	75	13	-	IF	20-30	4	14	PS,KNO3
102	Panicum virgat	10000	30	3	30	97	1	0,2	75	13	-	NF	15-30	7	28	Ph,KNO3 Ph

	um L.															
103	Papaver somniferum	10000	25	1	10	97	0	0	65	10	-	NF	20	5	10	Ph
104	Pastinaca sativa L.	10000	100	10	100	94	0,5	0,5	60	12		NF, IF	20-30	6	28	-
105	Petroselinum crispum (Miller) N.ex.A. W. Hill	10000	40	4	40	94	0,5	0,5	60	13	-	NF, IF	20-30	10	28	-
106	Phacelia tanacetifolia Benth.	10000	40	5	40	94	2	1	65	13	-	NF, IF	20-30;20,15	5	14	Ph.T
107	Phalaris arundinacea L.	10000	30	3	30	94	1	1	65	14	-	NF	20-30	7	21	Ph.KNO3

108	Phalaris canariensis L.	10000	200	20	200	94	1	1	75	14	-	NF, IF	20-30;15-25	7	21	Ph,KNO3
109	Phaseolus coccineus L.	20000	1.000	1.000	1.000	98	0	0	75	14	Examine the mass of 1000 seeds	IF,P	20-30;20	5	9	-
110	Phaseolus mungo L.	20000	1.000	700	1.000	97	0	0	75	14	-	IF.P	20-30;25;20	4	7	-
111	Phaseolus vulgaris L.	20000	1.000	700	1.000	97	0	0	70	14	Examine the mass of 1000 seeds	IF,P	20-30;25;20	5	9	
112	Phleum bertolonii DC.	10000	25	1	10	96	1	1	75	13		NF	20-30;15-25	7	10	Ph,KNO3
11	Phleu	10000	25	1	10	96	1	1	75	13	-	NF	20-	7	10	Ph,KNO3

3	m pratense L.												30;15-25			
114	Physalis pubescens L.	10000	25	2	20	97	0	0	70	12	-	HF	20-30	7	28	KNO3
115	Pimpinella anisum L.	10000	70	7	70	94	0,5	0,2	65	12	-	NF, IF	20-30	7	21	
116	Pisum arvence L.	20000	1.000	900	1.000	94	3	1	75	15	Examine the mass of 1000 seeds	IF,P	20	5	8	
117	Pisum sativum L.	20000	1.000	900	1.000	96	0	0	75	15	Examine the mass of 1000 seeds	IF,P	20	5	8	
118	Poa ampla Merr.	10000	25	1,5	25	82	2	1	65	12	-	NF	20-30; 15-25;10-30	7	28	Ph,KNO3

119	Poa annua L.	10000	25	1	10	82	2	1	65	12	-	NF	20-30;15-25	7	21	Ph,KNO3
120	Poa bulbosa L.	10000	30	3	30	82	2	1	65	12	-	NF	15-25	10	35.	KNO3
121	Poa compressa L.	10000	25	0,5	5	82	2	1	65	12	-	NF	15-25;10-30	10	28	Ph, KNO3
122	Poa nemoralis L.	10000	25	0,5	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3
123	Poa palustris L.	10000	25	0,5	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3
124	Poa pratensis L.	10000	25	1	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3
125	Poa trivialis L.	10000	25	0,5	5	82	2	1	65	12	-	NF	20-30;15-25	7	21	Ph,KNO3
126	Portulaca oleracea L.	10000	25	0,5	5	94	0,5	0,2	60	12	-	NF,IF	20-30	5	14	Ph
127	Raphannus	10000	300	30	300	94	0,5	0,5	70	13	-	NF,IF	20-30;20	4	10	Ph

	sativus L.															
128	Rheum rhaponticum L.	10000	450	45	450	95	0,5	0,1	75	13	-	NF	20-30	7	21	-
129	Ricinus communis L.	20000	1.000	500	1.000	97	0	0	75	11	-	IF,P	20-30	7	14	-
130	Satureja hortensis L.	10000	20	2	20	95	0,2	0,2	65	12	-	NF	20-30	5	21	-
131	Scorzonera hispanica L.	10000	300	30	300	86	0	0,2	65	12	-	NF,IF	20-30;20	4	8	Ph
132	Secale cereale L.	20000	1.000	120	1.000	97	0	0	82	14	Examine the mass of 1000 seeds	NF,IF,P	20	4	7	Ph,GA3
133	Sesamum	10000	70	7	70	97	0,3	0,3	75	10	-	NF	20-30	3	6	-

	indicum L. (S. orientale L.)																
134	Setaria italica (L.)P. Beauv.	10000	90	9	90	94	2	1	70	13	-	NF,IF	20-30		4	10	-
135	Sinapis alba L.	10000	200	20	200	94	0,5	0,5	75	12	-	NF	20-30	DO	3	7	Ph
136	Solanum melongena L.	10000	150	15	150	96	0	0	65	13	-	NF,IF	20-30		7	14	-
137	Sorghum halepense (L.) Pers	10000	90	9	90	94	0,5	0,5	70	14	Examine the mass of 1000 seeds	NF,IF	20-35;20-30		7	35	-
138	Sarghum sudan	10000	250	25	250	94	0,5	0,5	65	13	Examine the	NF,IF	20-30		4	10	Ph

	ense (Piper) Stapf										mass of 1000 seeds					
139	Sorghum vulgare (S. bicolor (L.) Moench)	10000	900	90	900	96	0,5	0,2	70	15	Examine the mass of 1000 seeds	NF,IF	20-30;25	4	10	Ph
140	Spinacia oleracea L.	10000	250	25	250	94	0,2	0,5		6135	-	NF, IF	15;10	7	21	Ph
141	Tetragonia tetragonioides (Pallas) Kuntze	20000	1.000	200	1.000	94	0,2	0,5		6130	-	IF.P	20-30;20	7	35	Remove the pulp; previous rins
142	Thymus vulgaris L.	10000	25	0,5	5	92	0,3	0,2		6120	-	NF	20-30;20	7	21	-

143	Tragopogon porrifolius L.	10000	400	40	400	86	0	0,2	6125	-	NF, IF	20	5	10	Ph
144	Trifolium alexandrinum L.	10000	60	6	60	95	2	0,5	7130	-	NF, IF	20	3	7	-
145	Trifolium campestre Schreber	10000	25	0,5	5	94	2	0,5	7130	-	NF, IF	20	4	14	-
146	Trifolium hybridum L.	10000	25	2	20	95	2	0,5	7130	Up to 3% of seeds of the white lucerne is counted as other varieties	NF, IF	20	4	10	Ph, sealed in polyethilen envelo
147	Trifolium incarnatum	10000	80	8	80	95	2	0,5	7130	-	NF, IF	20	4	7	Ph, sealed in polyethilen envelo

	L.														
148	Trifolium pratense L.	10000	50	5	50	95	2	0,5	7130	-	N F, IF	20	4	10	Ph
149	Trifolium repens L.	10000	25	2	20	95	2	0,5	7130	Up to 3% of seeds of the hybrid lucerne is counted as other varieties	N F, IF	20	4	10	Ph, sealed in polyethilen envelo
150	Trifolium resupinatum L.	10000	25	2	20	95	2	0,5	7130	-	N F, IF	20	4	7	-
151	Trifolium subterraneum L.	10000	250	25	250	96	2	0,5	7130	-	N F, IF	20;15	4	14	T
152	Trisetum flaves	10000	25	0,5	5	88	3	2	6125	-	N F	20-30	7	21	Ph,KNO3

	cens (L.) P. Beanov.														
153	Triticum aestivum L. emend. Fiori et. Paol., T. durum Desf., X Triticosecale Wittm. i tritikale	20000	1.000	120	1.000	97	0	0	**82** 14	Examine the mass of 1000 seeds	NF, IF ,P	20	4	8	PS (30° -35°C), Ph, GA3
154	Valerianella locusta (L.) Laterr.	10000	70	7	70	90	0,3	0,5	6130	-	NF, IF	20,15	7	28	Ph

155	Vicia faba L.	20000	1.000	1.000	1.000	97	0	0	7155	Examine the mass of 1000 seeds	IF,P	20	4	14	Ph
156	Vicia pannonica Crantz	20000	1.000	120	1.000	94	3	1	7145	Up to 3% of Vicia sativa is not counted as other varieties. Examine the mass of 1000 seeds	IF,P	20	5	10	Ph
157	Vicia sativa L. i V. angustifolia L.	20000	1.000	140	1.000	94	3	1	75 14	Up to 3% of Vicia pranonica is not counted as other	IF,P	20	5	14	Ph

											varieties. Examine the mass of 1000 seeds					
158	Vicia villosa Roth i V. dasycarpa Ten.	20000	1.000	100	1.000	94	3	1	75	14	-	IF,P	20	5	14	Ph
159	Vigna Unguiculata (L.) Walp. sa V. sinensis (L.) Savi ex Hassk.	20000	1.000	400	1.000	96	0	75		14	-	IF,P	20-30;25	5	8	-

160	Zea mays L.	20000	1.000	900	1. 000 0	98	0	85	13	Examine the mass of 1000 seeds	IF ,P	20-30 ;25;20	4	7	The cold test, if needed

Ordinal number	Plant variety (latin name)	The size of a shipment at most - kg		Norms of the quality of seeds					Conditions for examination of germination			
		Working	For presence of other varieties and weed	Purity at least%	Presence	Germination at least	Content of humidity at most %	Additional norms and working orders	Foilt	Temperature in °C	The number of days	

				s				%							
						Other varieties at most %	Weeds at most %						First evaluation	Final evaluation	Procedure for suspension of stillness and other recommendations
1	2	3	5	6	7	8	9	10	11	12	13	14	15	16	17
Cereals, industrial, plants for animal feed															

and vegetables																
1	Agropyron spp.	10000	150	15	150	88	3		65	13	-	NF	20-30;15-25	5	14	Ph, KHO3
2	Agrostis canina L.	10000	25	0,5	5	82	2	1	70	12		NF	20-30-; 15-25;10-30	7	21	Ph, KNO3
3	Agrostis gigantea Roth	10000	25	0,5	5	82	2	1	70	12	-	NF	20-30; 15-25;10-30	5	10	Ph, KNO3
4	Agrostis stolonifera L. sa A. palustris Hudson i A. tenuis	10000	25	0,5	5	82	2	1	70	12	-	NF	20-30; 15-25;10-30	7	28	Ph, KNO3
5	Allium cepa L.	10000	80	8	80	96	0,2	0,3	65	12		NF,IF	20;15	b	12	Ph
6	Allium fistulosum L.	10000	50	5	50	96	0,3	0,2	65	12	-	NF,IF	20;15	6	12	Ph
7	Allium porrum L.	10000	70	7	70	96	0,2	0,3	65	12		NF,IF	20;15	6	14	Ph
8	Allium shoenoprasum L.	10000	30	3	30	96	0,2	0,3	65	12	-	NF,IF	20;15	6	14	Ph

9	Alopecurus pratensis L.	10000	30	3	30	82	3	2	60	13	-	NF	20-30; 15-25;10-30	7	14	Ph, KNO3
10	Aethum graveolens L.	10000	40	4	40	90	0,5	0,5	60	13		NF,IF	20-30; 10-30	7	21	Ph
11	Anthoxanthum odoratum L.	10000	25	2	20	88	2	2	60	13	-	NF	20-30	6	14	
12	Anthyllis vulneraria L.	10000	60	6	60	82	2	1	65	13		NF,IF	20	5	10	Ph
13	Apium graveolens L.	10000	25	1	10	94	0,5	0,5	60	13	-	NF	20-30	10	21	Ph, KNO3
14	Arachis hypogaea L.	20000	1.000	1.000	1.000	67	0	0	65	11		IF,P	20-30;25	5	10	Remove the coat; PS (40°C)
15	Arrhenatherum elatius (L.) P. Beauv. ex J.S. et KB. Presl	10000	80	8	80	88	3	2	65	13		NF	20-30	6	14	Ph
16	Asparagus officinalis L.	20000	1.000	100	1.000	97	0,5	0	65	13	-	NF,IF,P	20-30	10	28	

17	Avena sativa L.	20000	1.000	120	1.000	97	0	0	82	15	Examine the mass of 1000 seeds	IF.P	20	5	10	PS (30° -35°C) Ph, GA3
18	Beta vulgaris L (all varieties)	20000	500	50	500	96	0,3	0	65	14	Examine the mass of 1000 seeds	NF,IF, P	20-30:15-25	4	14	Previous rinsing: 2 h for multi-germination, 4 h for single-germination
19	Beta vulgaris saccharifera lange - multi-germination	20000	500	50	500	97	0,3	0,1	80	15	Examine the mass of 1000 seeds. Single germination varieties	NF,IF P	20-30:15-25	4	14	Previous rinsing: 2 h for multi-germination, 4 h for single-germination,

											have to have at least 90% of single germinated seeds					
	- segmented	20000	500	50	500	97	0,3	0,1	85	15		NF,IF,P	20-30;15-25	4	14	
	- Single germination	20000	500	50	500	97	0,3	0,1	85	15		NF,IF,P	20-30;15-25	4	14	
20	Borago officinalis L.	10000	450	45	450	97	0,2	0,1	75	13	-	NF,IF	20-30;20	5	14	-
21	Brassica chinensis L.	10000	40	4	40	96	0,5	0,3	75	12	-	NF	20-30,20	5	7	-
22	Brassica napus L.	10000	100	10	100	96	0,5	0,3	75	12		NF	20-30;20	5	7	Ph
23	Brassica															

	napus L. var. napobrassica (L.) Reichb.	10000	100	10	100	96	0,5	0,3	75	12		NF	20-30;20	5	14	Ph
24	Brassica nigra (L.) Koch.	10000	40	4	40	97	0,2	0,3	75	12		NF	20-30;20	5	10	Ph,KNO3
25	Brassica oleracea L. (all varieties)	10000	100	10	100	96	0,5	0,3	75	12		NF	20-30;20	5	10	Ph,KNO3
26	Brassica pekinensis (Lour.) Rupr.	10000	40	4	40	96	0,5	0,3	75	12	-	NF	20-30;20	5	7	Ph
27	Brassica rapa L. (including B. campestris L.)	10000	70	7	70	96	0,5	03	75	12	Examine the mass of 1000 seeds	NF	20-30;20	5	7	Ph,KNO3
28	Bromus arvensis L.	10000	60	6	60	88	3	1	65	13		NF	20-30;15-25	7	21	Ph,KNO3
29	Bromus carinatus Hook et.	10000	200	20	200	88	3	1	65	13		NF	20-30; 15-25;10-30	7	14	Ph,KNO3

	Arn.															
30	Bromus catharticus Vahl.	10000	200	20	200	88	3	1	65	13	-	NF	20-30	7	28	Ph,KNO3
31	Bromus inermis Leysser i B. unioloides	10000	90	9	90	88	3	1	65	13	-	NF	20-30;15-25	7	14	Ph,KNO3
32	Bromus marginatus Nees ex Steudel	10000	200	20	200	88	3	1	65	13	-	NF	20-30;15-25	7	14	Ph,KNO3
33	Bromus mollis L.	10000	50	5	50	88	3	1	65	13	-	NF	20-30	7	14	Ph
34	Bromus sitchensis Trin.	10000	200	20	200	88	3	1	65	13	-	NF	20-30;15-25	7	21	Ph
35	Camelina sativa (L.) Crantz	10000	40	4	40	95	0,2	0,5	70	14	-	NF	20-30	4	10	-
36	Cannabis sativa L	10000	600	60	600	96	0,2	0,2	70	13	Examine the mass of 1000	NF,IF	20-30;20	3	7	

seeds

37	Capsicum spp.	10000	150	15	150	97	0	0	65	12	-	NF,IF	20-30	7	14	KNO3
38	Carum carvi L.	10000	80	8	80	94	0,5	0,5	60	12	-	NF,IF	20-30	7	21	-
39	Cicer arietinum L.	20000	1.000	1.000	1.000	97	0	0	75	13	-	IF,P	20-30;20	5	8	
40	Cichorium endivia L.	10000	40	4	40	94	0,5	0,5	70	14	-	NF	20-30;20	5	14	KNO3
41	Cichorium intybus L.	10000	50	5	50	94	0,5	0,5	70	14		NF	20-30;20	5	14	KNO3
42	Citrullus lanatus (Thunb) Matsum.et Nakai	20000	1.000	250	1.000	98	0	0	80	14		IF,P	20-30;25	5	14	
43	Coriandrum sativum L.	10000	400	40	400	90	0,2	0,2	65	12		NF,IF	20-30;20	7	21	-
44	Coronilla varia L.	10000	100	10	100	95	3	1,5	65	13		NF,IF	20	7	14	-
45	Cucumis melo L.	10000	150	70	150	98	0	0	80	14	-	IF,P	20-30;25	4	8	-
46	Cucumis sativus L.	10000	150	70	150	98	0	0	80	14		NF IF,P	20-30;25	4	8	

47	Cucurbita maxima Duchesne i C. moschata (D.) D.ex.P.	10000	350	180	350	98	0	0	80	14	-	IF,P	20-30 ;25	4	8	
48	Cucurbita pepo L.	20000	1.000	700	1.000	98	0	0	80	14		IF,P	20-30 ;25	4	8	-
49	Cuminum cyminum L.	10000	60	6	60	94	0,2	0,3	65	13		NF	20-30	5	14	-
50	Cynara scolymus L.	20000	1.000	120	1.000	94	2	2	70	13		IF,P	20-30	7	21	-
51	Cynodon dactylon (L.) Pers	10000	25	1	10	94	2	2	70	13	-	NF	20-35:20-30	7	21	Ph,S, KNO3
52	Cynosurus cristatus L.	10000	25	2	20	94	2	2	70	13	-	NF	20-30	10	21	Ph,KNO3
53	Dactylis glomerata L.	10000	30	3	30	82	2	2	70	13	-	NF	20-30:15-25	7	21	Ph,KNO3
54	Daucus carota L.	10000	30	3	30	94	0,5	0,5	60	12	-	NF, IF	20-30;20	7	14	-
55	Deschampsia spp.	10000	25	1	10	94	2	2	70	13		NF	20-30;20	7	16	Ph,KNO3

56	Eragrostis curvula (schrader) Nees	10000	25	1	10	94	2	2	70	13		NF	20-35;15-30	6	10	Ph,NO3
57	Eragrostis tef (Zuccagni) Trotter	10000	25	1	10	94	2	2	70	13		NF	20-30	4	10	Ph.KNO3
58	Fagopyrum esculentum Moench	10000	600	60	600	94	1	1	75	14	At most 30 seeds of F. tata-ricum in 500 g. Examine the mass of 1000 seeds	NF,IF	20-30 ;20	4	7	
59	Festuca arundinacea Schreber	10000	50	5	50	94	3		75	13		NF	20-30;15-25	7	14	Ph,KNO3

60	Festuca heterophylla Lam	10000	60	2	20	94	3	1	75	13	-	NF	20-30;15-25	7	21	Ph,KNO3
61	Festuca ovina L.	10000	30	3	30	94	3	1	75	13	-	NF	20-30;15-25	7	21	Ph,KNO3
62	Festuca pratensis Hudson	10000	50	5	50	94	3	1	75	13	-	NF	20-30;15-25	7	14	Ph,KNO3
63	Festuca rubra L.	10000	30	3	30	90	3	1	70	13	-	NF	20-30;15-25	7	14	Ph,KNO3
64	Foeniculum vulgare Miller	10000	180	18	180	94	0	0	65	13	-	NF,IF	20-30	7	14	-
65	Glycine javanica L.	10000	150	15	150	96	0	0	75	14	Examine the mass of 1000 seeds	NF	20-30;10-35	4	10	
66	Glycine max (L.) Merr.	20000	1.000	500	1.000	94	0	0	70	14	Examine the mass of 1000 seeds	IFL	20-30;25	5	8	

67	Gossypium spp.	20000	1.000	350	1.000	97	0	0	70	12	-	IF,P	20-30; 25	4	12	-
68.	Helianthus annuus L.	20000	1.000	200	1.000	97	0	0	80	11	Examine the mass of 1000 seeds	IF,P	20-30;25;20	4	10	PS,Ph
69	Hibiscus esculentus L.	20000	1.000	140	1.000	94	1	0,2	65	12		NF,IF, P	20-30	4	21	-
70	Holcus lanatus L.	10000	25	1	10	82	3	2	65	13	-	NF	20-30	6	14	Ph,KNO3
71	Hordeum vulgare L. For seeds of jarnog barley produced in year 1997, level of germination is 82%	20000	1.000	120	1.000	97	0	0	88	14	Examine the mass of 1000 seeds	IF,P	20	4	7	PS (30-35°C) Ph,GA3

