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If a whole or part of a paragraph has been amended, the date of the amending regulation appears in square brackets at the end of the paragraph. If a whole paragraph or sub-paragraph has been deleted, the date of the deletion appears in square brackets beside the deleted paragraph or sub-paragraph.

Republic of Latvia

Cabinet
Regulation No. 518
Adopted 24 July 2012

Regulations for the Assessment of Value for Cultivation and Use of Plant Variety

Issued pursuant to
Section 11.[1], Paragraph one, Clause 3 of the Seed and Variety Circulation Law

I. General Provisions

1. This Regulation prescribes the requirements, procedures and pricing for the assessment of value for cultivation and use of a plant variety (hereinafter – variety assessment).

2. A variety shall be assessed according to the indicators referred to in Annex 1 to this Regulation in order to ascertain:
2.1. the suitability of the variety in conventional farming;
2.2. the suitability of the variety in organic farming.
[16 August 2016]

3. The variety assessment shall be the comparison of cultivation, use of the variety and of quality of the product acquired from it with the standard variety. Several assessment groups may be determined for the species where each of them may have one or several standard varieties. A list of standard varieties according to the determined assessment groups upon recommendation of the National Plant Variety Council shall be created and updated by the Latvia University of Agriculture.
[16 August 2016]

4. Requirements for the selection of a standard variety shall be the following:
4.1. a variety is included in the Latvian Catalogue of Plant Varieties (hereinafter – the Catalogue), or if a suitable variety in not included in the Catalogue, it shall be selected from the European Union Common Catalogue of Varieties of Agricultural Plant Species;
4.2. the variety is used in agricultural production;
4.3. seed material is ensured for the variety.
[16 August 2016]

5. If none of varieties of the relevant species has been included in the Catalogue, the variety to be assessed shall be compared to the variety of the relevant species with the best indicators.
[16 August 2016]

6. If there are more than 15 varieties in the variety assessment, the standard variety shall be sown repeatedly. When assessing a variety, the indicators thereof shall be compared to the average indicators of the standard variety.

7. If the standard variety for the species has not been specified, the actual indicators of a variety shall be assessed according to the indicators referred to in Annex 1 to this Regulation.
[16 August 2016]

8. Duration of the variety assessment:

8.1. for inclusion of a variety in the Catalogue:

8.1.1. spring cereal crop, annual fodder plant, oil plant (except winter crop forms), fibre plant, potato and beet varieties – two years;

8.1.2. winter crop forms of cereal crops and oil plants – three years;

8.1.3. red clover varieties – three years. Red clover for conducting of trials shall be sown twice – in the first and second year. In the first year the accounting and observation of the clover sown for trials shall be performed in the sowing year, as well as in the first and second year of use. In the second year the accounting and observations of the clover sown for trials shall be performed in the sowing year and in the first year of use;

8.1.4. perennial fodder plant varieties (except red clover) – four years in two trial cycles. Seeds of perennial fodder plant varieties shall be sown twice – in the first and second year. Accounting and observations shall be performed in the sowing year, as well as in the first and second year of use;

8.2. for other purposes (for example, to ascertain the suitability of a variety for cultivation in the agro-climatic conditions of Latvia or to perform post-registration trials of the variety) is not restricted.
[16 August 2016]

9. If the applicant referred to in Paragraph 13 of this Regulation has previously submitted an application for the assessment of the variety for other purposes in compliance with the criteria referred to in Annex 1 to this Regulation and in accordance with the procedures laid down in this Regulation and submits an application for inclusion of the assessed variety in the Catalogue, the results obtained shall be used in the variety assessment in accordance with the laws and regulations regarding the Latvian Catalogue of Plant Varieties.
[16 August 2016]

10. If a variety has been assessed for inclusion in the Catalogue, the intervals during assessment of value for cultivation and use the variety shall not exceed one assessment year.

11. The variety assessment shall be ensured by the Latvia University of Agriculture.

12. The following shall be necessary for the variety assessment:

12.1. data of field trials; and

12.2. data of quality indicators.