72	Lactuca sativa L.	10000	30	3	30	94	0,5	0,5	70	12	-	NF,IF	20	4	7	Ph
73	Lagenaria siceraria (Molina) Standley	20000	1.000	500	1.000	98	0	0	80	14	-	IF,P	20-30	4	14	
74	Lathyrus hirsutus L.	10000	700	70	700	94	2	1	75	15	-	IF,P	20	7	14	-
75	Lathyrus sativus L.	20000	1.000	450	1.000	94	2	1	75	15	Examine the mass of 1000 seeds	IF,P	20	5	14	
76	Lens culinaris Medikus	10000	600	60	600	96	0,5	0,2	75	15	-	IF,P	20	5	10	Ph
77	Lepidium sativum L.	10000	60	6	60	96	0,3	0,3	75	14	-	NF	20-30;20	4	10	Ph
78	Linum usitatissimum L.	10000	150	15	150	97	0,5	0,5	75	12		NF,IF	20-30;20	3	7	Ph
79	Lolium X boucheanum Kunth.	10000	60	6	60	94	2	1	70	13	-	NF	20-30;15 25;20	5	14	Ph,KNO3
80	Lolium multifloru	10000	60	6	60	94	2	1	70	13	-	NF	20-30;15 25;20	5	14	Ph,KNO3

	m Lam.															
81	Lolium perenne L.	10000	60	6	60	94	2	1	70	13	10% of fluoroscent sprouts is considered as Englisg ljulj	NF	20-30;15 25;20	5	14	Ph,KNO3
82	Lotus corniculatus L.	10000	30	3	30	94	3	1	65	13	-	NF,IF	20-30;20	4	12	Ph
83	Lotus uliginosus Schk.	10000	25	2	20	94	3	1	65	13	-	NF,IF	20-30;20	4	12	Ph
84	Lupinus albus L.	20000	1.000	450	1.000	97	0,5	0,2	75	15	-	IF,P	20	5	10	Ph
85	Lupinus angustifolius L.	20000	1.000	450	1.000	97	0,5	0,2	75	15	-	IF,P	20	5	10	Ph
86	Lupinus luteus L.	20000	1.00	450	1.000	97	0,5	0,2	75	15	-	IF,P	20	10	21	Ph

			0													
87	Lycopersicon lycopersicum (L.) Karsten	10000	15	7	15	97	0	0	75	12	-	NF,IF,	20-30	5	14	KNO3
88	Medicago lupulina L.	10000	50	5	50	95	3	1,5	65	13	-	NF,IF	20	4	10	Ph
89	Medicage sativa L. M.X varia T. Martyn	10000	50	5	50	95	2	0,5	70	13	-	NF,IF	20	4	10	Ph
90	Melilotus alba Med.i M.officinal-ls (L.) Pall.	10000	50	5	50	95	3	1	65	13		NF,IF	20	4	7	Ph
91	Nicotiana tabacum L.	10000	25	0,5	5	97	0	0	70	10	-	IF	20-30	7	16	KNO3
92	Ocimum basilicum L.	10000	40	4	40	90	0,3	0,2	65	12	-	NF	20-30	4	14	KNO3
93	Onobrychis viciaefolia Scop. (harvest/seeds)	10000	600 400	60 40	600 400	96	0,5	0,5	75	13		NF,IF, P	20-30;20	4	14	Ph

94	Origanum majora na L.	10000	25	0,5	5	95	0,2	0,2	65	12	-	NF	20-30;20	7	21	-
95	Ornithopus sativus Brot.	10000	90	9	90	96	2	I	65	13	-	NF,IF	20	7	14	
96	Oryza sativa L.	20000	400	40	400	96	0,5	0,2	85	14	Examine the mass of 1000 seeds	NF, IF,P	20-30:25	5	14	PS 50°C. Infuse seeds in H2O or HNO3 (24 h)
97	Panicum antidotale Retz.	10000	25	2	20	97	1	0,2	75	13	-	NF	20-30	7	28	
98	Panicum coloratum L.	10000	25	2	20	97	1	0,2	75	13	-	NF	20-35;	7	28	
99	Panicum maximum Jacq.	10000	25	2	20	97	1	0,2	75	13	-	NF	15-35;20-30	10	28	Ph,KNO3
100	Panicum miliaceum L.	10000	150	15	150	97	1	0,2	75	13		NF,IF	20-30;25	3	7	-
101	Panicum ramosum L.	10000	90	9	90	97	1	0,2	75	13	-	IF	20-30	4	14	PS,KNO3

102	Panicum virgatum L.	10000	30	3	30	97	1	0,2	75	13	-	NF	15-30	7	28	Ph,KNO3 Ph
103	Papaver somniferum	10000	25	1	10	97	0	0	65	10	-	NF	20	5	10	Ph
104	Pastinaca sativa L.	10000	100	10	100	94	0,5	0,5	60	12		NF, IF	20-30	6	28	-
105	Petroselinum crispum (Miller) N.ex.A. W. Hill	10000	40	4	40	94	0,5	0,5	60	13	-	NF, IF	20-30	10	28	-
106	Phacelia tanacetifolia Benth.	10000	40	5	40	94	2	1	65	13	-	NF, IF	20-30;20,15	5	14	Ph.T
107	Phalaris arundinacea L.	10000	30	3	30	94	1	1	65	14	-	NF	20-30	7	21	Ph.KNO3
108	Phalaris canariensis L.	10000	200	20	200	94	1	1	75	14	-	NF, IF	20-30;15-25	7	21	Ph,KNO3
109	Phaseolus coccineus L.	20000	1.000	1.000	1.000	98	0	0	75	14	Examine the mass of 1000	IF,P	20-30;20	5	9	-

											seeds					
110	Phaseolus mungo L.	20000	1.000	700	1.000	97	0	0	75	14	-	IF.P	20-30;25;20	4	7	-
111	Phaseolus vulgaris L.	20000	1.000	700	1.000	97	0	0	70	14	Examine the mass of 1000 seeds	IF,P	20-30;25;20	5	9	
112	Phleum bertolonii DC.	10000	25	1	10	96	1	1	75	13		NF	20-30;15-25	7	10	Ph,KNO3
113	Phleum pratense L.	10000	25	1	10	96	1	1	75	13	-	NF	20-30;15-25	7	10	Ph,KNO3
114	Physalis pubescens L.	10000	25	2	20	97	0	0	70	12	-	HF	20-30	7	28	KNO3
115	Pimpinella anisum L.	10000	70	7	70	94	0,5	0,2	65	12	-	NF, IF	20-30	7	21	
116	Pisum arvence L.	20000	1.000	900	1.000	94	3	1	75	15	Examine the mass of 1000 seeds	IF,P	20	5	8	

117	Pisum sativum L.	20000	1.000	900	1.000	96	0	0	75	15	Examine the mass of 1000 seeds	IF,P	20	5	8	
118	Poa ampla Merr.	10000	25	1,5	25	82	2	1	65	12	-	NF	20-30; 15-25;10-30	7	28	Ph,KNO3
119	Poa annua L.	10000	25	1	10	82	2	1	65	12	-	NF	20-30;15-25	7	21	Ph,KNO3
120	Poa bulbosa L.	10000	30	3	30	82	2	1	65	12	-	NF	15-25	10	35.	KNO3
121	Poa compressa L.	10000	25	0,5	5	82	2	1	65	12	-	NF	15-25;10-30	10	28	Ph, KNO3
122	Poa nemoralis L.	10000	25	0,5	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3
123	Poa palustris L.	10000	25	0,5	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3
124	Poa pratensis L.	10000	25	1	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3
125	Poa trivialis L.	10000	25	0,5	5	82	2	1	65	12	-	NF	20-30;15-25	7	21	Ph,KNO3
126	Portulaca oleracea L.	10000	25	0,5	5	94	0,5	0,2	60	12	-	NF,IF	20-30	5	14	Ph

127	Raphannus sativus L.	10000	300	30	300	94	0,5	0,5	70	13	-	NF,IF	20-30;20	4	10	Ph
128	Rheum rhaponticum L.	10000	450	45	450	95	0,5	0,1	75	13	-	NF	20-30	7	21	-
129	Ricinus communis L.	20000	1.000	500	1.000	97	0	0	75	11	-	IF,P	20-30	7	14	-
130	Satureja hortensis L.	10000	20	2	20	95	0,2	0,2	65	12	-	NF	20-30	5	21	-
131	Scorzonera hispanica L.	10000	300	30	300	86	0	0,2	65	12	-	NF,IF	20-30;20	4	8	Ph
132	Secale cereale L.	20000	1.000	120	1.000	97	0	0	82	14	Examine the mass of 1000 seeds	NF,IF,P	20	4	7	Ph,GA3
133	Sesamum indicum L. (S. orientale L.)	10000	70	7	70	97	0,3	0,3	75	10	-	NF	20-30	3	6	-
134	Setaria italica (L.)P. Beauv.	10000	90	9	90	94	2	1	70	13	-	NF,IF	20-30	4	10	-

135	Sinapis alba L.	10000	200	20	200	94	0,5	0,5	75	12	-	NF	20-30DO	3	7	Ph
136	Solanum melongena L.	10000	150	15	150	96	0	0	65	13	-	NF,IF	20-30	7	14	-
137	Sorghum halepense (L.) Pers	10000	90	9	90	94	0,5	0,5	70	14	Examine the mass of 1000 seeds	NF,IF	20-35;20-30	7	35	-
138	Sarghum sudanense (Piper) Stapf	10000	250	25	250	94	0,5	0,5	65	13	Examine the mass of 1000 seeds	NF,IF	20-30	4	10	Ph
139	Sorghum vulgare (S. bicolor (L.) Moench)	10000	900	90	900	96	0,5	0,2	70	15	Examine the mass of 1000 seeds	NF,IF	20-30 ;25	4	10	Ph
140	Spinacia oleracea L.	10000	250	25	250	94	0,2	0,5	65	13	-	NF, IF	15;10	7	21	Ph
141	Tetragonia tetragonioides (Pallas) Kuntze	20000	1.000	200	1.000	94	0,2	0,5	60	13	-	IF.P	20-30 ;20	7	35	Remove the pulp; previous rinsing

142	Thymus vulgaris L.	10000	25	0,5	5	92	0,3	0,2	60	12	-	NF	20-30;20	7	21	-
143	Tragopogon porrifolius L.	10000	400	40	400	86	0	0,2	65	12	-	NF, IF	20	5	10	Ph
144	Trifolium alexandrinum L.	10000	60	6	60	95	2	0,5	70	13	-	NF, IF	20	3	7	-
145	Trifolium campestre Schreber	10000	25	0,5	5	94	2	0,5	70	13	-	NF, IF	20	4	14	-
146	Trifolium hybridum L.	10000	25	2	20	95	2	0,5	70	13	Up to 3% of seeds of the white lucerne is counted as other varieties	NF, IF	20	4	10	Ph, sealed in polyethilen envelope
147	Trifolium incarnatum L.	10000	80	8	80	95	2	0,5	70	13	-	NF, IF	20	4	7	Ph, sealed in polyethilen envelope

148	Trifolium pratense L.	10000	50	5	50	95	2	0,5	70	13	-	NF, IF	20	4	10	Ph
149	Trifolium repens L.	10000	25	2	20	95	2	0,5	70	13	Up to 3% of seeds of the hybrid lucerne is counted as other varieties vrste	NF, IF	20	4	10	Ph, sealed in polyethilen envelope
150	Trifolium resupinatum L.	10000	25	2	20	95	2	0,5	70	13	-	NF, IF	20	4	7	-
151	Trifolium subterraneum L.	10000	250	25	250	96	2	0,5	70	13	-	NF, IF	20;15	4	14	T
152	Trisetum flavescens (L.) P. Beanov.	10000	25	0,5	5	88	3	2	65	12	-	NF	20-30	7	21	Ph,KNO3
153	Triticum aestivum L. emend. Fiori et.	20000	1.000	120	1.000	97	0	0	82	14	Examine the mass of 1000	NF, IF,P	20	4	8	PS (30° -35°C), Ph, GA3

	Paol., T. durum Desf., X Triticosecale Wittm. i tritikale										seeds					
154	Valerianella locusta (L.) Laterr.	10000	70	7	70	90	0,3	0,5	60	13	-	NF, IF	20,15	7	28	Ph
155	Vicia faba L.	20000	1.000	1.000	1.000	97	0	0	75	15	Examine the mass of 1000 seeds	IF,P	20	4	14	Ph
156	Vicia pannonica Crantz	20000	1.000	120	1.000	94	3	1	75	14	Up to 3% of Vicia sativa is not counted as other varieties.Examine the mass of 1000 seeds	IF,P	20	5	10	Ph

157	Vicia sativa L. i V. angustifolia L.	20000	1. 00 0	140	1.000	94	3	1	75	14	Up to 3% of Vicia pranonica is not counted as other varieties. Ispitati Examine the mass of 1000 seeds	IF,P	20	5	14	Ph
158	Vicia villosa Roth i V. dasycarpa Ten.	20000	1. 00 0	100	1.000	94	3	1	75	14	-	IF,P	20	5	14	Ph
159	Vigna Unguiculata (L.) Walp. sa V. sinensis (L.) Savi ex Hassk.	20000	1. 00 0	400	1.000	96	0	0	75	14	-	IF,P	20-30;25	5	8	-

160	Zea mays L.	20000	1. 900000	1.000	98	0	0	85	13	Examine the mass of 1000 seeds	IF,P	20-30 ;25;20	4	7	The cold test, if needed
Ordinal number	Plant variety (latin name)	The size of a shipment at most - kg			Norms of the quality of seeds						Conditions for examination of germination				
			Working	For presence of other varieties and weeds	Purity at least%		Presence	Germination at le	Content of humidity at most %	Additional norms and working orders	Foilt	Temperature in °C	The number of da		

								ast %					ys		
						Other varieties at most %	Weeds at most %						First evaluation	Final evaluation	Procedure for suspensi stillness and other recommendations
1	2	3	5	6	7	8	9	10	11	12	13	14	15	16	17
Cereals, industrial, plants for animal fee															

d and veg eta bles																
1	Agropyron spp.	10000	150	15	150	88	3		65	13	-	NF	20-30;15-25	5	14	Ph, KHO3
2	Agrostis canina L.	10000	25	0,5	5	82	2	1	70	12		NF	20-30-; 15-25;10-30	7	21	Ph, KNO3
3	Agrostis gigantea Roth	10000	25	0,5	5	82	2	1	70	12	-	NF	20-30; 15-25;10-30	5	10	Ph, KNO3
4	Agrostis stolonifera L. sa A. palustris Hudson i A. tenuis	10000	25	0,5	5	82	2	1	70	12	-	NF	20-30; 15-25;10-30	7	28	Ph, KNO3
5	Allium cepa L.	10000	80	8	80	96	0,2	0,3	65	12		NF,IF	20;15	b	12	Ph
6	Allium fistulosum L.	10000	50	5	50	96	0,3	0,2	65	12	-	NF,IF	20;15	6	12	Ph
7	Allium porrum L.	10000	70	7	70	96	0,2	0,3	65	12		NF,IF	20;15	6	14	Ph

8	Allium shoenoprasum L.	10000	30	3	30	96	0,2	0,3	65	12	-	NF,IF	20;15	6	14	Ph
9	Alopecurus pratensis L.	10000	30	3	30	82	3	2	60	13	-	NF	20-30; 15-25;10-30	7	14	Ph, KNO3
10	Aethum graveolens L.	10000	40	4	40	90	0,5	0,5	60	13		NF,IF	20-30; 10-30	7	21	Ph
11	Anthoxanthum odoratum L.	10000	25	2	20	88	2	2	60	13	-	NF	20-30	6	14	
12	Anthyllis vulneraria L.	10000	60	6	60	82	2	1	65	13		NF,IF	20	5	10	Ph
13	Apium graveolens L.	10000	25	1	10	94	0,5	0,5	60	13	-	NF	20-30	10	21	Ph, KNO3
14	Arachis hypogaea L.	20000	1.000	1.000	1.000	67	0	0	65	11		IF,P	20-30;25	5	10	Remove the coat; PS (40°C)
15	Arrhenatherum elatius (L.) P. Beauv. ex J.S. et	10000	80	8	80	88	3	2	65	13		NF	20-30	6	14	Ph

	KB. Presl															
16	Asparagus officinalis L.	20000	1.000	100	1.000	97	0,5	0	65	13	-	NF,IF,P	20-30	10	28	
17	Avena sativa L.	20000	1.000	120	1.000	97	0	0	82	15	Examine the mass of 1000 seeds	IF.P	20	5	10	PS (30° -35°C) Ph, GA3
18	Beta vulgaris L (svi varijeteti)	20000	500	50	500	96	0,3	0	65	14	Examine the mass of 1000 seeds	NF,IF, P	20-30:15-25	4	14	Previous rinsing: 2 h for multi-germination, 4 h for single-germination
19	Beta vulgaris saccharifera lange - multi-germinatio	20000	500	50	500	97	0,3	0,1	80	15	Examine the mass of 1000	NF,IF P	20-30:15-25	4	14	Previous rinsing: 2 h for multi-germination, 4 h for single-

n										seeds. Single germination varieties have to have at least 90% of single germinated seeds					germination,
-segmented	20000	500	50	500	97	0,3	0,1	85	15		NF,IF,P	20-30;15-25	4	14	

	- Single germination	20000	500	50	500	97	0,3	0,1	85	15		NF,IF,P	20-30;15-25	4	14	
20	Borago officinalis L.	10000	450	45	450	97	0,2	0,1	75	13	-	NF,IF	20-30;20	5	14	-
21	Brassica chinensis L.	10000	40	4	40	96	0,5	0,3	75	12	-	NF	20-30,20	5	7	-
22	Brassica napus L.	10000	100	10	100	96	0,5	0,3	75	12		NF	20-30;20	5	7	Ph
23	Brassica napus L. var. napobrassica (L.) Reichb.	10000	100	10	100	96	0,5	0,3	75	12		NF	20-30;20	5	14	Ph
24	Brassica nigra (L.) Koch.	10000	40	4	40	97	0,2	0,3	75	12		NF	20-30;20	5	10	Ph,KNO3
25	Brassica oleracea L. (all varieties)	10000	100	10	100	96	0,5	0,3	75	12		NF	20-30;20	5	10	Ph,KNO3
26	Brassica pekinensis (Lour.)	10000	40	4	40	96	0,5	0,3	75	12	-	NF	20-30;20	5	7	Ph

	Rupr.															
27	Brassica rapa L. (including B. campestris L.)	10000	70	7	70	96	0,5	03	75	12	Examine the mass of 1000 seeds	NF	20-30;20	5	7	Ph,KNO3
28	Bromus arvensis L.	10000	60	6	60	88	3	1	65	13		NF	20-30;15-25	7	21	Ph,KNO3
29	Bromus carinatus Hook et. Arn.	10000	200	20	200	88	3	1	65	13		NF	20-30; 15-25;10-30	7	14	Ph,KNO3
30	Bromus catharticus Vahl.	10000	200	20	200	88	3	1	65	13	-	NF	20-30	7	28	Ph,KNO3
31	Bromus inermis Leysser i B. unioloides	10000	90	9	90	88	3	1	65	13	-	NF	20-30;15-25	7	14	Ph,KNO3
32	Bromus marginatus Nees ex Steudel	10000	200	20	200	88	3	1	65	13	-	NF	20-30;15-25	7	14	Ph,KNO3

33	Bromus mollis L.	10000	50	5	50	88	3	1	65	13	-	NF	20-30	7	14	Ph
34	Bromus sitchensis Trin.	10000	200	20	200	88	3	1	65	13	-	NF	20-30;15-25	7	21	Ph
35	Camelina sativa (L.) Crantz	10000	40	4	40	95	0,2	0,5	70	14	-	NF	20-30	4	10	-
36	Cannabis sativa L	10000	600	60	600	96	0,2	0,2	70	13	Examine the mass of 1000 seeds	NF,IF	20-30;20	3	7	
37	Capsicum spp.	10000	150	15	150	97	0	0	65	12	-	NF,IF	20-30	7	14	KNO3
38	Carum carvi L.	10000	80	8	80	94	0,5	0,5	60	12	-	NF,IF	20-30	7	21	-
39	Cicer arietinum L.	20000	1.000	1.000	1.000	97	0	0	75	13	-	IF,P	20-30;20	5	8	
40	Cichorium endivia L.	10000	40	4	40	94	0,5	0,5	70	14	-	NF	20-30;20	5	14	KNO3

41	Cichorium intybus L.	10000	50	5	50	94	0,5	0,5	70	14		NF	20-30;20	5	14	KNO3
42	Citrullus lanatus (Thunb) Matsum.et Nakai	20000	1.000	250	1.000	98	0	0	80	14		IF,P	20-30 ;25	5	14	
43	Coriandrum sativum L.	10000	400	40	400	90	0,2	0,2	65	12		NF,IF	20-30;20	7	21	-
44	Coronilla varia L.	10000	100	10	100	95	3	1,5	65	13		NF,IF	20	7	14	-
45	Cucumis melo L.	10000	150	70	150	98	0	0	80	14	-	IF,P	20-30;25	4	8	-
46	Cucumis sativus L.	10000	150	70	150	98	0	0	80	14		NF IF,P	20-30;25	4	8	
47	Cucurbita maxima Duchesne i C. moschata (D.) D.ex.P.	10000	350	180	350	98	0	0	80	14	-	IF,P	20-30 ;25	4	8	
48	Cucurbita pepo L.	20000	1.0	700	1.000	98	0	0	80	14		IF,P	20-30 ;25	4	8	-

			00													
49	Cuminum cyminum L.	10000	60	6	60	94	0,2	0,3	65	13		NF	20-30	5	14	-
50	Cynara scolymus L.	20000	1.000	120	1.000	94	2	2	70	13		IF,P	20-30	7	21	-
51	Cynodon dactylon (L.) Pers	10000	25	1	10	94	2	2	70	13	-	NF	20-35:20-30	7	21	Ph,S, KNO3
52	Cynosurus cristatus L.	10000	25	2	20	94	2	2	70	13	-	NF	20-30	10	21	Ph,KNO3
53	Dactylis glomerata L.	10000	30	3	30	82	2	2	70	13	-	NF	20-30:15-25	7	21	Ph,KNO3
54	Daucus carota L.	10000	30	3	30	94	0,5	0,5	60	12	-	NF, IF	20-30;20	7	14	-
55	Deschampsia spp.	10000	25	1	10	94	2	2	70	13		NF	20-30;20	7	16	Ph,KNO3
56	Eragrostis curvula (schrader) Nees	10000	25	1	10	94	2	2	70	13		NF	20-35;15-30	6	10	Ph,NO3
57	Eragrostis tef	10000	25	1	10	94	2	2	70	13		NF	20-30	4	10	Ph.KNO3

	(Zuccagni) Trotter															
58	Fagopyrum esculentum Moench	10000	600	60	600	94	1	1	75	14	At most 30 seeds of F. tata-ricum in 500 g. Examine the mass of 1000 seeds	NF,IF	20-30 ;20	4	7	
59	Festuca arundinacea Schreber	10000	50	5	50	94	3		75	13		NF	20-30;15-25	7	14	Ph,KNO3
60	Festuca heterophylla Lam	10000	60	2	20	94	3	1	75	13	-	NF	20-30;15-25	7	21	Ph,KNO3

61	Festuca ovina L.	10000	30	3	30	94	3	1	75	13	-	NF	20-30;15-25	7	21	Ph,KNO3
62	Festuca pratensis Hudson	10000	50	5	50	94	3	1	75	13	-	NF	20-30;15-25	7	14	Ph,KNO3
63	Festuca rubra L.	10000	30	3	30	90	3	1	70	13	-	NF	20-30;15-25	7	14	Ph,KNO3
64	Foeniculum vulgare Mill er	10000	180	18	180	94	0	0	65	13	-	NF,IF	20-30	7	14	-
65	Glycine javanica L.	10000	150	15	150	96	0	0	75	14	Examine the mass of 1000 seeds	NF	20-30;10-35	4	10	
66	Glycine max (L.) Merr.	20000	1.000	500	1.000	94	0	0	70	14	Examine the mass of 1000 seeds	IFL	20-30;25	5	8	
67	Gossypium spp.	20000	1.0	350	1.000	97	0	0	70	12	-	IF,P	20-30; 25	4	12	-

			00												
68.	Helianthus annuus L.	20000	1.000	200	1.000	97	0	0	80	11	Examine the mass of 1000 seeds	IF,P	20-30;25;20	4	10	PS,Ph
69	Hibiscus esculentus L.	20000	1.000	140	1.000	94	1	0,2	65	12	-	NF,IF,P	20-30	4	21	-
70	Holcus lanatus L.	10000	25	1	10	82	3	2	65	13	-	NF	20-30	6	14	Ph,KNO3
71	Hordeum vulgare L. For seeds of jarnog barley produced in year 1997, level of germination is 82%	20000	1.000	120	1.000	97	0	0	88	14	Examine the mass of 1000 seeds	IF,P	20	4	7	PS (30-35°C) Ph,GA3

72	Lactuca sativa L.	10000	30	3	30	94	0,5	0,5	70	12	-	NF,IF	20	4	7	Ph
73	Lagenaria siceraria (Molina) Standley	20000	1.000	500	1.000	98	0	0	80	14	-	IF,P	20-30	4	14	
74	Lathyrus hirsutus L.	10000	700	70	700	94	2	1	75	15	-	IF,P	20	7	14	-
75	Lathyrus sativus L.	20000	1.000	450	1.000	94	2	1	75	15	Examine the mass of 1000 seeds	IF,P	20	5	14	
76	Lens culinaris Medikus	10000	600	60	600	96	0,5	0,2	75	15	-	IF,P	20	5	10	Ph
77	Lepidium sativum L.	10000	60	6	60	96	0,3	0,3	75	14	-	NF	20-30;20	4	10	Ph
78	Linum usitatissimum L.	10000	150	15	150	97	0,5	0,5	75	12		NF,IF	20-30;20	3	7	Ph
79	Lolium X boucheanum Kunth.	10000	60	6	60	94	2	1	70	13	-	NF	20-30;15 25;20	5	14	Ph,KNO3

80	Lolium multiflorum Lam.	10000	60	6	60	94	2	1	70	13	-	NF	20-30;15 25;20	5	14	Ph,KNO3
81	Lolium perenne L.	10000	60	6	60	94	2	1	70	13	10% of fluoroscent sprouts is considered as Englisg ljulj	NF	20-30;15 25;20	5	14	Ph,KNO3
82	Lotus corniculatus L.	10000	30	3	30	94	3	1	65	13	-	NF,IF	20-30;20	4	12	Ph
83	Lotus uliginosus Schk.	10000	25	2	20	94	3	1	65	13	-	NF,IF	20-30;20	4	12	Ph
84	Lupinus albus L.	20000	1.000	450	1.000	97	0,5	0,2	75	15	-	IF,P	20	5	10	Ph
85	Lupinus angustifoli	20000	1.0	450	1.000	97	0,5	0,2	75	15	-	IF,P	20	5	10	Ph

	us L.		00													
86	Lupinus luteus L.	20000	1.000	450	1.000	97	0,5	0,2	75	15	-	IF,P	20	10	21	Ph
87	Lycopersicon lycopersicum (L.) Karsten	10000	15	7	15	97	0	0	75	12	-	NF,IF,	20-30	5	14	KNO3
88	Medicago lupulina L.	10000	50	5	50	95	3	1,5	65	13	-	NF,IF	20	4	10	Ph
89	Medicage sativa L. M.X varia T. Martyn	10000	50	5	50	95	2	0,5	70	13	-	NF,IF	20	4	10	Ph
90	Melilotus alba Med.i M.officinal - ls (L.) Pall.	10000	50	5	50	95	3	1	65	13		NF,IF	20	4	7	Ph
91	Nicotiana tabacum L.	10000	25	0,5	5	97	0	0	70	10	-	IF	20-30	7	16	KNO3
92	Ocimum basilicum L.	10000	40	4	40	90	0,3	0,2	65	12	-	NF	20-30	4	14	KNO3

93	Onobrychis viciaefolia Scop. (harvest/seeds)	10000	600400	60 40	600 400	96	0,5	0,5	75	13		NF,IF, P	20-30;20	4	14	Ph
94	Origanum majora na L.	10000	25	0,5	5	95	0,2	0,2	65	12	-	NF	20-30;20	7	21	-
95	Ornithopus sativus Brot.	10000	90	9	90	96	2	I	65	13	-	NF,IF	20	7	14	
96	Oryza sativa L.	20000	400	40	400	96	0,5	0,2	85	14	Examine the mass of 1000 seeds	NF, IF,P	20-30:25	5	14	PS 50°C. Infuse seeds in H2O or HNO (24 h)
97	Panicum antidotale Retz.	10000	25	2	20	97	1	0,2	75	13	-	NF	20-30	7	28	
98	Panicum coloratum L.	10000	25	2	20	97	1	0,2	75	13	-	NF	20-35;	7	28	
99	Panicum maximum	10000	25	2	20	97	1	0,2	75	13	-	NF	15-35;20-30	10	28	Ph,KNO3

	Jacq.															
100	Panicum miliaceum L.	10000	150	15	150	97	1	0,2	75	13		NF,IF	20-30;25	3	7	-
101	Panicum ramosum L.	10000	90	9	90	97	1	0,2	75	13	-	IF	20-30	4	14	PS,KNO3
102	Panicum virgatum L.	10000	30	3	30	97	1	0,2	75	13	-	NF	15-30	7	28	Ph,KNO3 Ph
103	Papaver somniferum	10000	25	1	10	97	0	0	65	10	-	NF	20	5	10	Ph
104	Pastinaca sativa L.	10000	100	10	100	94	0,5	0,5	60	12		NF, IF	20-30	6	28	-
105	Petroselinum crispum (Miller) N.ex.A. W. Hill	10000	40	4	40	94	0,5	0,5	60	13	-	NF, IF	20-30	10	28	-
106	Phacelia tanacetifolia Benth.	10000	40	5	40	94	2	1	65	13	-	NF, IF	20-30;20,15	5	14	Ph.T
107	Phalaris arundinac	10000	30	3	30	94	1	1	65	14	-	NF	20-30	7	21	Ph.KNO3

	ea L.															
108	Phalaris canariensis L.	10000	200	20	200	94	1	1	75	14	-	NF, IF	20-30;15-25	7	21	Ph,KNO3
109	Phaseolus coccineus L.	20000	1.000	1.000	1.000	98	0	0	75	14	Examine the mass of 1000 seeds	IF,P	20-30;20	5	9	-
110	Phaseolus mungo L.	20000	1.000	700	1.000	97	0	0	75	14	-	IF.P	20-30;25;20	4	7	-
111	Phaseolus vulgaris L.	20000	1.000	700	1.000	97	0	0	70	14	Examine the mass of 1000 seeds	IF,P	20-30;25;20	5	9	
112	Phleum bertolonii DC.	10000	25	1	10	96	1	1	75	13		NF	20-30;15-25	7	10	Ph,KNO3

113	Phleum pratense L.	10000	25	1	10	96	1	1	75	13	-	NF	20-30;15-25	7	10	Ph,KNO3
114	Physalis pubescens L.	10000	25	2	20	97	0	0	70	12	-	HF	20-30	7	28	KNO3
115	Pimpinella anisum L.	10000	70	7	70	94	0,5	0,2	65	12	-	NF, IF	20-30	7	21	
116	Pisum arvence L.	20000	1.000	900	1.000	94	3	1	75	15	Examine the mass of 1000 seeds	IF,P	20	5	8	
117	Pisum sativum L.	20000	1.000	900	1.000	96	0	0	75	15	Examine the mass of 1000 seeds	IF,P	20	5	8	
118	Poa ampla Merr.	10000	25	1,5	25	82	2	1	65	12	-	NF	20-30; 15-25;10-30	7	28	Ph,KNO3

119	Poa annua L.	10000	25	1	10	82	2	1	65	12	-	NF	20-30;15-25	7	21	Ph,KNO3
120	Poa bulbosa L.	10000	30	3	30	82	2	1	65	12	-	NF	15-25	10	35.	KNO3
121	Poa compressa L.	10000	25	0,5	5	82	2	1	65	12	-	NF	15-25;10-30	10	28	Ph, KNO3
122	Poa nemoralis L.	10000	25	0,5	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3
123	Poa palustris L.	10000	25	0,5	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3
124	Poa pratensis L.	10000	25	1	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3
125	Poa trivialis L.	10000	25	0,5	5	82	2	1	65	12	-	NF	20-30;15-25	7	21	Ph,KNO3
126	Portulaca oleracea L.	10000	25	0,5	5	94	0,5	0,2	60	12	-	NF,IF	20-30	5	14	Ph
127	Raphannus sativus L.	10000	300	30	300	94	0,5	0,5	70	13	-	NF,IF	20-30;20	4	10	Ph
128	Rheum rhaponticum L.	10000	450	45	450	95	0,5	0,1	75	13	-	NF	20-30	7	21	-

129	Ricinus communis L.	20000	1.000	500	1.000	97	0	0	75	11	-	IF,P	20-30	7	14	-
130	Satureja hortensis L.	10000	20	2	20	95	0,2	0,2	65	12	-	NF	20-30	5	21	-
131	Scorzonera hispanica L.	10000	300	30	300	86	0	0,2	65	12	-	NF,IF	20-30;20	4	8	Ph
132	Secale cereale L.	20000	1.000	120	1.000	97	0	0	82	14	Examine the mass of 1000 seeds	NF,IF,P	20	4	7	Ph,GA3
133	Sesamum indicum L. (S. orientale L.)	10000	70	7	70	97	0,3	0,3	75	10	-	NF	20-30	3	6	-
134	Setaria italica (L.)P. Beauv.	10000	90	9	90	94	2	1	70	13	-	NF,IF	20-30	4	10	-

135	Sinapis alba L.	10000	200	20	200	94	0,5	0,5	75	12	-	NF	20-30DO	3	7	Ph
136	Solanum melongena L.	10000	150	15	150	96	0	0	65	13	-	NF,IF	20-30	7	14	-
137	Sorghum halepense (L.) Pers	10000	90	9	90	94	0,5	0,5	70	14	Examine the mass of 1000 seeds	NF,IF	20-35;20-30	7	35	-
138	Sarghum sudanense (Piper) Stapf	10000	250	25	250	94	0,5	0,5	65	13	Examine the mass of 1000 seeds	NF,IF	20-30	4	10	Ph
139	Sorghum vulgare (S. bicolor (L.) Moench)	10000	900	90	900	96	0,5	0,2	70	15	Examine the mass of 1000 seed	NF,IF	20-30 ;25	4	10	Ph

s

140	Spinacia oleracea L.	10000	250	25	250	94	0,2	0,5	65	13	-	NF, IF	15;10	7	21	Ph
141	Tetragonia tetragonioides (Pallas) Kuntze	20000	1.000	200	1.000	94	0,2	0,5	60	13	-	IF.P	20-30 ;20	7	35	Remove the pulp; previous rinsing
142	Thymus vulgaris L.	10000	25	0,5	5	92	0,3	0,2	60	12	-	NF	20-30;20	7	21	-
143	Tragopogon porrifolius L.	10000	400	40	400	86	0	0,2	65	12	-	NF, IF	20	5	10	Ph
144	Trifolium alexandrinum L.	10000	60	6	60	95	2	0,5	70	13	-	NF, IF	20	3	7	-
145	Trifolium campestre Schreber	10000	25	0,5	5	94	2	0,5	70	13	-	NF, IF	20	4	14	-
146	Trifolium hybridum L.	10000	25	2	20	95	2	0,5	70	13	Up to 3% of seeds of the	NF, IF	20	4	10	Ph, sealed in polyethilen envelope

											white lucerne is counted as other varieties					
147	Trifolium incarnatum L.	10000	80	8	80	95	2	0,5	70	13	-	NF, IF	20	4	7	Ph, sealed in polyethilen envelope
148	Trifolium pratense L.	10000	50	5	50	95	2	0,5	70	13	-	NF, IF	20	4	10	Ph
149	Trifolium repens L.	10000	25	2	20	95	2	0,5	70	13	Up to 3% of seeds of the hybrid lucerne is counted as other	NF, IF	20	4	10	Ph, sealed in polyethilen envelope

										varieties						
150	Trifolium resupinatum L.	10000	25	2	20	95	2	0,5	70	13	-	NF, IF	20	4	7	-
151	Trifolium subterraneum L.	10000	250	25	250	96	2	0,5	70	13	-	NF, IF	20;15	4	14	T
152	Trisetum flavescens (L.) P. Beanov.	10000	25	0,5	5	88	3	2	65	12	-	NF	20-30	7	21	Ph,KNO3
153	Triticum aestivum L. emend. Fiori et. Paol., T. durum Desf., X Triticosecale Wittm. i tritikale	20000	1.000	120	1.000	97	0	0	82	14	Examine the mass of 1000 seeds	NF, IF,P	20	4	8	PS (30°-35°C), Ph, GA3
154	Valerianella locusta (L.) Laterr.	10000	70	7	70	90	0,3	0,5	60	13	-	NF, IF	20,15	7	28	Ph
155	Vicia faba L.	20000	1.0	1.000	1.000	97	0	0	75	15	Examine	IF,P	20	4	14	Ph

			00								the mass of 1000 seeds					
156	Vicia pannonica Crantz	20000	1.000	120	1.000	94	3	1	75	14	Up to 3% of Vicia sativa is not counted as other varieties. Examine the mass of 1000 seeds	IF,P	20	5	10	Ph
157	Vicia sativa L. i	20000	1.0	140	1.000	94	3	1	75	14	Up to 3%	IF,P	20	5	14	Ph

	V. angustifolia L.		0 0								of Vicia pranonica is not counted as other varieties. Examine the mass of 1000 seeds				
158	Vicia villosa Roth i V. dasycarpa Ten.	20000	100	1.000	94	3	1	75	14	-	IF,P	20	5	14	Ph
159	Vigna Unguiculata (L.) Walp. sa V. sinensis	20000	400	1.000	96	0	0	75	14	-	IF,P	20-30;25	5	8	-

	(L.) Savi ex Hassk.														
160	Zea mays L.	20000	900	1.000	98	0	0	85	13	Examine the mass of 1000 seeds	IF,P	20-30;25;20	4	7	The cold test, if needed
Ordinal number	Plant variety (latin name)						Norms of the quality of seeds					Conditions for examination of germination			

Working	For presence of other varieties and weeds	Purity at least %	Presence		Germination at least %	Content of humidity at most %	Additional norms and working orders	Foilt	Temperature in °C	The number of days		
			Othe	Wee						First	Final	Procedure for suspension of st and other recommendations

					r varieties at most %	ds at most %						e valuation	evaluation	
1	2	5	6	7	8	9	10	11	12	13	14	15	16	17
Cereals, industrial, plants for animal feed and vegetables														

1	Agropyron spp.	10000	15	150	88	3		65	13	-	NF	20-30;15-25	5	14	Ph, KHO3
2	Agrostis canina L.	10000	0,5	5	82	2	1	70	12		NF	20-30-; 15-25;10-30	7	21	Ph, KNO3
3	Agrostis gigantea Roth	10000	0,5	5	82	2	1	70	12	-	NF	20-30; 15-25;10-30	5	10	Ph, KNO3
4	Agrostis stolonifera L. sa A. palustris Hudson i A. tenuis	10000	0,5	5	82	2	1	70	12	-	NF	20-30; 15-25;10-30	7	28	Ph, KNO3
5	Allium cepa L.	10000	8	80	96	0,2	0,3	65	12		NF,IF	20;15	b	12	Ph
6	Allium fistulosum L.	10000	5	50	96	0,3	0,2	65	12	-	NF,IF	20;15	6	12	Ph
7	Allium porrum L.	10000	7	70	96	0,2	0,3	65	12		NF,IF	20;15	6	14	Ph
8	Allium shoenoprasum L.	10000	3	30	96	0,2	0,3	65	12	-	NF,IF	20;15	6	14	Ph
9	Alopecurus pratensis L.	10000	3	30	82	3	2	60	13	-	NF	20-30; 15-25;10-30	7	14	Ph, KNO3

10	Aethum graveolens L.	10000	4	40	90	0,5	0,5	60	13		NF,IF	20-30; 10-30	7	21	Ph
11	Anthoxanthum odoratum L.	10000	2	20	88	2	2	60	13	-	NF	20-30	6	14	
12	Anthyllis vulneraria L.	10000	6	60	82	2	1	65	13		NF,IF	20	5	10	Ph
13	Apium graveolens L.	10000	1	10	94	0,5	0,5	60	13	-	NF	20-30	10	21	Ph, KNO3
14	Arachis hypogaea L.	20000	1.000	1.000	67	0	0	65	11		IF,P	20-30;25	5	10	Remove the coat; PS (40°C)
15	Arrhenatherum elatius (L.) P. Beauv. ex J.S. et KB. Presl	10000	8	80	88	3	2	65	13		NF	20-30	6	14	Ph
16	Asparagus officinalis L.	20000	100	1.000	97	0,5	0	65	13	-	NF,IF,P	20-30	10	28	

17	Avena sativa L.	20000	120	1.000	97		0	0	82	15	Examine the mass of 1000 seeds	IF.P	20	5	10	PS (30° -35°C) Ph, GA3
18	Beta vulgaris L (all varieties)	20000	50	500	96		0, 3	0	65	14	Examine the mass of 1000 seeds	NF,IF, P	20-30:15-25	4	14	Previous rinsing: 2 h for multi-germination, 4 h for single-germination
19	Beta vulgaris saccharifera lange - multi-germination)	20000	50	500	97		0, 3	0, 1	80	15	Examine the mass of 1000 seeds. Single germ	NF,IF P	20-30:15-25	4	14	Previous rinsing: 2 h for multi-germination, 4 h for single-germination,

										ination varieties have to have at least 90% of single germinated seeds					
	- segmented	20000	50	500	97	0,3	0,1	85	15		NF,IF,P	20-30;15-25	4	14	
	- Single germination	20000	50	500	97	0,3	0,1	85	15		NF,IF,P	20-30;15-25	4	14	
20	Borago officinalis L.	10000	45	450	97	0,2	0,1	75	13	-	NF,IF	20-30;20	5	14	-

21	Brassica chinensis L.	10000	4	40	96	0, 5	0, 3	75	12	-	NF	20-30,20	5	7	-
22	Brassica napus L.	10000	10	100	96	0, 5	0, 3	75	12		NF	20-30;20	5	7	Ph
23	Brassica napus L. var. napobrassica (L.) Reichb.	10000	10	100	96	0, 5	0, 3	75	12		NF	20-30;20	5	14	Ph
24	Brassica nigra (L.) Koch.	10000	4	40	97	0, 2	0, 3	75	12		NF	20-30;20	5	10	Ph,KNO3
25	Brassica oleracea L. (svi varijeteti)	10000	10	100	96	0, 5	0, 3	75	12		NF	20-30;20	5	10	Ph,KNO3
26	Brassica pekinensis (Lour.) Rupr.	10000	4	40	96	0, 5	0, 3	75	12	-	NF	20-30;20	5	7	Ph
27	Brassica rapa L. (uključujući B. campestris L.)	10000	7	70	96	0, 5	03	75	12	Examine the mass of 1000	NF	20-30;20	5	7	Ph,KNO3

										seeds					
28	Bromus arvensis L.	10000	6	60	88	3	1	65	13		NF	20-30;15-25	7	21	Ph,KNO3
29	Bromus carinatus Hook et. Arn.	10000	20	200	88	3	1	65	13		NF	20-30; 15-25;10-30	7	14	Ph,KNO3
30	Bromus catharticus Vahl.	10000	20	200	88	3	1	65	13	-	NF	20-30	7	28	Ph,KNO3
31	Bromus inermis Leysser i B. unioloides	10000	9	90	88	3	1	65	13	-	NF	20-30;15-25	7	14	Ph,KNO3
32	Bromus marginatus Nees ex Steudel	10000	20	200	88	3	1	65	13	-	NF	20-30;15-25	7	14	Ph,KNO3
33	Bromus mollis L.	10000	5	50	88	3	1	65	13	-	NF	20-30	7	14	Ph
34	Bromus sitchensis Trin.	10000	20	200	88	3	1	65	13	-	NF	20-30;15-25	7	21	Ph
35	Camelina sativa (L.) Crantz	10000	4	40	95	0,2	0,5	70	14	-	NF	20-30	4	10	-

36	Cannabis sativa L	10000	60	600	96	0,2	0,2	70	13	Examine the mass of 1000 seeds	NF,IF	20-30;20	3	7	
37	Capsicum spp.	10000	15	150	97	0	0	65	12	-	NF,IF	20-30	7	14	KNO3
38	Carum carvi L.	10000	8	80	94	0,5	0,5	60	12	-	NF,IF	20-30	7	21	-
39	Cicer arietinum L.	20000	1.000	1.000	97	0	0	75	13	-	IF,P	20-30;20	5	8	
40	Cichorium endivia L.	10000	4	40	94	0,5	0,5	70	14	-	NF	20-30;20	5	14	KNO3
41	Cichorium intybus L.	10000	5	50	94	0,5	0,5	70	14		NF	20-30;20	5	14	KNO3
42	Citrullus lanatus (Thunb) Matsum.et Nakai	20000	250	1.000	98	0	0	80	14		IF,P	20-30 ;25	5	14	

43	Coriandrum sativum L.	10000	40	400	90	0,2	0,2	65	12		NF,IF	20-30;20	7	21	-
44	Coronilla varia L.	10000	10	100	95	3	1,5	65	13		NF,IF	20	7	14	-
45	Cucumis melo L.	10000	70	150	98	0	0	80	14	-	IF,P	20-30;25	4	8	-
46	Cucumis sativus L.	10000	70	150	98	0	0	80	14		NF IF,P	20-30;25	4	8	
47	Cucurbita maxima Duchesne i C. moschata (D.) D.ex.P.	10000	180	350	98	0	0	80	14	-	IF,P	20-30 ;25	4	8	
48	Cucurbita pepo L.	20000	700	1.000	98	0	0	80	14		IF,P	20-30 ;25	4	8	-
49	Cuminum cyminum L.	10000	6	60	94	0,2	0,3	65	13		NF	20-30	5	14	-

50	Cynara scolymus L.	20000	120	1.000	94	2	2	70	13		IF,P	20-30	7	21	-
51	Cynodon dactylon (L.) Pers	10000	1	10	94	2	2	70	13	-	NF	20-35:20-30	7	21	Ph,S, KNO3
52	Cynosurus cristatus L.	10000	2	20	94	2	2	70	13	-	NF	20-30	10	21	Ph,KNO3
53	Dactylis glomerata L.	10000	3	30	82	2	2	70	13	-	NF	20-30:15-25	7	21	Ph,KNO3
54	Daucus carota L.	10000	3	30	94	0,5	0,5	60	12	-	NF, IF	20-30;20	7	14	-
55	Deschampsia spp.	10000	1	10	94	2	2	70	13		NF	20-30;20	7	16	Ph,KNO3
56	Eragrostis curvula (schrader) Nees	10000	1	10	94	2	2	70	13		NF	20-35;15-30	6	10	Ph,NO3
57	Eragrostis tef (Zuccagni) Trotter	10000	1	10	94	2	2	70	13		NF	20-30	4	10	Ph.KNO3
58	Fagopyrum	10000	6600	600	94	1	1	75	14	At most	NF,IF	20-30;20	4	7	

	esculentum Moench		0							30 seeds of F. tata-ricum in 500 g. Examine the mass of 1000 seeds					
59	Festuca arundinacea Schreber	10000	550	50	94	3		75	13		NF	20-30;15-25	7	14	Ph,KNO3
60	Festuca heterophylla Lam	10000	620	20	94	3	1	75	13	-	NF	20-30;15-25	7	21	Ph,KNO3
61	Festuca ovina L.	10000	330	30	94	3	1	75	13	-	NF	20-30;15-25	7	21	Ph,KNO3

62	Festuca pratensis Hudson	10000	550	50	94	3	1	75	13	-	NF	20-30;15-25	7	14	Ph,KNO3
63	Festuca rubra L.	10000	330	30	90	3	1	70	13	-	NF	20-30;15-25	7	14	Ph,KNO3
64	Foeniculum vulgare Mill er	10000	11880	180	94	0	0	65	13	-	NF,IF	20-30	7	14	-
65	Glycine javanica L.	10000	11550	150	96	0	0	75	14	Examine the mass of 1000 seeds	NF	20-30;10-35	4	10	
66	Glycine max (L.) Merr.	20000	1500.000	1.000	94	0	0	70	14	Examine the mass of 1000 seeds	IFL	20-30;25	5	8	
67	Gossypium spp.	20000	1350.0	1.000	97	0	0	70	12	-	IF,P	20-30; 25	4	12	-

			00											
68.	Helianthus annuus L.	20000	1200.000	1.000	97	0	0	80	11	Examine the mass of 1000 seeds	IF,P	20-30;25;20	4	10	PS,Ph
69	Hibiscus esculentus L.	20000	1140.000	1.000	94	1	0,2	65	12	-	NF,IF, P	20-30	4	21	-
70	Holcus lanatus L.	10000	215	10	82	3	2	65	13	-	NF	20-30	6	14	Ph,KNO3
71	Hordeum vulgare L. Za seme jarnog ječma proizvedeno u 1997. godini stepen	20000	1120.000	1.000	97	0	0	88	14	Examine the mass of 1000 seeds	IF,P	20	4	7	PS (30-35°C) Ph,GA3

	klijavosti iznosi 82%														
72	Lactuca sativa L.	10000	330	30	94	0,5	0,5	70	12	-	NF,IF	20	4	7	Ph
73	Lagenaria siceraria (Molina) Standley	20000	1500.000	1.000	98	0	0	80	14	-	IF,P	20-30	4	14	
74	Lathyrus hirsutus L.	10000	77000	700	94	2	1	75	15	-	IF,P	20	7	14	-
75	Lathyrus sativus L.	20000	1450.000	1.000	94	2	1	75	15	Examine the mass of 1000 seeds	IF,P	20	5	14	
76	Lens culinaris Medikus	10000	66000	600	96	0,5	0,2	75	15	-	IF,P	20	5	10	Ph
77	Lepidium sativum L.	10000	660	60	96	0,3	0,3	75	14	-	NF	20-30;20	4	10	Ph

78	Linum usitatissimum L.	10000	11550	150	97	0,5	0,5	75	12		NF,IF	20-30;20	3	7	Ph
79	Lolium X boucheanum Kunth.	10000	660	60	94	2	1	70	13	-	NF	20-30;15 25;20	5	14	Ph,KNO3
80	Lolium multiflorum Lam.	10000	660	60	94	2	1	70	13	-	NF	20-30;15 25;20	5	14	Ph,KNO3
81	Lolium perenne L.	10000	660	60	94	2	1	70	13	10% of fluoroscent sprouts is considered as Englisg ljulj	NF	20-30;15 25;20	5	14	Ph,KNO3
82	Lotus corniculatus L.	10000	330	30	94	3	1	65	13	-	NF,IF	20-30;20	4	12	Ph
83	Lotus uliginosus	10000	225	20	94	3	1	65	13	-	NF,IF	20-30;20	4	12	Ph

	Schk.															
84	Lupinus albus L.	20000	1450.000	1.000	97		0,5	0,2	75	15	-	IF,P	20	5	10	Ph
85	Lupinus angustifolius L.	20000	1450.000	1.000	97		0,5	0,2	75	15	-	IF,P	20	5	10	Ph
86	Lupinus luteus L.	20000	1450.000	1.000	97		0,5	0,2	75	15	-	IF,P	20	10	21	Ph
87	Lycopersicon lycopersicum (L.) Karsten	10000	175	15	97		0	0	75	12	-	NF,IF,	20-30	5	14	KNO3
88	Medicago lupulina L.	10000	550	50	95		3	1,5	65	13	-	NF,IF	20	4	10	Ph
89	Medicage sativa L. M.X varia T. Martyn	10000	550	50	95		2	0,5	70	13	-	NF,IF	20	4	10	Ph

90	Melilotus alba Med.i M.officinal - ls (L.) Pall.	10000	550		50	95	3	1	65	13		NF,IF	20	4	7	Ph
91	Nicotiana tabacum L.	10000	20,55		5	97	0	0	70	10	-	IF	20-30	7	16	KNO3
92	Ocimum basilicum L.	10000	440		40	90	0,3	0,2	65	12	-	NF	20-30	4	14	KNO3
93	Onobrychis viciaefolia Scop. (harvest/seeds)	10000	600 400	60 40	600 400	96	0,5	0,5	75	13		NF,IF, P	20-30;20	4	14	Ph
94	Origanum majora na L.	10000	25	0,5	5	95	0,2	0,2	65	12	-	NF	20-30;20	7	21	-
95	Ornithopus sativus Brot.	10000	90	9	90	96	2	I	65	13	-	NF,IF	20	7	14	
96	Oryza sativa L.	20000	400	40	400	96	0,5	0,2	85	14	Examine the mass of	NF, IF,P	20-30:25	5	14	PS 50°C. Infuse seeds in H2O or HN (24 h)

											1000 seeds					
97	Panicum antidotale Retz.	10000	25	2	20	97	1	0,2	75	13	-	NF	20-30	7	28	
98	Panicum coloratum L.	10000	25	2	20	97	1	0,2	75	13	-	NF	20-35;	7	28	
99	Panicum maximum Jacq.	10000	25	2	20	97	1	0,2	75	13	-	NF	15-35;20-30	10	28	Ph,KNO3
100	Panicum miliaceum L.	10000	150	15	150	97	1	0,2	75	13		NF,IF	20-30;25	3	7	-
101	Panicum ramosum L.	10000	90	9	90	97	1	0,2	75	13	-	IF	20-30	4	14	PS,KNO3
102	Panicum virgatum L.	10000	30	3	30	97	1	0,2	75	13	-	NF	15-30	7	28	Ph,KNO3 Ph
103	Papaver somniferum	10000	25	1	10	97	0	0	65	10	-	NF	20	5	10	Ph
104	Pastinaca sativa L.	10000	100	10	100	94	0,5	0,5	60	12		NF, IF	20-30	6	28	-
105	Petroselinum	10000	40	4	40	94	0,5	0,5	60	13	-	NF, IF	20-30	10	28	-

	crispum (Miller) N.ex.A. W. Hill																
106	Phacelia tanacetifolia Benth.	10000	40	5	40	94		2	1	65	13	-	NF, IF	20-30;20,15	5	14	Ph.T
107	Phalaris arundinacea L.	10000	30	3	30	94		1	1	65	14	-	NF	20-30	7	21	Ph.KNO3
108	Phalaris canariensis L.	10000	200	20	200	94		1	1	75	14	-	NF, IF	20-30;15-25	7	21	Ph,KNO3
109	Phaseolus coccineus L.	20000	1.000	1.000	1.000	98		0	0	75	14	Examine the mass of 1000 seeds	IF,P	20-30;20	5	9	-
110	Phaseolus mungo L.	20000	1.000	700	1.000	97		0	0	75	14	-	IF.P	20-30;25;20	4	7	-
111	Phaseolus vulgaris L.	20000	1.000	700	1.000	97		0	0	70	14	Examine the mass	IF,P	20-30;25;20	5	9	

											of 1000 seeds					
112	Phleum bertolonii DC.	10000	25	1	10	96	1	1	75	13		NF	20-30;15-25	7	10	Ph,KNO3
113	Phleum pratense L.	10000	25	1	10	96	1	1	75	13	-	NF	20-30;15-25	7	10	Ph,KNO3
114	Physalis pubescens L.	10000	25	2	20	97	0	0	70	12	-	HF	20-30	7	28	KNO3
115	Pimpinella anisum L.	10000	70	7	70	94	0,5	0,2	65	12	-	NF, IF	20-30	7	21	
116	Pisum arvence L.	20000	1.000	900	1.000	94	3	1	75	15	Examine the mass of 1000 seeds	IF,P	20	5	8	
117	Pisum sativum L.	20000	1.000	900	1.000	96	0	0	75	15	Examine the mass of	IF,P	20	5	8	

											1000 seeds					
118	Poa ampla Merr.	10000	25	1,5	25	82	2	1	65	12	-	NF	20-30; 15-25;10-30	7	28	Ph,KNO3
119	Poa annua L.	10000	25	1	10	82	2	1	65	12	-	NF	20-30;15-25	7	21	Ph,KNO3
120	Poa bulbosa L.	10000	30	3	30	82	2	1	65	12	-	NF	15-25	10	35.	KNO3
121	Poa compressa L.	10000	25	0,5	5	82	2	1	65	12	-	NF	15-25;10-30	10	28	Ph, KNO3
122	Poa nemoralis L.	10000	25	0,5	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3
123	Poa palustris L.	10000	25	0,5	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3
124	Poa pratensis L.	10000	25	1	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3

125	Poa trivialis L.	10000	20,55	5	82		2	1	65	12	-	NF	20-30;15-25	7	21	Ph,KNO3
126	Portulaca oleracea L.	10000	20,55	5	94		0,5	0,2	60	12	-	NF,IF	20-30	5	14	Ph
127	Raphannus sativus L.	10000	33000	300	94		0,5	0,5	70	13	-	NF,IF	20-30;20	4	10	Ph
128	Rheum rhaponticum L.	10000	44550	450	95		0,5	0,1	75	13	-	NF	20-30	7	21	-
129	Ricinus communis L.	20000	150.0000	1.000	97		0	0	75	11	-	IF,P	20-30	7	14	-
130	Satureja hortensis L.	10000	220	20	95		0,2	0,2	65	12	-	NF	20-30	5	21	-
131	Scorzonera hispanica L.	10000	33000	300	86		0	0,2	65	12	-	NF,IF	20-30;20	4	8	Ph
132	Secale cereale L.	20000	112.000	1.000	97		0	0	82	14	Examine the mass	NF,IF,P	20	4	7	Ph,GA3

			0								of 1000 seeds					
133	Sesamum indicum L. (S. orientale L.)	10000	770	70	97		0,3	0,3	75	10	-	NF	20-30	3	6	-
134	Setaria italica (L.)P. Beauv.	10000	990	90	94		2	1	70	13	-	NF,IF	20-30	4	10	-
135	Sinapis alba L.	10000	22000	200	94		0,5	0,5	75	12	-	NF	20-30DO	3	7	Ph
136	Solanum melongena L.	10000	11550	150	96		0	0	65	13	-	NF,IF	20-30	7	14	-
137	Sorghum halepense (L.) Pers	10000	990	90	94		0,5	0,5	70	14	Examine the mass of 1000 seeds	NF,IF	20-35;20-30	7	35	-

138	Sarghum sudanense (Piper) Stapf	10000	2250	250	94	0,5	0,5	65	13	Examine the mass of 1000 seeds	NF,IF	20-30	4	10	Ph
139	Sorghum vulgare (S. bicolor (L.) Moench)	10000	99000	900	96	0,5	0,2	70	15	Examine the mass of 1000 seeds	NF,IF	20-30;25	4	10	Ph
140	Spinacia oleracea L.	10000	2250	250	94	0,2	0,5	65	13	-	NF, IF	15;10	7	21	Ph
141	Tetragonia tetragonioides (Pallas) Kuntze	20000	120.0000	1.000	94	0,2	0,5	60	13	-	IF.P	20-30;20	7	35	Remove the pulp; previous rinsing
142	Thymus vulgaris L.	10000	20,55	5	92	0,3	0,2	60	12	-	NF	20-30;20	7	21	-

143	Tragopogon porrifolius L.	10000	44000	400	86		0	0,2	65	12	-	NF, IF	20		5	10	Ph
144	Trifolium alexandrinum L.	10000	660	60	95		2	0,5	70	13	-	NF, IF	20		3	7	-
145	Trifolium campestre Schreber	10000	20,55	5	94		2	0,5	70	13	-	NF, IF	20		4	14	-
146	Trifolium hybridum L.	10000	225	20	95		2	0,5	70	13	Up to 3% of seeds of the white lucerne is counted as other varieties	NF, IF	20		4	10	Ph, sealed in polyethilen envelope

147	Trifolium incarnatum L.	10000	880	80	95		2	0,5	70	13	-	NF, IF	20		4	7	Ph, sealed in polyethilen envelope
148	Trifolium pratense L.	10000	550	50	95		2	0,5	70	13	-	NF, IF	20		4	10	Ph
149	Trifolium repens L.	10000	225	20	95		2	0,5	70	13	Up to 3% of seeds of the hybrid lucerne is counted as other varieties	NF, IF	20		4	10	Ph, sealed in polyethilen envelope
150	Trifolium resupinatum L.	10000	225	20	95		2	0,5	70	13	-	NF, IF	20		4	7	-

151	Trifolium subterraneum L.	10000	225 5 0	250	96	2	0, 5	7 0	13	-	NF, IF	20;15	4	14	T
152	Trisetum flavescens (L.) P. Beanov.	10000	20,5 5	5	88	3	2	6 5	12	-	NF	20-30	7	21	Ph,KNO3
153	Triticum aestivum L. emend. Fiori et. Paol., T. durum Desf., X Triticosecale Wittm. and tritikale	20000	112 . 0 0 0 0	1.000	97	0	0	8 2	14	Examine the mass of 1000 seeds	NF, IF,P	20	4	8	PS (30° -35°C), Ph, GA3
154	Valerianella locusta (L.) Laterr.	10000	77 0	70	90	0, 3	0, 5	6 0	13	-	NF, IF	20,15	7	28	Ph
155	Vicia faba L.	20000	11.0 . 00 0 0 0	1.000	97	0	0	7 5	15	Examine the mass of 1000 seed	IF,P	20	4	14	Ph

										s						
156	Vicia pannonica Crantz	20000	112.000	1.000	94		3	1	75	14	Up to 3% of Vicia sativa is not counted as other varieties. Examine the mass of 1000 seeds	IF,P	20	5	10	Ph
157	Vicia sativa L. i V. angustifolia L.	20000	114.000	1.000	94		3	1	75	14	Up to 3% of Vicia	IF,P	20	5	14	Ph

										pranonica is not counted as other varieties. Examine the mass of 1000 seeds						
158	Vicia villosa Roth i V. dasycarpa Ten.	20000	1.000	100	1.000	94	3	1	75	14	-	IF,P	20	5	14	Ph
159	Vigna Unguiculata (L.) Walp. sa V. sinensis	20000	140.0000		1.000	96	0	0	75	14	-	IF,P	20-30;25	5	8	-

	(L.) Savi ex Hassk.														
160	Zea mays L.	20000	190.000	1.000	98	0	0	85	13	Examine the mass of 1000 seeds	IF,P	20-30;25;20	4	7	The cold test, if needed
Ordinal number	Plant variety (latin name)	The size of a shipment at most - kg			Norms of the quality of seeds					Conditions for examination of germination					
			Working	For presence of other varieties and weeds	Purity at least %	Presence of		Germination at least	Content of humidity at	Additional norms and	Foilt	Temperature in °C	Number of day		

						%	most %	working orders					s						
				Other species at most %	Weeds at most %						First evaluation	Final evaluation	Procedure for suspension of stillness and other recommendations						
1	2	5	6					7	8	9	10		11	12	13	14	15	16	17
12.1. Cereals, industrial, plants for																			

animal feed and vegetables															
1	Agropyron spp.	10000	15	150	88	3		65	13	-	NF	20-30;15-25	5	14	Ph, KHO3
2	Agrostis canina L.	10000	0,5	5	82	2	1	70	12		NF	20-30-; 15-25;10-30	7	21	Ph, KNO3
3	Agrostis gigantea Roth	10000	0,5	5	82	2	1	70	12	-	NF	20-30; 15-25;10-30	5	10	Ph, KNO3
4	Agrostis stolonifera L. sa A. palustris Hudson i A. tenuis	10000	0,5	5	82	2	1	70	12	-	NF	20-30; 15-25;10-30	7	28	Ph, KNO3
5	Allium cepa L.	10000	8	80	96	0,2	0,3	65	12		NF,IF	20;15	b	12	Ph

6	Allium fistulosum L.	10000	5	50	96	0,3	0,2	65	12	-	NF,IF	20;15	6	12	Ph
7	Allium porrum L.	10000	7	70	96	0,2	0,3	65	12		NF,IF	20;15	6	14	Ph
8	Allium shoenoprasum L.	10000	3	30	96	0,2	0,3	65	12	-	NF,IF	20;15	6	14	Ph
9	Alopecurus pratensis L.	10000	3	30	82	3	2	60	13	-	NF	20-30; 15-25;10-30	7	14	Ph, KNO3
10	Aethum graveolens L.	10000	4	40	90	0,5	0,5	60	13		NF,IF	20-30; 10-30	7	21	Ph
11	Anthoxanthum odoratum L.	10000	2	20	88	2	2	60	13	-	NF	20-30	6	14	
12	Anthyllis vulneraria L.	10000	6	60	82	2	1	65	13		NF,IF	20	5	10	Ph
13	Apium graveolens L.	10000	1	10	94	0,5	0,5	60	13	-	NF	20-30	10	21	Ph, KNO3
14	Arachis hypogaea L.	20000	1.000	1.000	67	0	0	65	11		IF,P	20-30;25	5	10	Remove the coat; PS (40°C)

15	Arrhenatherum elatius (L.) P. Beauv. ex J.S. et KB. Presl	10000	8	80	88	3	2	65	13		NF	20-30	6	14	Ph
16	Asparagus officinalis L.	20000	100	1.000	97	0,5	0	65	13	-	NF,IF,P	20-30	10	28	
17	Avena sativa L.	20000	120	1.000	97	0	0	82	15	Examine the mass of 1000 seeds	IF.P	20	5	10	PS (30°-35°C) Ph, GA3
18	Beta vulgaris L (all varieties)	20000	50	500	96	0,3	0	65	14	Examine the mass of 1000	NF,IF, P	20-30:15-25	4	14	Previous rinsing: 2 h for multi-germination, 4 h for single-

								seeds					germination
19	20000	50	500	97	0, 3	0, 1	8 0	15	Examine the mass of 1000 seeds. Single germination varieties have to have at least 90% of single germinated	NF,IFP	20-30:15-25	4	14	Previous rinsing: 2 h for multi-germination, 4 h for single-germination,

seed
s

	- segmented	20000	50		500	97	0,3	0,1	85	15		NF,IF,P	20-30;15-25	4	14	
	- Single germination	20000	50		500	97	0,3	0,1	85	15		NF,IF,P	20-30;15-25	4	14	
20	Borago officinalis L.	10000	450	45	450	97	0,2	0,1	75	13	-	NF,IF	20-30;20	5	14	-
21	Brassica chinensis L.	10000	40	4	40	96	0,5	0,3	75	12	-	NF	20-30,20	5	7	-
22	Brassica napus L.	10000	100	10	100	96	0,5	0,3	75	12		NF	20-30;20	5	7	Ph
23	Brassica napus L. var. napobrassica (L.) Reichb.	10000	100	10	100	96	0,5	0,3	75	12		NF	20-30;20	5	14	Ph
24 25	Brassica nigra (L.) Koch.	10000	40	4	40	97	0,2	0,3	75	12		NF	20-30;20	5	10	Ph,KNO3

	Brassica oleracea L. (all varieties	10000	100	10	100	96	0,5	0,3	75	12		NF	20-30;20	5	10	Ph,KNO3
26	Brassica pekinensis (Lour.) Rupr.	10000	40	4	40	96	0,5	0,3	75	12	-	NF	20-30;20	5	7	Ph
27	Brassica rapa L. (uključujući B. campestris L.)	10000	70	7	70	96	0,5	03	75	12	Examine the mass of 1000 seeds	NF	20-30;20	5	7	Ph,KNO3
28	Bromus arvensis L.	10000	60	6	60	88	3	1	65	13		NF	20-30;15-25	7	21	Ph,KNO3
29	Bromus carinatus Hook et. Arn.	10000	200	20	200	88	3	1	65	13		NF	20-30; 15-25;10-30	7	14	Ph,KNO3
30	Bromus catharticus Vahl.	10000	200	20	200	88	3	1	65	13	-	NF	20-30	7	28	Ph,KNO3
31	Bromus inermis	10000	90	9	90	88	3	1	65	13	-	NF	20-30;15-	7	14	Ph,KNO3

	Leysser i B. unioloides												25			
32	Bromus marginatus Nees ex Steudel	10000	200	20	200	88	3	1	65	13	-	NF	20-30;15-25	7	14	Ph,KNO3
33	Bromus mollis L.	10000	50	5	50	88	3	1	65	13	-	NF	20-30	7	14	Ph
34	Bromus sitchensis Trin.	10000	200	20	200	88	3	1	65	13	-	NF	20-30;15-25	7	21	Ph
35	Camelina sativa (L.) Crantz	10000	40	4	40	95	0,2	0,25	70	14	-	NF	20-30	4	10	-
36	Cannabis sativa L	10000	600	60	600	96	0,2	0,2	70	13	Examine the mass of 1000 seeds	NF,IF	20-30;20	3	7	
37	Capsicum spp.	10000	150	15	150	97	0	0	65	12	-	NF,IF	20-30	7	14	KNO3

38	Carum carvi L.	10000	80	8	80	94	0,5	0,5	60	12	-	NF,IF	20-30	7	21	-
39	Cicer arietinum L.	20000	1.000	1.000	1.000	97	0	0	75	13	-	IF,P	20-30;20	5	8	
40	Cichorium endivia L.	10000	40	4	40	94	0,5	0,5	70	14	-	NF	20-30;20	5	14	KNO3
41	Cichorium intybus L.	10000	50	5	50	94	0,5	0,5	70	14		NF	20-30;20	5	14	KNO3
42	Citrullus lanatus (Thunb) Matsum.et Nakai	20000	1.000	250	1.000	98	0	0	80	14		IF,P	20-30;25	5	14	
43	Coriandrum sativum L.	10000	400	40	400	90	0,2	0,2	65	12		NF,IF	20-30;20	7	21	-
44	Coronilla varia L.	10000	100	10	100	95	3	1,5	65	13		NF,IF	20	7	14	-
45	Cucumis melo L.	10000	150	70	150	98	0	0	80	14	-	IF,P	20-30;25	4	8	-
46	Cucumis sativus L.	10000	150	70	150	98	0	0	80	14		NF IF,P	20-30;25	4	8	
47	Cucurbita maxima Duchesne	10000	350	180	350	98	0	0	80	14	-	IF,P	20-30;25	4	8	

	i C. moschata (D.) D.ex.P.															
48	Cucurbita pepo L.	20000	1.000	700	1.000	98	0	0	80	14		IF,P	20-30 ;25	4	8	-
49	Cuminum cyminum L.	10000	60	6	60	94	0,2	0,3	65	13		NF	20-30	5	14	-
50	Cynara scolymus L.	20000	1.000	120	1.000	94	2	2	70	13		IF,P	20-30	7	21	-
51	Cynodon dactylon (L.) Pers	10000	25	1	10	94	2	2	70	13	-	NF	20-35:20-30	7	21	Ph,S, KNO3
52	Cynosurus cristatus L.	10000	25	2	20	94	2	2	70	13	-	NF	20-30	10	21	Ph,KNO3
53	Dactylis glomerata L.	10000	30	3	30	82	2	2	70	13	-	NF	20-30:15-25	7	21	Ph,KNO3
54	Daucus carota L.	10000	30	3	30	94	0,5	0,5	60	12	-	NF, IF	20-30;20	7	14	-
55	Deschampsia spp.	10000	25	1	10	94	2	2	70	13		NF	20-30;20	7	16	Ph,KNO3

56	Eragrostis curvula (schrader) Nees	10000	25	1	10	94	2	2	70	13		NF	20-35;15-30	6	10	Ph,NO3
57	Eragrostis tef (Zuccagni) Trotter	10000	25	1	10	94	2	2	70	13		NF	20-30	4	10	Ph.KNO3
58	Fagopyrum esculentum Moench	10000	600	60	600	94	1	1	75	14	At most 30 seeds of F. tata-ricum in 500 g. Examine the mass of 1000 seeds	NF,IF	20-30;20	4	7	
59	Festuca arundinac	10000	50	5	50	94	3		75	13		NF	20-30;15-	7	14	Ph,KNO3

	ea Schreber												25			
60	Festuca heterophylla Lam	10000	60	2	20	94	3	1	75	13	-	NF	20-30;15-25	7	21	Ph,KNO3
61	Festuca ovina L.	10000	30	3	30	94	3	1	75	13	-	NF	20-30;15-25	7	21	Ph,KNO3
62	Festuca pratensis Hudson	10000	50	5	50	94	3	1	75	13	-	NF	20-30;15-25	7	14	Ph,KNO3
63	Festuca rubra L.	10000	30	3	30	90	3	1	70	13	-	NF	20-30;15-25	7	14	Ph,KNO3
64	Foeniculum vulgare Mill er	10000	180	18	180	94	0	0	65	13	-	NF,IF	20-30	7	14	-
65	Glycine javanica L.	10000	150	15	150	96	0	0	75	14	Examine the mass of 1000 seeds	NF	20-30;10-35	4	10	
66	Glycine max (L.) Merr.	20000	1.000	500	1.000	94	0	0	70	14	Examine the	IFL	20-30;25	5	8	

											mass of 1000 seeds					
67	Gossypium spp.	20000	1.000	350	1.000	97	0	0	70	12	-	IF,P	20-30; 25	4	12	-
68.	Helianthus annuus L.	20000	1.000	200	1.000	97	0	0	80	11	Examine the mass of 1000 seeds	IF,P	20-30;25;20	4	10	PS,Ph
69	Hibiscus esculentus L.	20000	1.000	140	1.000	94	1	0,2	65	12	-	NF,IF,P	20-30	4	21	-
70	Holcus lanatus L.	10000	25	1	10	82	3	2	65	13	-	NF	20-30	6	14	Ph,KNO3
71	Hordeum vulgare L. For seeds of jarnog barley	20000	1.000	120	1.000	97	0	0	88	14	Examine the mass of 1000	IF,P	20	4	7	PS (30-35°C) Ph,GA3

	produced in year 1997, level of germination is 82%											seeds					
72	Lactuca sativa L.	10000	30	3	30	94	0,5	0,5	70	12	-		NF,IF	20	4	7	Ph
73	Lagenaria siceraria (Molina) Standley	20000	1.000	500	1.000	98	0	0	80	14	-		IF,P	20-30	4	14	
74	Lathyrus hirsutus L.	10000	700	70	700	94	2	1	75	15	-		IF,P	20	7	14	-
75	Lathyrus sativus L.	20000	450	1.000		94	2	1	75	15		Ispitati masu 1.000 semena	IF,P	20	5	14	
76	Lens culinaris Medikus	10000	60	600		96	0,5	0,2	75	15		-	IF,P	20	5	10	Ph

77	Lepidium sativum L.	10000	6	60	96	0,3	0,3	75	14	-	NF	20-30;20	4	10	Ph
78	Linum usitatissimum L.	10000	15	150	97	0,5	0,5	75	12		NF,IF	20-30;20	3	7	Ph
79	Lolium X boucheanum Kunth.	10000	6	60	94	2	1	70	13	-	NF	20-30;15 25;20	5	14	Ph,KNO3
80	Lolium multiflorum Lam.	10000	6	60	94	2	1	70	13	-	NF	20-30;15 25;20	5	14	Ph,KNO3
81	Lolium perenne L.	10000	6	60	94	2	1	70	13	10% of fluorescent sprouts is considered as Englisg ljulj	NF	20-30;15 25;20	5	14	Ph,KNO3

82	Lotus corniculatus L.	10000	3	30	94	3	1	65	13	-	NF,IF	20-30;20	4	12	Ph
83	Lotus uliginosus Schk.	10000	2	20	94	3	1	65	13	-	NF,IF	20-30;20	4	12	Ph
84	Lupinus albus L.	20000	450	1.000	97	0,5	0,2	75	15	-	IF,P	20	5	10	Ph
85	Lupinus angustifolius L.	20000	450	1.000	97	0,5	0,2	75	15	-	IF,P	20	5	10	Ph
86	Lupinus luteus L.	20000	450	1.000	97	0,5	0,2	75	15	-	IF,P	20	10	21	Ph
87	Lycopersicon lycopersicum (L.) Karsten	10000	7	15	97	0	0	75	12	-	NF,IF,	20-30	5	14	KNO3
88	Medicago lupulina	10000	5	50	95	3	1,5	65	13	-	NF,IF	20	4	10	Ph

	L.															
89	Medicage sativa L. M.X varia T. Martyn	10000	5	50		95	2	0,5	70	13	-	NF,IF	20	4	10	Ph
90	Melilotus alba Med.i M.officinal - ls (L.) Pall.	10000	5	50		95	3	1	65	13		NF,IF	20	4	7	Ph
91	Nicotiana tabacum L.	10000	0,5	5		97	0	0	70	10	-	IF	20-30	7	16	KNO3
92	Ocimum basilicum L.	10000	4	40		90	0,3	0,2	65	12	-	NF	20-30	4	14	KNO3
93	Onobrychis viciaefolia Scop. (harvest/ seeds	10000	60 40	600	400	96	0,5	0,5	75	13		NF,IF, P	20-30;20	4	14	Ph
94	Origanum majora na L.	10000	0,5	5		95	0,2	0,2	65	12	-	NF	20-30;20	7	21	-

95	Ornithopus sativus Brot.	10000	9	90	96	2	I	65	13	-	NF,IF	20	7	14	
96	Oryza sativa L.	20000	40	400	96	0,5	0,2	85	14	Examine the mass of 1000 seeds	NF, IF,P	20-30:25	5	14	PS 50°C. Infuse seeds in H_2O or HNO_3 (24 h)
97	Panicum antidotale Retz.	10000	2	20	97	1	0,2	75	13	-	NF	20-30	7	28	
98	Panicum coloratum L.	10000	2	20	97	1	0,2	75	13	-	NF	20-35;	7	28	
99	Panicum maximum Jacq.	10000	2	20	97	1	0,2	75	13	-	NF	15-35;20-30	10	28	Ph,KNO_3
100	Panicum miliaceum L.	10000	15	150	97	1	0,2	75	13		NF,IF	20-30;25	3	7	-
101	Panicum ramosum L.	10000	9	90	97	1	0,2	75	13	-	IF	20-30	4	14	PS,KNO_3
102	Panicum virgatum	10000	3	30	97	1	0,2	75	13	-	NF	15-30	7	28	Ph,KNO_3 Ph

	L.														
103	Papaver somniferum	10000	1	10	97	0	0	65	10	-	NF	20	5	10	Ph
104	Pastinaca sativa L.	10000	10	100	94	0,5	0,5	60	12		NF, IF	20-30	6	28	-
105	Petroselinum crispum (Miller) N.ex.A. W. Hill	10000	4	40	94	0,5	0,5	60	13	-	NF, IF	20-30	10	28	-
106	Phacelia tanacetifolia Benth.	10000	5	40	94	2	1	65	13	-	NF, IF	20-30;20,15	5	14	Ph.T
107	Phalaris arundinacea L.	10000	3	30	94	1	1	65	14	-	NF	20-30	7	21	Ph.KNO3
108	Phalaris canariensis L.	10000	20	200	94	1	1	75	14	-	NF, IF	20-30;15-25	7	21	Ph,KNO3
109	Phaseolus coccineus L.	20000	1.000	1.000	98	0	0	75	14	Examine the mass of	IF,P	20-30;20	5	9	-

										1000 seeds					
110	Phaseolus mungo L.	20000	700	1.000	97	0	0	75	14	-	IF.P	20-30;25;20	4	7	-
111	Phaseolus vulgaris L.	20000	700	1.000	97	0	0	70	14	Examine the mass of 1000 seeds	IF,P	20-30;25;20	5	9	
112	Phleum bertolonii DC.	10000	1	10	96	1	1	75	13		NF	20-30;15-25	7	10	Ph,KNO3
113	Phleum pratense L.	10000	1	10	96	1	1	75	13	-	NF	20-30;15-25	7	10	Ph,KNO3
114	Physalis pubescens L.	10000	2	20	97	0	0	70	12	-	HF	20-30	7	28	KNO3
115	Pimpinella anisum L.	10000	7	70	94	0,5	0,2	65	12	-	NF, IF	20-30	7	21	

116	Pisum arvence L.	20000	1.000	900	1.000	94	3	1	75	15	Examine the mass of 1000 seeds	IF,P	20	5	8	
117	Pisum sativum L.	20000	1.000	900	1.000	96	0	0	75	15	Examine the mass of 1000 seeds	IF,P	20	5	8	
118	Poa ampla Merr.	10000	25	1,5	25	82	2	1	65	12	-	NF	20-30; 15-25;10-30	7	28	Ph,KNO3
119	Poa annua L.	10000	25	1	10	82	2	1	65	12	-	NF	20-30;15-25	7	21	Ph,KNO3
120	Poa bulbosa L.	10000	30	3	30	82	2	1	65	12	-	NF	15-25	10	35.	KNO3
121	Poa compress	10000	25	0,5	5	82	2	1	65	12	-	NF	15-25;10-	10	28	Ph, KNO3

	a L.												30			
122	Poa nemoralis L.	10000	25	0,5	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3
123	Poa palustris L.	10000	25	0,5	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3
124	Poa pratensis L.	10000	25	1	5	82	2	1	65	12	-	NF	20-30; 15-25;10-30	10	28	Ph,KNO3
125	Poa trivialis L.	10000	25	0,5	5	82	2	1	65	12	-	NF	20-30;15-25	7	21	Ph,KNO3
126	Portulaca oleracea L.	10000	25	0,5	5	94	0,5	0,2	60	12	-	NF,IF	20-30	5	14	Ph
127	Raphannus sativus L.	10000	300	30	300	94	0,5	0,5	70	13	-	NF,IF	20-30;20	4	10	Ph
128	Rheum rhaponticum L.	10000	450	45	450	95	0,5	0,1	75	13	-	NF	20-30	7	21	-
129	Ricinus communis	20000	1.000	500	1.000	97	0	0	75	11	-	IF,P	20-30	7	14	-

	L.															
130	Satureja hortensis L.	10000	20	2	20	95	0,2	0,2	65	12	-	NF	20-30	5	21	-
131	Scorzonera hispanica L.	10000	300	30	300	86	0	0,2	65	12	-	NF,IF	20-30;20	4	8	Ph
132	Secale cereale L.	20000	1.000	120	1.000	97	0	0	82	14	Examine the mass of 1000 seeds	NF,IF,P	20	4	7	Ph,GA3
133	Sesamum indicum L. (S. orientale L.)	10000	70	7	70	97	0,3	0,3	75	10	-	NF	20-30	3	6	-
134	Setaria italica (L.)P. Beauv.	10000	90	9	90	94	2	1	70	13	-	NF,IF	20-30	4	10	-
135	Sinapis alba L.	10000	200	20	200	94	0,5	0,5	75	12	-	NF	20-30DO	3	7	Ph

136	Solanum melongena L.	10000	150	15	150	96	0	0	65	13	-	NF,IF	20-30	7	14	-
137	Sorghum halepense (L.) Pers	10000	90	9	90	94	0,5	0,5	70	14	Examine the mass of 1000 seeds	NF,IF	20-35;20-30	7	35	-
138	Sarghum sudanense (Piper) Stapf	10000	250	25	250	94	0,5	0,5	65	13	Examine the mass of 1000 seeds	NF,IF	20-30	4	10	Ph
139	Sorghum vulgare (S. bicolor (L.) Moench)	10000	900	90	900	96	0,5	0,2	70	15	Examine the mass of 1000 seeds	NF,IF	20-30;25	4	10	Ph

140	Spinacia oleracea L.	10000	250	25	250	94	0,2	0,5	65	13	-	NF, IF	15;10	7	21	Ph
141	Tetragonia tetragonioides (Pallas) Kuntze	20000	1.000	200	1.000	94	0,2	0,5	60	13	-	IF.P	20-30 ;20	7	35	Remove the previous rin
142	Thymus vulgaris L.	10000	25	0,5	5	92	0,3	0,2	60	12	-	NF	20-30;20	7	21	-
143	Tragopogon porrifolius L.	10000	400	40	400	86	0	0,2	65	12	-	NF, IF	20	5	10	Ph
144	Trifolium alexandrinum L.	10000	60	6	60	95	2	0,5	70	13	-	NF, IF	20	3	7	-
145	Trifolium campestre Schreber	10000	25	0,5	5	94	2	0,5	70	13	-	NF, IF	20	4	14	-
146	Trifolium hybridum L.	10000	25	2	20	95	2	0,5	70	13	Up to 3% of seed	NF, IF	20	4	10	Ph, se polye envel

											s of the white lucerne is counted as other varieties					
147	Trifolium incarnatum L.	10000	80	8	80	95	2	0, 75	70	13	-	NF, IF	20	4	7	Ph, se polye envel
148	Trifolium pratense L.	10000	50	5	50	95	2	0, 75	70	13	-	NF, IF	20	4	10	Ph
149	Trifolium repens L.	10000	25	2	20	95	2	0, 75	70	13	Up to 3% of seeds of the hybrid lucer	NF, IF	20	4	10	Ph, se polye envel

											ne is counted as other varieties					
150	Trifolium resupinatum L.	10000	25	2	20	95	2	0,5	70	13	-	NF, IF	20	4	7	
151	Trifolium subterraneum L.	10000	250	25	250	96	2	0,5	70	13	-	NF, IF	20;15	4	14	T
152	Trisetum flavescens (L.) P. Beanov.	10000	25	0,5	5	88	3	2	65	12	-	NF	20-30	7	21	Ph,KN
153	Triticum aestivum L. emend. Fiori et. Paol., T. durum Desf., X Triticosecale Wittm. i tritikale	20000	1.000	120	1.000	97	0	0	82	14	Examine the mass of 1000 seeds	NF, IF,P	20	4	8	PS (3 -35°C Ph, G

154	Valerianella locusta (L.) Laterr.	10000	70	7	70	90	0,3	0,5	60	13	-	NF, IF	20,15	7	28	Ph
155	Vicia faba L.	20000	1.000	1.000	1.000	97	0	0	75	15	Examine the mass of 1000 seeds	IF,P	20	4	14	Ph
156	Vicia pannonica Crantz	20000	1.000	120	1.000	94	3	1	75	14	Up to 3% of Vicia sativa is not counted as other varieties. Examine	IF,P	20	5	10	Ph

									the mass of 1000 seeds						
157	Vicia sativa L. i V. angustifolia L.	20000	140	1.000	94	3	1	75	14	Up to 3% of Vicia pranonica is not counted as other varieties. Examine the mass of 1000 seed	IF,P	20	5	14	Ph

										s					
158	Vicia villosa Roth i V. dasycarpa Ten.	20000	100	1.000	94	3	1	75	14	-	IF,P	20	5	14	Ph
159	Vigna Unguiculata (L.) Walp. sa V. sinensis (L.) Savi ex Hassk.	20000	400	1.000	96	0	0	75	14	-	IF,P	20-30;25	5	8	-
160	Zea mays L.	20000	900	1.000	98	0	0	85	13	Examine the mass of 1000 seeds	IF,P	20-30 ;25;20	4	7	The cold test, if needed

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
12.2. Fruit																			
1	Cor																		
	ylus	5.000	1.000	50			500								-	-	-	-	T.T.
2	avel	1.000	900				25								-	-	-	-	T.T.
3	lana	1.000	360				450								-	-	-	-	T.T.
4	L.	1.000	500				180								-	-	-	-	T.T.
5	Mal	1.000	180				250								-	-	-	-	T.T.
6	us	1.000					900								-	-	-	-	T.T.
	spp.																		
	Pru																		
	nus																		
	aviu																		
	m																		
	L.																		
	Pru																		
	mus																		
	pad																		
	us																		
	L.																		
	Pru																		
	nus																		

	serotina Ehrh. Pyrus spp.								
12.3. Fruit, medicinal and aromatic plants									
1	Abutilon X hybridum hort.	5.000	40	10	NF,IF	20-30 ;20	5-7	21	-
2	Achillea clavennae L.	5.000	5	0,5	NF, IF	20-30 ;20	5	14	S
3	Achillea filipendulina Lam.	5.000	S	0,5	NF, IF	20-30 ;20	5	14	S
4	Achillea	10.000	25	0,5	NF, IF	20-30;	5	14	S

	millefolium L.					20			
5	Achillea ptarmica L.	5.000	5	0,5	NF, IF	20-30;20	5	14	S
6	Adonis vernalis L.	5.000	20	5	NF, IF	15; 10	7-14	35	Ph,KNO3
7	Ageratum houstonianum Miller	5.000	5	0,5	NF	20-30;20	3-5	14	-
8	Agrimonia eupatoria L.	5.000	200	50	NF	20-30	7-14	60	Seeds to be infused for 24h; cut the top of the seed
9	Alcea rosea L.	5.000	80	20	NF, IF	20-30; 20	4-7	21	Penetrate the seed cutting the top of it at the end of cotiledon

10	Althaea X hybride hort	5.000	80	20	NF, IF	20-30; 20	4-7	21	Penetrate the seed cutting the top of it at the end of cotiledon
11	Althaea officinalis L.	5.000	80	20	NF, IF	20-30; 20	4-7	21	Penetrate the seed cutting the top of it at the end of cotiledon
12	Alyssum argenteum All.	5.000	10	3	NF	20-30; 20; 15	4-7	21	Ph,KNO3
13	Alyssum montanum L.	5.000	10	3	NF	20-30; 20; 15	4-7	21	Ph,KNO3
14	Alyssum saxatile L.	5.000	10	3	NF	20-30; 20; 15	4-7	21	Ph,KNO3
15	Amaranthus caudat	5.000	10	2	NF	20-30; 20	4-5	14	Ph,KNO3

	us L.											
16	Amaranthus hybridus L.	5.000	10	2	NF	20-30; 20	4-5	14	Ph,KNO3			
17	Amaranthus paniculatus L.	5.000	10	2	NF	20-30; 20	4-5	14	Ph,KNO3			
18	Amaranthus tricolor L.	5.000	10	2	NF	20-30; 20	4-5	14	Ph,KNO3			
19	Amberboa moschata (L.) DC.	5.000	40	10	NF, IF	20-30; 20; 15	4-7	21	S,Ph			
20	Ammobium alatum R.Br.	5.000	5	1						NF, IF	20-30; 20	5-7
21	Anagallis arvens	5.000	10	2						NF	20-30; 15	7-10

	is L.									
22	Anchusa azurea Miller	5.000	100	25				NF, IF	20-30; 20	5-7
23	Anchusa capensis Thunb.	5.000	40	10				IF	20-30; 15	5-7
24	Anemone coronaria L.	5.000	10	3				NF	20; 15	7-14
25	Anemone sylvestris L.	5.000	10	3				NF		
26	Angelica archangelica L.	5.000	40		10			NF, IF		
27	Anthemis mobilis L.	5.000	5		0,5			NF		
28	Antirrhinum majus L.	5.000				5	0,5			
29	Aquilegia alpina L.	5.000				20	4			
30	Aquilegia canadensis	5.000				20	4			

	L.						
31	Aquilegia chrysantha A. Gray	5.000			20	4	
32	Aquilegia X cultorum Bergmans	5.000			20	4	
33	Aquilegia vulgaris L.	5.000	20	4			NF, IF
34	Arabis alpina L.	5.000	10	2			NF
35	Arabis X arendsii Wehrh.	5.000	10	2			NF
36	Arabis blepharophylla Hook, et Arn.	5.000	10	2			NF
37	Arabis caucasica Willd. ex Schldl.	5.000	10	2			NF
38	Arabis procurrens Waldst. et Kit.	5.000	10	2			NF
39	Arabis scopoliana	5.000	10	2			NF

	Boiss.				
40	Armeria rnaritima (Miller) Willd.	5.000	20	5	NF, IF
41	Artemisia absinthium L.	5.000	5	0,5	NF
42	Artemisia dracunculus L.	5.000	5	0,5	NF
43	Artemisia maritima L.	5.000	5	0,5	NF
44	Artemisia vulgaris L.	5.000	5	0,5	NF
45	Asparagus densiflorus (Kunth) Jessop	10.000	200	60	
46	Asparagus setaceus (Kunth) Jessop	10.000	200	50	
47	Aster alpinus L.	5.000	20	5	
48	Aster amellus L.	5.000	20	5	
49	Aster	5.000	20	5	

	dumosus L.								
50	Atropa belladonna L.	10.000	30	3	NF, IF				
51	Aubrieta deltoidea (L.) DC. (sa A. graeca Griseb.)	5.000	5	1	NF				
52	Begonia semperflorens hort.	5.000	5	0,1	NF	20-30;20			
53	Begonia X tuberhybrida Voss	5.000	5	0,1	NF				
54	Bellis perennis L.	5.000	5	0,5	NF				
55	Bracbycome iberidifolia Benth.	5.000	5	0,3	NF				
56	Briza maxima L.	5.000	40	10	NF				
57	Browallia viscosa H.B.K.	5.000	5	0,5	NF, IF	20-30;20	7	21	-
58	Brunnera macrophylla	5.000	40	10	NF, IF	20-30;20	7	21	

	(Adams) I.M. Johnston									
59	Calceolaria X herbeohybrida Voss	5.000	5	0,1	NF	20-30;15	7		21	P
60	Calceolaria polyrrhiza Cav.	5.000	5	0,1	NF	20-30;15	7		21	P
61	Calendula officinalis L.	5.000	80	20	NF, IF	20-30;20	4-7	14	S;Ph,K	
62	Callistephus chinensis (L.) Nees	5.000	20	6	NF	20-30;20	4-7	14	S	
63	Campanula carpatica Jacq.	5.000	50	0,2						
64	Campanula fragilis Cyr.	5.000	5	1	NF, IF	20-30;20	4-7	21	S;Ph	
65	Campanu	5.00	5	0,5	NF, IF	20-	4-7	21	S;Ph	

	la garganica Ten.	0						30;20					
66	Campanula glomerata L.	5.000	5	0,2									
67	Campanula lactiflora M. Bieb.	5.000	5	1			NF, IF	20-30;20	4-7	21	S;Ph		
68	Campanula medium L.	5.000			5	0,6							NF, IF
69	Campanula persicifolia L.	5.000			5	0,2							NF, IF
70	Campanula portenschlagiana Schultes	5.000										5	0,5
71	Campanula pyramidalis L.	5.000										5	1

72	Campanula rapunculus L.	5.000						5	1	
73	Castalis tragus (Aiton) Norl.	5.000						40	10	
74	Celosia argentea L.	5.000						10	2	
75	Centaurea americana Nutt.	5.000	100	35			NF, IF	20-30;20;15		4
76	Centaurea cyanus L.	5.000	40	10			NF, IF	20-30 ;20;15		4
77	Centaurea dealbala Willd.	5.000			40	10				
78	Centaurea gymnocarpa Moris et de Not.	5.000	40	10						
79	Centarea imperialis Hausskn. ex Bornm. Non hort.	5.000	40	10						

80	Centaurea macrocephala Pus-chkin ex Willd.	5.000	40	10			
81	Centaurea montana L.	5.000	40	10			
82	Centaurea ragusina L.	5.000	40	10			
83	Cerastium tomentosum L.	5.000	10	2			
84	Chamomilla recutita (L.) Rauschert	5.000	5	0,5			
85	Cheiranthus cheiri L.	5.000	10	3		NF	20
86	Chelidonium majus L.	5.000	5	1		NF	20
87	Chrysanthemum carinatum Schousboe	5.000	30	8	NF, IF		
88	Chrysanthemum coronariurn L.	5.000	30	8			

89	Chrysanthemum multicaule Desf.	5.000	30	8	
90	Chrysanthemum nivellei Braun-Blanquet et Maire	5.000	30	8	
91	Chrysanthemum segetum L.	5.000	30	8	
92	Clarkia amoena (Lehm.) Nelson et J.F. Macbr.	5.000	5	1	
93	Clarkia pulchella Pursh	5.000		5	1
94	Clarkia unguiculata Lindley	5.000		5	1
95	Cleome hassleriana Chodet	5.000		20	5
96	Cnicus	5.000		300	75

	benedictus L.								
97	Cobaea scandens Cav.	5.000	200	50			NF, IF		
98	Coleus blumei Benth.	5.000		10	2				
99	Consolida ambigua (L.) P. Ball et Heyw.	5.000		30	8				
100	Consolida regalis Grey	5.000	30	8		NF, IF		20;15; 10	7-10
101	Convolvulus tricolor L.	5.000	100	25					
102	Coreopsis ćardaminifolia (DC.) Nutt.	5.000	5	1					
103	Coreopsis coronata L.	5.000	20	5					
104	Coreopsis drummondi (Don) Torrey et Gray	5.000	20	5					

105	Coreopsis lanceolata L.	5.000	20	5					
106	Coreopsis maritima (Nutt.) Hook. f.	5.000	20	5					
107	Coreopsis tinctoria Nutt.	5.000	5	1	NF	20-30;20	4-7	14	Ph;KNO3
108	Cosmos bipinnatus Cav. (uključ. Bidens formosa (Bonato) Schultz Bip.)	5.000	80	20	NF, IF	20-30; 20	3-5		
109	Cosmos sulphu	5.000	80	20	NF, IF	20-30; 20	3-5	14	S;Ph;KNO3

	reus Cav.												
110	Cyclamen persicum Miller	5.000	100	30		NF, IF.P	20:15	14-21	35 KNO3 Infuse in water for 24 h				
111	Cymbalaria muralis P. Gaertn., Meyer et Scherb.	5.000	5		0,2					NF	I5;10	4-7	21 Ph
112	Cynoglossum amabile Stapf et J.R. Drumm.	5.000	40		10					NF, IF	20-30; 20	4-7	14 S;Ph;KNO3
113	Dahlia pinnata Cav.	5.000	80		20					NF, IF	20-30; 20;	4-7	21 Ph

114	Datura metel. L.	5.000	100	25	NF, IF. P	20-30; 20	5-7	21	Ph; cut hard seed
115	Datura stramonium L.	5.000	100	25	NF, IF.P	20-30; 20	5-7	21	Ph; cut hard seed
116	Delphinium X belladonna hort.	5.000	20	4	NF, IF	20; 15; 10	7-10	21	S;Ph
117	Delphinium bellamosum L.	5.000	20	4	NF, IF	20; 15; 10	7-10	21	S;Ph
118	Delphinium cardinale Hook.	5.000	20	4	NF, IF	20; 15; 10	7-10	21	Ph
119	Delphi	5.0	20	4	NF, IF	20;	7-	21	S;Ph

	nium X cultor um Voss	00							15; 10	10			
120	Delphi nium formo sum Boiss. et A. Huet	5.0 00	20	4				NF, IF	20; 15; 10	7- 10	21	S;Ph	
121	Delphi nium grandi florum L.	5.0 00	20	4				NF, IF	20; 15; 10	7- 10	21	S;Ph	
122		Dendranth ema indicum (L.) Desm.			5.000	30	8						NF, IF
123		Dianthus barbatus L.			5.000	10	3						NF, IF

124	Dianthus caryophyllus L.	5.000	20	5	NF,IF
125	Dianthus chinensis L.	5.000	10	3	NF,IF
126	Dianthus deltoides L.	5.000	20	5	NF, IF
127	Dianthus plumarius L.	5.000	20	5	NF, IF
128	Digitalis lanata Ehrh.	5.000	5	1	NF
129	Digitalis purpurea L.	5.000	5	0,2	NF
130	Dimorphotheca pluvialis (L.) Moench	5.000	40	10	NF, IF
131	Doronicum orientale Hoffm.	5.000	10	2	NF
132	Echinacea purpurca (L.) Moench	5.000	20	5	NF, IF
133	Echinops	5.000	80	20	NF, IF

	ritro L.							
134	Echium fastuosum Jacq.	5.000	40		10		NF, IF	
135	Echium plantagineum L.	5.000	40	10		NF, IF		20- ;20
136	Erigeron speciosus (Lindley) DC.	5.000	5	0,5		NF		20- ;20
137	Erysimum X allionii hort.	5.000	10	3		NF		20- ;20
138	Eschscholzia californica Cham.	5.000	20	5		NF, IF		15;
139	Freesia refracta (Jacq.) Klatt	5.000	100	25		NF, IF		20;
140	Gaillardia aristata Pursh	5.000	30	8		NF, IF		20- 30;
141	Gaillardia pulchella Foug.	5.000	20	6				

142	Galega officinalis L.	5.000	80	20	
143	Galeopsis segetum Necker	5.000	20	4	
144	Gazania rigens (L.) Gaertn.	5.000	20	5	
145	Gentiana acaulis L.	5.000	5	0,7	
146	Geranium hybridum hort.	5.000	40	10	
147	Gerbera jamesonii Bolus ex Hook f.	5.000	40	10	NF
148	Geum X borisii hort.	5.000	20	5	NF, IF
149	Geum chiloense Balbis	5.000	20	5	N
150	Gomohrena globosa L.	5.000	40	10	NF, IF
151	Gypsophila elegans. M. Bieb.	5.000	10	2	N
152	Gypsophila	5.000	10	2	

	paniculata L.							
153	Gypsophila repens L.	5.000	10		2			
154	Helenium autumnale L.	5.000	5		0,9			
155	Helianthemum nummularium (L.) Miller	5.000	20		5			
156	Heliathus debilis Nutt	10.000	150		40			
157	Helichrysum bracteatum (Vent.) Andrews	5.000				10	2	
158	Heliopsis helianthoides (L.) Sweet	5.000				40	10	
159	Heliotropium arborescens (L.)	5.000				5	-	
160	Helipterum humboldtianum (Gaudich.) DC.	5.000				30	8	
161	Helipterum manglesii	5.000	30	8				NF, IF

	(Lindley) F. Mueller								
162	Helipterum roseum (Hook.) Benth.	5.000	30	8	NF, IF				
163	Heuchera sanguinea Engelm.	5.000	5	0,1	NF				
164	Hibiscus trionum L.	5.000	40	10	NF, IF				
165	Hypericum perforatum L.	5.000	5	0,3	NF				
166	Hyssopus officinalis L.	5.000	10	3	NF, IF	20-30; 20	4-7	14	S
167	Iberis amara L.	5.000	20	6	NF, IF	20-30; 20; 15	4-7	14	Ph;K
168	Iberis gibraltarica L.	5.000	10	3	NF, IF	20-30; 20; 15	4-7	14	Ph;K

169	Iberis sempervirens L.	5.000	10	3	NF, IF	20-30; 20; 15	4-7	14	Ph;K
170	Iberis umbellata L.	5.000	10	3	NF, IF	20-30; 20; 15	4-7	14	Ph;K
171	Impatiens balsamina L.	5.000	100	25	NF, IF	20-30; 20	4-7	21	S;Ph;KNO3
172	Impatiens walleriana Hook, f.	5.000	10	2	NF, IF	20-30; 20	4-7	21	Ph;KNO3
173	Inula helenium L.	5.000	20	4	NF, IF	20-30; 20	7-10	28	
174	Ipomoea alba	10.000	400	100	NF, IF,P	20-30; 20	4-7	21	P

	L.								
175	Ipomoea tricolor Cav.	10.000	400	100	NF, IF, P	20-30; 20	4-7	21	
176	Kalanchoe blossfeldiana Poelln.	5.000	5	0,1	NF	20-30; 20	7-14	21	-
177	Kalanchoe crenata (Andr.) Haw.	5.000	5	0,1	NF	20-30; 20	14	21	-
178	Kalanchoe globulifera Perr	5.000	5	0,1	NF	20-30; 20	7-14	21	-

	ier								
179	Kniphoffia uvaria (L.) Hook	5.000	10	3	NF	20-30	4-7	21	-
180	Kochia scoparia (L.) Schradex	5.000	10	3	NF, IF	20-30; 20	3-5	14	Ph;GA3
181	Lathyrus latifolius L.	10.000	400	100	NF, IF,P	20	7-10	21	
182	Lathyrus odoratus L.	10.000	600	150	NF, IF,P	20	5-7	14	Ph
183	Lavandula angustifolia Miller	5.000	10	2	NF, IF,P	20-30; 20	7-10		21 Ph;GA3
184	Lavatera trunestrus K.	5.000	40	10	NF, IF	20-30; 20	4-7		21 Ph

185	Leontopodium alpinum Cass.	5.000	5	0.1	NF	20-30;20	5	14	Ph
186	Leonurus cardiacs L.	5 000	10	2	NF	20-30	5-7	42	Ph
187	Leucanthemum maximum (Ram.) DC	5.000	20	5	NF, IF	20-30;20	4-7	21	S;Ph
188	Leucanthemum vulgare Lam.	5.000	20	5	NF, IF	20-30;20	4-7	21	S;Ph
189	Liatris pycnost	5.000	30	8	NF	20-30	5-7	28	-

	achy Michaux								
190	Liatris spicata (L.) Willd.	5000	30	8	NF	20-30	5-7	28	-
191	Lilium regale E. Wilson	5.000	40	10	NF,P	20-30; 20	7	28	-
192	Limonium bellidifolium (Gou-an) Dumort.	5.000	20	5	NF, IF	15; 10	5-7	21	Infuse in water for 24 h
193	Limonium bonduellei (Les-tib.f.) Kuntze	5.000	200	50	NF, IF,P	20; 15	5-7	21	Infuse in water for 24 h
194	Limonium latifolium (Smith)	5.000	20	5	NF, IF	15; 10	5-7	21	Infuse in water for 24 h

	Kuntze								
195	Limonium sinuatum (L.) Miller	5000	200	50	NF, IF,P	15; 10	5-7	21	Infuse in water for 24 h
196	Linaria bipartite (Vent.) Willd.	5.000	5	0,2	NF	15; 10	4-7	21	Ph
197	Linaria maroccana Hook. f.	5.000	5	0,4	NF	15; 10	4-7	21	Ph
198	Linaria vulgaris Miller	5.000	5	0,2	NF	15; 10	4-7	21	Ph
199	Linum flavum L.	5.000	20	5	NF, IF	20-30; 20; 15	4-7	21	KNO3
200	Linum grandiflorum Desf.	5.000	40	10	NF, IF	20; 15; 10	4-7	21	KNO3
201	Linum narbonense L.	5.000	20	5	NF, IF	20-30; 20; 15	4-7	21	KNO3
202	Linum perenne L.	5.000	20	5	NF, IF	20; 15; 10	4-7	21	KNO3

203	Lobelia cardinalis L.	5.000	5	0,1	NF	20-30; 20	7-14	21	Ph,KNO3 Ph,KNO3
204	Lobelia erenis L.	5.000	5	0,2	NF	20-30; 20	7-14	21	pH, KNO3
205	Lobelia fulgens Willd.	5.000	5	0,2	NF	20-30; 20	7-14	21	
206	Lobularia maritima (L.) Desv.	5.000	5	1	NF	20-30 20; 15	4-7	21	Ph,KNO3
207	Lonas annua (L.) Vines et Drruce	5.000	5	0,6	NF	20-30	4-5	14	-
208	Lunaria annua L.	5.000	80	20	NF, IF	20; 15	7	21	Ph, KNO3; penetrate the

209	Lupinus hartwegii Lindley	10.000	200	60	NF, IF,P	20-30; 20	4-7	21	Ph, KNO3:
210	Lupinus hybridus Hort	10.000	200	60	NF, IF,P	20-30; 20	4-7	21	Ph, KNO3;
211	Lupinus nanus Douglas	10.000	200	60	NF, IF,P	20-30; 20	4-7	21	Ph, KNO3;
212	Lupinus polyphyllus Lindley	10.000	200	60	NF, IF,P	20-30; 20	4-7	21	Ph
213	Lychnis chalcedonica L.	5.000	5	1	NF	20-30; 20	5-10	21	S
214	Lychni	5.0	20	5	NF	20-	5-	21	-

	s coronaria (L.) Desr.	00				30	10		
215	Malcolmia maritima (L.) R.Br.	5.000	10	3	NF	20-30; 20; 15	4-5	14	S;Ph;KNO3
216	Malope trifida Cav.	5.000	20	5	NF, IF	20-30 ;20	4-7	14	Ph
217	Marrubium valgare L.	5.000	10	2	NF	20-30	5-7	21	Ph
218	Matricaria maritima L.	5.000	5	0,5	NF	20-30; 20	4-7	14	Ph
219	Matricaria perforata Merat	5.000	5	0,5	NF	20-30 ;20	4-7	14	Ph

220	Matthiola incana (L.) R.Br.	5.000	20	4	NF	20-30 ;20	4-7	14	Ph,KNO3
221	Matthiola longipetala (Vent.) DC.	5.000	10	2	NF	20-30; 20; 15	4-7	14	Ph:KNO3
222	Melissa officinalis L.	5.000	10	2	NF	20-30; 20	4-7	21	Ph
223	Mentha X piperita L.	5.000	5	0,5	NF	20-30	7-14	21	Ph;KNO3
224	Mimosa pudica L.	5.000	40	10	NF, IF	20-30; 20	4-7	28	Infuse in water fo
225	Mimulus cardinalis Douglas ex	5.000	5	0,2	NF	20-30 ;20	4-7	21	Ph

	Benth.										
226	Mimulus cupreus hort. ex Do-mbr.	5.000	5	0,2			NF	20-30; 20	4-7	21 Ph	
227	Mimulus X hybridus hort. ex Siebert et Voss	5.000	5	0,2			NF	20-30; 20	4-7	21 Ph	
228	Mimulus luteus L.	5.000	5	0,2			NF	20-30; 20	4-7	21 Ph	
229	Mirabilis jalapa L.	10.000	800	200			NF, IF,P	20-30; 20	4-7	14 S;Ph	
230	Moluccella laevis L.	5.000			100	25					NF, IF

231	Myosotis hybrida hort.	5.000	10	2	NF, IF
232	Myosotis scorpioides L.	5.000	10	2	NF, IF
233	Myosotis sylvatica Ehrh. ex Hoffm.	5.000	10	2	NF, IF
234	Nemesia strumosa Benth.	5.000	5	1	NF, IF
235	Nemesia versicolor E. Meyer ex Benth.	5.000	5	1	NF, IF

236	Nemophila aurita Lindley	5.000	20	5	NF, IF
237	Nemophila maculata Benth. ex Lindley	5.000	20	5	NF, IF
238	Nemophila maculata Benth. ex Lindley	5.000	20	5	NF, IF
239	Nemophila menziesii Hook. et. Arn.	5.000	20	5	NF, IF
240	Nepet	5.000	10	2	NF, IF

	a cataria L.								
241	Nicotiana alata Link et Otto	5.000			5	0,2		NF	
242	Nicotiana X sanderae hort. Sander ex Will. Watson	5.000			5	0,2		NF	
243	Nicotiana suaveolens Lehm.	5.000			5	0,5		NF	
244	Nigella damascena L.	5.000	20	6			NF, IF	20-30; 20; 15	7-10

245	Nigella hispanica L.	5.000	20	6							NF, IF	20-30; 20; 15	7-10
246	Nigella sativa L.	5.000	40	10							NF, IF	20-30; 20	7-10
247	Oenothera missouriensis Sims	5.000	40	10							NF, IF	20-30 ;20	4-7
248	Papaver alpinum L.	5.000	5		0,5	NF	15-10	4-7	14	KNO3			
249	Papaver glau	5.000	5		0,5	NF	15-10	4-7	14	S;KNO3			

	cum Boiss. et Hausskn.											
250	Papaver nudicaule L.		5.000	5	0,5					NF	15-10	4-7
251	Papaver orientale L.		5.000	5	1					NF	20-30 ;20	4-7
252	Papaver rhoeas L.		5.000	5	0,5					NF	20-30; 20; 15	4-7
253		Pelargonium zonale hort.				5.000	80	20	NF, IF			
254		Penstemon barbatus (Cav.) Roth				5.000	10	2	NF			
255		Penstemon hartwegii				5.000	10	2	NF			

256	Benth. Penstemon hybridus Grondl. et Rumpl.	5.000	10	2		IF	
257	Petunia X hybrida Vilm.	5.000	5	0,2		NF	
258	Phacelia campanularia A. Gray	5.000	10	2		NF, IF	
259	Pharbitis purpurea (Roth.) Bojer	10.000	400	100		NF, IF,P	
260	Phlox drummondii Hook.	5.000	20	5		NF, IF	
261	Phlox paniculata L.	5.000	20	5		NF, IF	
262	Phlox perennis L.	5.000	10	5		NF, IF	
263	Phlox subulata L.	5.000	20		5		NF, IF
264	Physalis alkekengi L.	5.000	20		4		NF

265	Pimpinella major (L.) Hudson	5.000	20		5	NF, IF
266	Pimpinella Saxifraga L.	5.000	20		5	NF,IF
267	Plantago lanceolata L.	5.000	20		6	NF, IF
268	Portulaca grandiflora Hook.	5.000	5		0,3	NF, IF
269	Primula auricula L.	5.000	5	1		
270	Primula denticulata Smith	5.000	5	0,5		
271	Primula elatior (L.) Hill	5.000	10	2		
272	Primula japonica A: Gray	5.000	5	1		
273	Primula X kewensis hort. (-P.hybrida	5.000	5	0,5		

	hort.)							
274	Primula malacoides Franchet	5.000		5	0,5			
275	Primula obconica Hance	5.000			5	0,5		
276	Primula praenitens Ker-Gawl.	5.000			5	1		
277	Primula veris L.	5.000			5	1		
278	Primula vulgaris Hudson	5.000	5	1			NF	20-30;20;15
279	Pulsatilla vulgaris Miller	5.000	10	3			NF	20;15
280	Ranunculus asiaticus L.	5.000	5	1			NF,P	20;15
281	Reseda odorata S.	5.000	10	3			NF, IF	20-30;15
282	Rheum palmatum L.	5.000	100	30			NF, IF	20-30;20

283	Rudbeckia fulgida Aiton	5.000	10	2	NF, IF	20-30;20	4-7	21	S;Ph
284	Rudbeckia hirta L. (uključ. R. bicolor Nutt.)	5.000	5	1	NF, IF	20-30;20	4-7	21	S;Ph
285	Ruta graveolens L.	5.000	20	6	NF, IF	20-30;20	7	28	Ph
286	Saintpaulia ionantha H. Wendl.	5.000	5	0,1	NF	20-30;20	7-14	28	
287	Salpiglossis sinuata Ruiz Lopez	5.000	5	1	NF, IF	20-30;20	4-7	21	S;Ph;KNO3

	et Pavon							
288	Salvia coccinea Buchoz ex Etlinger	5.000	30	8	NF	20-30;20	4-7	21 Ph
289	Salvia farinacea Benth.	5.000	20	5	NF	20-30;20	4-7	21 Ph
290	Salvia officinalis L.	5.000	30	8	NF	20-30;20	4-7	21 Ph
291	Salvia patens Cav.	5.000	30	8	NF	20-30;20	4-7	21 Ph
292	Salvia pratensis L.	5.000	30	8	NF	20-30;20	4-7	21 Ph
293	Salvia sclarea L.	5.000	80	20	NF, IF	20-30;20	4-7	21 Ph
294	Salvia splendens Buc hoz ex	5.000	30	8	NF	20-30;20	4-7	21 Ph

	Etlinger								
295	Salvia viridis L.	5.000	20	5	NF	20-30;20	4-7	21	Ph
296	Sanvitalia procumbens Lam.	5.000	10	2	NF, IF	20-30;20	3-5	14	Pb
297	Saponaria calabrica Guss.	5.000	20	5	NF, IF	15;10	4-7	21	S;Ph
298	Saponaria ocymoides L.	5.000	20	5	NF, IF	15:10	4-7	21	S;Ph
299	Saponaria officinalis L.	5.000	20	5	NF, IF	15:10	4-7	21	S;Ph
300	Scabiosa atropurpurea L.	5.000	60	15	NF, IF	20-30;20	4-7	21	Ph
301	Scabiosa caucasica M. Bieb.	5.000	80	20	NF, IF	20-30;20;15	4-7	21	Ph
302	Schizanthus pinnatus Ruiz Lopez et Pavon	5.000	10	2	NF, IF	15;10	4-7	14	Ph
303	Senecio bicolor (Willd.) Tod.	5.000	5	0,5	NF	20-30;20	4-7	21	Ph

304	Senecio cruentus (Masson ex L' Her.)DC.	5.000	5	0,5	NF	20-30;20	4-7	21	Ph
305	Senecio elegans L.	5.000	5	0,5	NF	20-30;20	4-7	21	Ph
306	Silene pendula L.	5.000	10	2	NF, IF	20-30;20	7-14	28	KNO3
307	Silybum marianum (L.) Gaertn	5.000	200	50	NF, IF	20-30;20	5-7	21	Ph
308	Sinningia speciosa (Lodd.) Hiern	5.000	5	0,2	NF	20-30;20	7-14	28	Ph
309	Solanum capsicastrum Link ex Schauer	5.000	20	5	NF, IF	20-30;20	5-7	28	S,KNO3
310	Solonum giganteum Jacq.	5.000	20	5	NF, IF	20-30;20	5-7	28	S;KNO3
311	Solanum laciniatum Aiton	5.000	20	5	NF	20-30;20	5-7	28	KNO3
312	Solanum	5.000	20	5	NF, IF	20-	5-7	28	S;KNO3

	marginatum L.f.					30;20			
313	Stachys grandiflora (Steven ex Willd.) Benth.	5.000	20	5	NF	20	7	14	-
314	Tagetes erecta L.	5.000	40	10	NF, IF	20-30;20	3-5	14	S
315	Tagetes patula L.	5.000	40	10	NF, IF	20-30;20	3-5	14	S
316	Tagetes tenuifolia Cav.	5.000	20	5	NF, IF	20-30;20	3-5	14	S
317	Tanacetum achilleifolium (M. Bieb.) Schultz Bip.	5.000	30	8	NF, IF	20-30;15	4-7	21	S;Ph
318	Tanacetum cinerariifolium (Trev.) Schultz Bip.	5.000	10	3	NF, IF	20-30;20	4-7	21	Ph
319	Thunbergia alata Bojer ex Sims	5.000	200	50	NF, IF	20-30;20	4-7	21	
320	Thymus	5.000	5	0,5	NF, IF	20-	7	21	S

	serpyllum L.					30;20;15			
321	Tropaeolum majus L.	10.000	1.000	350	NF, IF	20-30;20;15	4-7	21	Ph;
322	Tropaeolum peltophorum Benth.	10.000	1.000	350	NF, IF.P	20;15	4-7	21	Ph
323	Tropaeolum peregrinum L.	10.000	1.000	350	NF, IF.P	20;15	4-7	21	Ph
324	Vaccaria hispanica (Miller) Rauschert	5.000	20	5	NF, IF	15-10	4-7	21	S;Ph
325	Valeriana officinalis L.	5.000	10	2	NF	20-30;20	5-7	21	Ph
326	Verbascum densiflorum Bertol.	5.000	5	0,3	NF	20-30	4-7	21	Ph
327	Verbascum phlomoides L.	5.000	5	0,5	NF	20-30	4-7	21	Ph
328	Verbascum thapsus L.	5.000	5	0,5	NF	20-30	4-7	21	Ph

329	Verbena bonariensis L.	5.000	20	6	NF	20-30; 15	7-10	28	
330	Verbena canadensis (L.) Britton	5.000	20	6	NF	20-30, 15	7-10	28	
331	Verbena X hybrida Voss	5.000	20	6	NF	20-30; 20: 15	7-10	28	
332	Verbena rigida Sprengel	5.000	10	2	NF	20-30: 15	7-10	28	
333	Vinca minor L.	5.000	20	5	NF	20-30; 20	4-7	14	
334	Viola cornuta L.	5.000	10	3	NF	20-30; 20	4-7	21	Ph,KNO3
335	Viola odorata L.	5.000	10	3	NF	20; 10;	4-7	21	Ph,KNO3
336	Viola tricolor L.	5.000	10	3					
337	Xeranthemum	5.000	10	3					

	annuum L.			
338	Zinnia elegans Jacq.	5.000	80	20
339	Zinnia haageana Regel	5.000	20	6

8. The other norms of quality and methods of examination of seeds

8.1. The norms for tubers of potato (Solanum tuberosum L.)

The size of a shipment may be at most 20 t.

The size of tubers: lower level mm, high level 55 mm; for round shapes of tubers high level is 65 mm.

Tubers of other varieties may be present up to 0,05%, tubers bigger than high level up to 4%, tubers smaller than lower level up to 6%, tubers with serious mechanical damages (deeper than 5 mm) up to 1,5%, other impurities and soil up to 1%.

8.2. The norms for bulbs of black onion (Allium čepa L.)

The size of a shipment may be at most 10 t.

The bulbs of onion originating from the seed of black-red onion (sets) are considered as seeds material for further production if the diameter of their head is between 6 to 22 mm with tolerance ±3 %.

The sets may contain up to 4% of heads with mechanical damages, germinated heads, heads without shell and other impurities in total.

If sets are calibrated on fractions based on the size (diameter) of a head, it is necessary to state the size of bulbs in the Form No.4 (calibration).

8.3. The norms for cloves of garlic (Allium schoenoprasum L.)

The size of a shipment may be at most 10 t.

The garlic may contain cloves with mechanical damages, germinated cloves, cloves without shell and other impurities up to 3%.

The garlic intended for planting may be packed in form of heads.

8.4. The norms for categories of seeds for strnih cereals

8.4.1. In the sample of 1,000 seeds of the seed of original cereals, it is allowed to have up to 5 kernels of weed, without presence of other varieties of agricultural plants.

8.4.2. In the sample of 1,000 seeds of the seed of cereals of first variety of reproduction, it is allowed to have up to 5 kernels of weed and up to 10 kernels of other cereals.

8.4.3. In the sample of 1,000 seeds of the seed of cereals of second variety of reproduction, it is allowed to have up to 15 kernels of weed and up to 20 kernels of other cereals.

8.4.4. Seeds of cereals may not contain more than 3% of seeds that may pass through the sieve with openings shaped as rectangles, with laterals long: for wheat and two-line barley 2,2 · 25,0 mm; for other barley 2,0 · 21,0 mm, and for ray and oat 1,8 · 21,0 mm.

*) 8.4.5. Exceptionally from the provision under 8.4.4, seeds of the wheat of first and second variety of reproduction may not contain more than 5% of seeds that may pass through the sieve with openings shaped as rectangles, with laterals long 2,2 x 25,0 mm.

***) see Note 8. of Intermex**

8.5. The average sample may not contain a single kernel of:

- viline kosice (Cuscuta sp.) in sample of all varieties of clover, lucerne, red clover grass and in mixtures of grass with these plant varieties;

- viline kosice (Cuscuta sp.) i volovoda (Orobanche spp.) in sample of lin, vetch, animal peas, mixture of vitch, oat, vitch with animal peas and in mixtures of grass;

- wild oat (Avena fatua) in the sample of oat and cereals;

- bunike (Hyoscyamus niger) in sample of poppy Ambrosia spp. and Orobanche spp. in sample of hemp.

8.6. The presence of following is allowed in the average sample:

- up to three kernels of Poterium sanguisorba in the sample of esparzete;
- up to five kernels of Lolium linicolum, up to 10 kernels of Lolium temulentum and up to 10 kernels of Camelina sativa in the sample of lin;
- up to five kernels of Rumex spp. in the sample of clover and lucerne.

8.7. The specific norms for the seed of sugar beet

8.7.1. The single germination (monogerm) seed of the sugar beet is related exclusively to genetically single germinated seed which has to give at least 90% of separate germinations.

8.7.2. The multigermination (multigerm) seeds is as follows:

- diploid seeds whose shells contain at least 85% of diploids;
- triploid seeds whose shells contain at least 75% of triploids;
- tetraploid seeds whose shells contain at least 85% of tetraploids;
- poliploid seeds whose mixtures of di-tri – and tetraploids contain at most 40% of diploids.

8.7.3. Peeled seed is considered as follows:

- the seeds finished by segmentation;
- the single germination seed.

8.7.4. The calibration of pellets starts at 3,50 mm and it is performed on sieves with round openings with spaces of 0,25 mm, while space between the lower and higher limit may be 1 mm.

8.8. The norms for calibration of the maize seeds

8.8.1. The maize seed may be calibrated in six fractions as it follows:

- the big flat seed;
- the middle flat seed;
- the small flat seed;
- the big round seed;
- the middle round seed;
- the small round seed.

8.8.2. The calibration of seed is performed in three dimensions:

- the wideness of kernels from 5,5 to 11 mm;
- the largeness of kernels from 3,5 to 9 mm;
- the longitude of kernels from 8 to 14 mm.

The dimensions of kernels in particular fractions is done by the finisher of seed between prescribed dimensions, deviation from the dimension of the fraction may be up to 5% of seeds.

8.9. The calibrated seed of cucumber, pepper, cauliflower, cabbages, kohlrabi, kale, lettuce, onion and other vegetables have to be unified in size and shape, with the maximum tolerance 2%.

8.10. The purity of mixtures of seeds includes sum of percentages of seeds of cultures inlcuded in the mixture. In mixture of grass and mixture if grass with lucerne, clover or red clover, purity has to be at least 90%, an din other mixtures- at least 95%. The germination of mixture of seeds is evaluated separately for each culture. The mixture of seeds is considered as inadequate if the seeds of one culture or more cultures in the mixture which are present with more than 10% doesn’t have adequate germination and if purity is not compliant with provisions of this item.

8.11. In the examination of germination of the seeds of clover, lucerne, red clover, esparzete, vitch, lupine, lentils and cotton, hard seeds are considered as germinated seed.

8.12. The determination of the health condition of seeds

The object of the determination of the health condition of seeds is the examination of sample of seeds from the shipment of domestically produced and imported seeds.

The health condition of seeds for the purpose of labeling and releasing into circulation is examined only for shipments of seed originating from crops which were controlled during the vegetation and which were not infected with quarantine and other economically harmful plant diseases and organisms, which is confiirmed with the health certificate of crops or certificate on aprobation of crops.

The imported seeds is subject to mandatory examination of presence of quarantine and certain economically harmful plant diseases and organisms prior labeling and releasing into circulation.

When the examination of health condition of the seed show result in presence of quarantine plant disease or organism, the examination is terminated. That analysis is included in the report on quality of the seed for that shipment of seed, which may not be used as seed material.

The health condition of the seed indicates presence or absence of quarantine and certain economically harmful plant diseases and organisms determined for particular plant varieties in the Regulation on Mandatory Health Inspection of Crops and Facilities, Seeds and Seed Material of Agriculture and Forest Plants ("The Official Gazette, SFRY", No. 52/86).

The health condition of seeds is examined with the scientifically accepted and profesionally tested methodologies adjusted for particular plant diseases and harmful organisms. The laboratory report on health condition includes statement which method has been used.

The previous processing (pre-treatment) is every physical or chemical processing of working sample beforethe incubation, which facilitate the examination. The processing of seeds means every physical or chemical treatment of whole fraction of seeds (it is necessary to state the manner of processing and the type of chemical and other substances used for treating the seeds).

Depending on methods of examination, the whole average sample or its part may be used as working sample. If the aim is to find bigger average sample than prescribed average sample, then the person who does the sampling has to be informed about that. The working sample for that purpose is usually taken from the average sample and it has to contain more than 400 seeds of basic variety or appropriate mass of seeds from the average sample. In case of objection, certain number of seeds shall be taken using the method of random choice and it will be examined again.

The result of the examination of the health condition of seeds is shown in the percentage of seeds with the disease or as number of found organisms (harmful) in the quantity of examined sample, which is included in the laboratory report and in the appropriate declaration for that shipment of seeds.

The maximum allowed percentage or number of present (norms) economically harmful plant diseases and harmful organisms are prescribed in the Regulation on Mandatory Health Inspection of Crops and Facilities, Seeds and Seed Material of Agriculture and Forest Plants.

The specific methods of the examination of health condition of seeds: microflora of seeds (shipment or sample) may be changed significantly during the preservation of seeds in environment with conditions which are satisfying for maintenance of life ability of seeds. The saprofite microflora may be sign of the bad quality of seeds which is conditioned with bad conditions during the harvest time, finishing, storage or olden of seeds. Some funghi (eg. Rhizopus spp.) are spread fast with test on filtr-paper and may cause rot of healthy germination seeds. Therefore the previous processing of seeds is recommended. For fastening the sporulation it is recommended to use lightening (alternately 12 h) with ultraviolet light NUV during the incubation. As a source of light it is also recommended usage of flourescent light (360 nm); flourescent pipes with day light may also serve for that purpose.

Described methods, except for Ustilago nuda, intended for unprocessed (not treated) seeds, are usually inadequate for treated (processed) seeds. The seeds may be infused 10 minutes in the solvate of Potassium-hypochloride which contains 1% of chloride soluble in water and then the surplus of liquid is removed with drying.

The distilled or deionizated water is used during usage of filtr-paper or agar as a foilt. If the seed is examined in Petry box, its diameter has to be 90 mm. If the estimate is that sees have been infected multiplically during the incubation, then only the average percentage of the infection is stated. The continuation contains specific methods for the determination of particular diseases on seeds of certain groups of cultural plants.

(1) The Compositae

Botrytis cinerea Pers. ex Pers. na Helianthus annuus.

The working sample: 400 seeds.

The method: two layers of filtr-paper are placed in each of 80 Petry boxes of 9 cm diameter (Whatman No. 1), 5 ml of solvate of 3% extract of sugar is added. The surplus of liquid is removed and 5 seeds are placed in each of Petry boxes.

The incubation: 9 days at 20 °C, in dark.

The examination: after 5, 7 and 9 days seeds are examined visually and if fine roots are covered with rich developed grey micelia, seeds are evaluated as infected.

In case of doubt on infection, the procedure is examination of micelia. Magnifying (200 times) shows separated, stripes of hifa and groups of branchy konidiofora.

(2) The Cruciferae

Leptosphaeria maculans (Desm) Ces. and de Not. syn. Phoma ligam (Tode ex Fr.) Desm.

The working sample: 1.000 seeds.

The method: Three layers of filtr-paper are placed in each of Petry boxes (Whatman No. 1); 5 ml of 0,2% solvate of Potassium salts of 2,4 dichlorofenoksi vinegar acid for slowing down the germination is added. The surplus of 2,4 D of the solvate is removed and seeds are rinsed in sterile water and 50 seeds are placed in each of Petry boxes.

The incubation: 11 days at temperature of 20 °C with alternate lightening 12 h light, 12 h in dark.

The ixamination: after 6 days (magifying 25 times), at the seeds and on the foilt may be seen slow growing silver-white micelia in primordie piknida Phoma lingam. After 11 days the second evaluation of piknida on infected seeds and on filtr-paper next to the infected seeds. The seeds from which piknidi Phoma lingam are developed is evaluated as infected.

(3) The Gramineae

- Drechslera oryzae (van Breda de Haan) Subram. et Jain.

Pyricularia oryzae Cav i Altternaria podwickii (Ganguly) M.B. Ellis na Oryza sativa.

The working sample: 4-100 seeds.

The method: filtr-paper dampened in water is placed in each of Petry boxes with 25 seeds on the paper.

The incubation: seven days at the daily temperature of 22 °C, with change of lightening (12 h in dark, 12 h lightened).

The examination: the examination of every seed on konidia magnifying 12 to 50 times.

The konidiofore are developed on the epiderm of seeds and on light-brown air micelia which covers the whole seed or just its part. The funghi is spread on paper as well. In case of suspect, than examination magnifying 200 times may be proposed. The konidia are ovaly braided of size 25 to 170 · 11 do 17 ☐, light-brown to brown, widened in the middle or around the middle, and then narrowed in oval top.

- Pyricularia oryzae cav. na Oryza sativa: the funghi is present in form of small, hardly visible, brown to green colonia on chaf with short and fine konidiofora with raceme of conidia at the top of it. The funghy is rarely spread throughout whole seeds. If there is a doubt, conidia are examined magnifying 200 times. The conidia are shaped as inverse piramyd, narrowed, with small teeth at the basis, two-separated, often with visible sharp top, 20 do 25 · 9 12 ☐.

- Alternaria padwickii (ganquly) M.B. Ellis on Oryza sativa. The conidia have shape of round, at the beginning almost invisible, afterward light colored (gold-brown) with the long rostrum separately in short conidiofora which grow from the epiderm of seeds or on conidiofora between the white-gray, light, air micelia. If there is a doubt, the examination is done magnifying 200 times.

The conidia are separated 3 to 5 times, often narrowed within septas, with characteristic spiky basic cell and long rostrum, 95 to 17 · 11 do 20 ☐. The infected seeds or germination seeds are often surrounded with characteristic red spots which penetrate in the filtr, and after 7 days are visible enough.

- Ustilago nuda (Jens) Rostr. on hordeum vulgare

The working sample: two repetitions of 100 to 120 g of seeds depending of the mass of 1.000 seeds, which presents 2.000 to 4.000 seeds.

The method: the workin sample is infused in the liter of fresh prepared 5% water solvate of Potassium-hydroxy (NaOH) for 24 h at the temperature of 20 °C. Than the whole sample is infused in the appropriate pot, seeds is rinsed with the warm water in order to remove embryos from the softened perycarp. The embryos are collected at the sieve with the opening of 1 mm. The additional sieves with bigger openings may be used for collecting parts of endosperm and chaf. The embryos are placed in the mixture of lactopfenol (one third of glicerol, fenol and lactic acid) and water in equal density ratio, in which are later separated embryos and chaf.

The embryos are placed in the glass with 75 ml of fresh water free lactophenol and cleaned in a manner that phenol is boiling in the vapourator around 30 seconds. The embryos are infused in fresh, mild warm glicerol for examination.

The examination: 1.000 embryos are examined in each repetition (magnifying 16 to 25 times with the appropriate lightening), where characteristic gold-brown micelia of Ustilago nuda is evaluated.

- Septoria nodorum Berk, on Triticum aestivum

The working sample: 400 seeds.

The previous processing: Potassium-hypochlorite.

The method: saccharin or potato dextrose agar which contains 100 ppm of sulphide streptomycin. 10 seeds to be placed in the Petry box on the surface of agar.

The incubation: seven days at the temperature of 20 °C, in dark.

The examination: after seven days examine every seed visualy for slow growing round colonia of unvisible white or cream colored micelia, which often cover infected seed. The reverse side of colonia is yellow-brown, which becomes darker with aging.

(4) The Leguminosae

- Ascohyta pisi Lib. on Pisum sativum.

The working sample: 400 seeds.

The previous processing: Potassium-hypochlorite.

The method: saccharin or potato dextrose agar. 10 seeds to be placed in the Petry box on the surface of agar.

The incubation: seven days at the temperature of 20 °C, in dark.

The examination: after seven days infected seeds with rich developed white micelia is evaluated visualy. Suspicious colonia are visible magnifying 25 times on presence of wawes of hifs at the edge of colonia.

- Colletotrichum lindemuthianum (Sa cc. et Magn.) Briet et Cav. on Phaseolus vulgaris.

The working sample: 400 seeds.

The previous processing: Potassium-hypochlorite.

The method: by repetition, 50 seeds are placed on two layers of dampened paper napkin or filtr with the dimension of 35 · 45 cm. The seed is covered with one layer of dampened paper napkin. Paper is turned twice using the longer side and covered with the polyethilen in order to provide humidity during the period of incubation.

Th eincubation: seven days at the temperature of 20 °C, in dark.

The examination: after seven days, the surface layer is removed and the seed with clearly visible dark spots on cotiledones is evaluated. Using the stereoscopyc mycroscope (magnifying 25 times) are recorded numbers of seeds on which are found groups of separated dark spots of that disease.

(5) Linaceae

- Botrytis cinerea Pers. ex Pers. on Linum usitatissimum.

The working sample: 400 seeds.

The method: 10 seeds are placed in each of Petry boxes on saccharin agar (2% agar and 1% sugar extract).

The incubation: seven days at the temperature of 20 °C, in dark.

After subitem (5) on page 94 before the item 9.

(6) Umelliferae

- Alternaria dauci (Kuhn) Groves et Skolko on Daucus carota

The working sample: 400 seeds.

The method: Three blotter papers to be placed in plastic Petry boxes and 100 seeds per box. Blotter papers are infused with the sterile destilated water and then dried.

The incubation: three days at the temperature of 20 °C, in dark, and during the night at the temperature of -20 °C, and finally, seven days at the temperature of 20 °C alternately, 12 h in dark, 12 h in light.

The examination: examine every seed magnifying 30 to 80 times for conidia, which are usually alone, and long around 450 u, at first light-olive-brown, and then with aging become brown, with light rostrum long as three longitudes of the body. Conidiofore are growing from the surface of seed, separately or in small groups. Together with the micelia, conidiofore are also growing from air or crawling or stripes of hifa.

- Alternaria radicina Meir, Drechs. & Eddy. (syn. Stemphylium radicinum, Meir, Drechs. & Eddy., Neergaard) on Daucus carota

The working sample: 400 seeds.

The method: Three blotter papers to be placed in plastic Petry boxes and 10 seeds per box. Blotter papers are infused with the sterile destilated water and then dried.

The incubation: three days at the temperature of 20 °C, in dark, and during the night at the temperature of -20 °C, and finally, seven days at the temperature of 20 °C alternately, 12 h in dark, 12 h in light.

The examination: examine every seed magnifying 30 to 80 times for conidia, which are usually alone, or in chain of two or three, elipsoid or shaped as a barel without the rostrum, long up to 75 ☐, olive-brown to black and typically shining. Conidiofora are usually growing alone from the surface of the seed, but more often from air or crawling or stripes of hifa.

The examination: after 5th and 7th day, fine roots covered with gray micelia are visualy examined. If there is a doubt, micelia is examined magnifying 200 times on separated, stripes and branchy conidiofora in stripes.

9. The allowed derogations (tolerances) in the quality of seeds between the declared quality and the quality determined with the repeated examination

9.1. The examination of the quality of seed may show result or quality different from the declared quality. There are allowed derogations from declared quality and the quality determined in the repeated examination of quality (determined by the authorized company) in limits to which the derogation, or diference is allowed.

9.2. The limits of allowed derogations for clearness of the seed

Chart 13.

THE ALLOWED DEROGATIONS FOR ALL COMPONENTS OF THE CLEARNESS

If the average between the declared and the quality determined in the examination is within the limits:	The allowed derogations from the declared quality in percentage		
50% to 100%	Less than 50%	For seeds without chaf, in %	For seeds with the chaf, in %
1	2	3	4
99,95-100,00	0,00-0,04	0,18	0,21
99,90-99,94	0,05-0,09	0,28	0,32
99,85-99,89	0,10-0,14	0,34	0,40
99,80-99,84	0,15-0,19	0,40	0,47
99,75-99,79	0,20-0,24	0,44	0,53
99,70-99,74	0,25-0,29	0,49	0,57
99,65-99,69	0,30-0,34	0,53	0,62
99,60-99,64	0,35-0,39	0,57	0,66
99,50-99,59	0,40-0,44	0,60	0,70
99,60-99,54	0,45-0,49	0,63	0,73
99,40-99,49	0,50-0,59	0,68	0,79

99,30-99,39	0,60-0,69	0,73	0,85
99,20-99,29	0,70-0,79	0,78	0,91
99,10-99,19	0,80-0,89	0,83	0,96
99,00-99,09	0,90-0,99	0,87	1,01
99,75-98,99	1,00-1,24	0,94	1,10
98,50-98,74	1,25-1,49	1,04	1,21
98,25-98,49	1,50-1,74	1,12	1,31
98,00-98,24	1,75-1,99	1,20	1,40
97,75-97,99	2,00-2,24	1,26	1,47
97,50-97,74	2,25-2,49	1,33	1,55
97,25-97,49	2,50-2,74	1,39	1,63
97,00-97,25	2,75-2,99	1,46	1,70
96,50-96,99	3,00-3,49	1,54	1,80
96,00-96,49	3,50-3,99	1,64	1,92
95,50-95,99	4,00-4,49	1,74	2,04
95,00-95,49	4,50-4,99	1,83	2,15
94,00-94,99	5,00-5,99	1,95	2,29
93,00-93,99	5,00-6,99	2,10	2,46
92,00-92,99	7,00-7,99	2,23	2,62
91,00-91,99	8,00-8,99	2,36	2,76
90,00-90,99	9,00-9,99	2,48	2,92
88,00-89,99	10,00-11,99	2,45	3,11
86,00-92,99	12,00-13,99	2,85	3,35
84,00-85,99	14,00-15,99	3,02	3,55
82,00-83,99	16,00-17,99	3,18	3,74
80,00-81,90	18,00-19,99	3,32	3,90

78,00-79,99	20,00-21,99	3,45	4,05
76,00-77,99	22,00-23,99	3,56	4,19
74,00-75,99	24,00-25,99	3,67	4,36
72,00-73,79	26,00-27,99	3,76	4,42
70,00-71,99	28,00-29,99	3,84	4,51
65,00-69,99	30,00-34,99	3,97	4,66
60,00-64,00	35,00-39,99	4,10	4,82
50,00-59,99	40,00-49,99	4,21	4,95

NOTE: The seeds with the chaf include: Agropyrum, Agrostis, Alopecurus, Anthoxanthum, Arrhenatherum, Bromus, Cynodon, Cynosurus, Dactylis, Deschampsia, Festuca, Holcus, Panicum, Poa, Trisetum.

If the clearness of the seed is examined with two halfs of one working sample or with two working samples, then it is examined whether results of the examination are within the limits of allowed derogations. If results of the examination of clearness are not within the limits of allowed derogations, the procedure for the determination of the clearness is repeated in the same procedure one or more times. The average values of clearness shown after all examinations are taken as final result of the examination.

The allowed derogations (tolerances) are used for all components of the clearness (the seed of the basic culture, the seed of other varieties of the agriculture plants, weeds and dead impurities).

The allowed derogations for the percentage of the clearness of seed of basic cultures, the content of seeds of other varieties of cultural agriculture plants, the content of weed and the content of dead (inert) impurities, are related to difference between the declared quality and the quality determined with the examination performed by the authorized company. If the difference between the declared quality and the quality determined with the examination is higher than calculated limits of allowed derogations, it is considered that seed is not compliant with the declared quality.

9.3. The limits of allowed derogations for the germination of seed

Chart 14

THE ALLOWED DEROGATIONS (TOLERANCES) FOR THE PERCENTAGE OF GERMINATION OF SEEDS

If the average between the declared and the quality (percentage) of germination of seeds determined in the examination is within the limits:	The allowed derogations from declared quality in percentage		If the average between the declared and the quality (percentage) of germination of seeds determined in the examination is within the limits:	The allowed derogations from declared quality in percentage	
Over 50%	50% and less		over 50%	50% and less	
1	2	3	1	2	3
99	2	3	88 to 86	15 to 19	7
97 to 98	3 to 4	3	76 to 81	20 to 25	8

94 to 96	5 to 7	4	70 to 75	26 to 31	9
91 to 93	8 to 10	5	60 to 69	32 to 41	10
87 to 90	11 to 14	6	51 to 59	42 to 50	11

The allowed derogations for the percentage of the germination of seed are related to difference between the declared quality and the quality which is determined in the repeated examination performed by the authorized company. If the difference between the declared quality and the quality determined with the examination is higher than calculated limits of allowed derogations, it is considered that seed is not compliant with the declared quality.

9.4. The limits of allowed derogations for number of other varieties for declared and subsequently examined quality.

Chart 15

THE ALLOWED DEROGATIONS (TOLERANCES) FOR COUNTED SEEDS OF WEEDS AND VARIETIES

Counted average	Allowed derogation	Counted average	Allowed derogation	Counted average	Allowed derogation	Counted average	Allowed derogation
1	2	1	2	1	2	1	2
3-4	5	53-58	18	174-186	32	337-351	44

5-6	6	69-65	19	187-198	33	352-367	45
7-8	7	66-72	20	199-210	34	368-386	46
9-11	8	73-79	21	211-223	35	387-403	47
12-14	9	80-87	22	224-235	36	404-420	48
15-17	10	88-95	23	236-249	37	421-438	49
18-21	11	96-104	24	250-262	38	439-456	50
22-25	12	105-113	25	263-276	39	457-474	51
26-30	13	114-122	26	277-290	40	475-493	52
31-34	14	123-131	27	291-305	41	494-513	53
35-40	15	132-141	28	306-320	42	514-532	54
41-45	16	142-152	29	321-336	43	533-552	55
46-52	17	153-162	30				
		163-173	31				

10. FORMS (for application – Form No. 1, for report – Form No. 2, for declaration - Forms No. 3. to 7.)

The form No. 1.

____
The title (name) and the seat of the applicant

THE APPLICATION No.________________

FOR SAMPLING AND THE EXAMINATION OF THE QUALITY OF SEEDS (FOR ONE VARIETY AND SPECIES, I.E. FOR THE MIXTURE)

1. The company to whom application is submited ________________________
____
2. The plant variety ____
3. Species ____
4. The category ____
5. The year of production and the origin of the seed (for imported seed) ____________________

____

6. The data on shipment from the application:

The number of the shipment	The size of the shipment, in kg	The number of package	The mass of one package	Notes and other data important for sampling and the examination of seeds
1	2	3	4	5

7. Specific – additional requests for certain examinations or for choice of the method of examination ________

____

____

8. The place, closer location, the type of the packaging material and the manner of warehouse of the shipment of seeds from the application ____

____

The date of the application ______ (M.P.) THE APPLICANT,

____

The form No. 2.

____
The name and the seat of the company that performed the examination of seeds

THE REPORT NO _________________

ON QUALITY OF SEEDS OF THE AGRICULTURE PLANTS

1. The name of the company and the person who requested the examination of seeds____
____

2. The number of application for sampling and the examination of the qualityof seeds _________________

3. The plant variety, species or the mixture of seeds ____

4. The determined quality:

The number of the shipment of seeds	Clearness of seeds in %	The content in %			The energy of germination in %	The germination of seeds in %
		Other varieties	Weeds	Inert substances		
1	2	3	4	5	6	7

Abnormal germination seeds in %	Not-germinated seeds in %	The humidity content in %	The mass of 1.000 seeds				
	Total	The hard seed	The fresh seed	The dead seed	Other not-germinated seed		
8	9	10	11	12	13	14	15

4.1. Other results ____

4.2. The name of other varieties present in the seed and the number of kernels

____

4.3. The name of the weeds found and the number of kernels

____

4.4. The health condition ____

(the name of examined diseases and determined percentage)

____

(the name o fexamined harmful organisms and determined number of the latter)

5. Applied methodes of examination ____

6. Results of specific-additional examinations or methodes of examinations
   (only if required in the application) ____

   ____

7. Note____

The date of the report _________ (M.P.) The responsible person in the company

____

The form No. 3

____

(The name and the seat of the company)

THE DECLARATION ON THE QUALITY OF SEEDS OF THE AGRICULTURE PLANTS NO. __________

(WITH THE BILL OF LADING)

I. THE BASIC DATA ON SEEDS

1. The plant variety (popular name, latin name) ___________________________________

2. Species___________ 3. The category ____________ 4. The year of production ___________

5. The producer ____
(the name and the seat, and for imported seeds – the country of export)

6. The finisher ____
(the name and the seat)

7. The number and the date of the certificate of aprobation of the seeds/harvest, i.e. certificate on the variety of the seed issued by the country of export (certificate on aprobation)

8. The number of the shipment of seed and the quantity in kg____

9. The number of packages in the shipment of seed____

10. Net mass of one package in kg ____

11. The name of the substance used for treatment of seeds and the clause: _________________________
____

12. The number of seeds in the package (if packed per number of seeds), the name and the dimension of the fraction (for calibrated seeds) ____________________________

II. THE DETERMINED QUALITY

The name and the seat of the company that performed the examination of seeds

____

The number and date of the report on quality of seeds ___________________________________

1. The clearness in % ____

2. The humidity content in % ____

3. The germination in % ____

4. The energy of germination in % ____

5. The mass of 1.000 seeds____

6. The content of other plant varieties in % _______________________________________
(the name and the number of karnels)

7. The content of weed in % ____
(the name and the number of karnels)

8. The health condition ____

(the name of diseases determined and their percentage)

____

(the name of determined harmful organisms and their number)

9. The date of the validity of the declaration ____

The date of issuance of the declaration ________ (M.P.) The responsible person in the company

____

The form No. 4.

____

(The name and the seat of the company)

THE DECLARATION ON THE QUALITY OF SEEDS OF TUBERS AND BULBS NO. ___________

(WITH THE BILL OF LADING)

I. THE BASIC DATA ON SEEDS

1. The plant variety ____

2. Species ___________ 3. The category ___________ 4. The year of production __________

5. The producer of the seed ____

____

(the name and the seat, and for imported seed –the country of export)

6. The finisher of the seed ____

(the name and the seat)

7. The number and the date of the certificate of aprobation of the seeds/harvest, i.e. certificate on the variety of the seed issued by the country of export (certificate on aprobation)_____

____

8. The number of the shipment of seed and the quantity in kg

____

9. Net mass of one package in kg or number of bulbs ________________________

10. The number of packages in the shipment of seeds ______________________________________

II. THE DETERMINED QUALITY

The name and the seat of the company that performed the examination of seeds____________________

The number and the date of the report on quality of seeds _________________________________

1. The clearness of the variety in % ____

2. The mechanical impurities in % ____

3. Mechanicaly damaged tubers-bulbs in % ___________________________________

4. The health condition ____
(the name of determined diseases and their percentage)

____
(the name and the number of determined harmful organisms)

5. The size of tubers in crossing section (calibration):
- from 28 to 35 mm, in %_______________
- over 35 to 45 mm, in % ___________
- over 45 to 55 mm, in % ___________
- over 55 mm, in % ________________

6. The size of bulbs (calibration):
____
____
____

7. The date of the validity of the declaration ____

The date of the issuance of the declaration ______(M.P.) The responsible person in the company
____

The form No. 5.

____
(The name and the seat of the company declaring the seed)

THE DECLARATION

ON THE QUALITY OF VARIETIES AND SPECIES OF THE SEEDS OF AGRICULTURE PLANTS

IN THE MIXTURE NO. ______

(WITH THE BILL OF LADING)

I. THE BASIC DATA ON SEEDS

The plant variety and species in the content of the mixture (popular name, latin name):	The percentage of the component	The number and the date on aprobation of seeds/harvest
1. ________________________________	_____________	____________________________
2. ________________________________	_____________	____________________________
3. ________________________________	_____________	____________________________
4. ________________________________	_____________	____________________________
5. ________________________________	_____________	____________________________

The number of the shipment and the quantity in ________; net mass of one package in kg _________

The number of packages in the shipment ____

The name of the substances used for treatment of the seed and the clause:

____

II. THE DETERMINED QUALITY

The name and the seat of the company that performed the examination of seeds_______________________

The number and the date of the report on the quality of seeds _____________________________________

The clearness in % ____

The germination in % ____

The variety (component):

1. ________________________ ____
2. ________________________ ____
3. ________________________ ____
4. ________________________ ____
5. ________________________ ____
6. ________________________ ____

The humidity content in % ____

The health condition ____

(the name of determined diseases in % and harmful organisms –the number)

The date of the validity of the declaration ____

The date of the issuance of the declaration ________ (M.P.) The responsible person in the company

____

The form No. 6.

____
(The name and the seat of the company declaring the seed)

THE DECLARATION ON

THE QUALITY OF SEEDS OF THE AGRICULTURE PLANTS

(ON THE PACKAGING)

1. The number and the date of the declaration accompanied with the bill of lading ________________________________

2. The number of the shipment of seeds ____

3. The plant variety ____

4. Species ____

5. The category ____

6. The date of the validity of the declaration ____

7. The name o fthe substance used for treatment of seeds and the clause ___________________________

8. The net mass of the package in kg or g ____

9. The number of seeds in the package (if packed per number of seeds), the name and the dimension of fraction (only for calibrated seeds) ______________________________

The form No. 7.

____

(The name and the seat of the company declaring the seed)

THE DECLARATION ON

THE QUALITY OF SEEDS OF TUBERS AND BULBS

(ON THE PACKAGING)

1. The number and the date of the declaration accompanied with the bill of lading ____________________________

2. The number of the shipment of seeds ____

3. The plant variety ____

4. Species ____

5. The category ____

6. The size (of calibration) ____

7. The date of the validity of the declaration ____

8. The net mass of the package in kg, i.e. the number of tubers in the package _______________ ____