II. Application for Variety Assessment

13. An application regarding the assessment of value for cultivation and use of a plant variety (hereinafter – application) may be submitted to the Latvia University of Agriculture by one of the following persons (hereinafter – applicant) in accordance with Annex 2 to this Regulation:

13.1. a breeder;

13.2. a holder of the breeder's right – a natural person or legal person who has acquired the breeder's right;

13.3. a maintainer of a variety – a natural person or legal person who ensures the maintenance of the variety;

13.4. an authorised representative of the breeder, holder of the breeder's right or maintainer of a variety (hereinafter – authorised representative).

13.[1] If the applicant wishes to include the variety also in the Catalogue, the applicant shall submit an application to the Service for inclusion of the variety in the Catalogue in accordance with the laws and regulations regarding the By-laws of the Latvian Catalogue of Plant Varieties.
[16 August 2016]

14. The application shall be submitted to the Latvia University of Agriculture:

14.1. regarding spring cereal crops, fodder plants, oil plants, except winter crop forms, fibre plants, potatoes and beet varieties – until 1 March;

14.2. regarding winter Swede rape and winter turnip rape – until 10 July; and

14.3. regarding winter cereal crops – until 1 August.

15. The Latvia University of Agriculture shall register the application received in the register of applications for variety assessment. If the application has been completed in accordance with Annex 2 to this Regulation and all the necessary information has been indicated, the applicant shall, within two weeks, be notified regarding inclusion of the applied variety in the variety field trial plan. The applicant may be informed by sending the referred-to information to the electronic mail address indicated by him or her.

16. If the application has not been completed in accordance with Annex 2 to this Regulation, the Latvia University of Agriculture shall not include the variety applied in the variety field trial plan and shall request the applicant to submit an updated application within 20 working days. The referred-to information may be notified to the applicant, by sending it to the electronic mail address indicated by him or her.

17. If an application for the assessment of spring cereal crop, fodder plant, oil plant, except winter crop forms, fibre plant, potato and beet varieties has been submitted after 20 March, for the assessment of a winter Swede rape and winter turnip rape variety – after 1 August and for the assessment of a winter cereal crop variety – after 20 August, the variety assessment shall be performed in the following year.

III. Sequence of Variety Assessment

18. The Latvia University of Agriculture shall ensure sites for conducting of variety assessment field trials in compliance with Annex 3 to this Regulation.

19. After registration of the application, the Latvia University of Agriculture shall ensure the variety assessment in accordance with the following procedures:

19.1. enter into a contract with the applicant regarding the variety assessment, indicating therein:

19.1.1. the species;

19.1.2. the variety;

19.1.3. the sites of variety field trials;

19.1.4. the necessary quantity of seed material;

19.1.5. the procedures and time for the supply of seeds;

19.1.6. the procedures and deadlines for the submission of assessment results;

19.1.7. the payment procedures for variety assessment;

19.2. the variety shall be included in the variety field trial plan in which species, variety, time when the variety assessment was started, sites of the variety field trials, years of variety assessment, applicant, breeder, state in which the variety has been developed shall be indicated.

20. Pricing for the assessment of plant varieties are indicated in Annex 4 to this Regulation.

21. Quality of the species seed material shall conform to the quality requirements of the basic seed category laid down in the laws and regulations regarding growing and marketing of seeds. The seed material shall be supplied in accordance with the requirements laid down in the laws and regulations regarding the plant quarantine.
[16 August 2016]

21.[1] The Latvia University of Agriculture shall receive from the applicant of the seed samples Swede rape and turnip rape seeds treated with a plant protection product for treatment of seeds (hereinafter – mordant) registered in Latvia or in another European Union Member State, and untreated seeds of other species. Performers of field trials shall treat them with mordant registered in Latvia and coordinated with the Latvia University of Agriculture.
[16 August 2016]

22. The variety shall be assessed in accordance with the assessment groups corresponding to the species laid down in Annex 4.[1] to this Regulation. An appropriate standard variety (one or several) has been determined for each specified group. The applicant by submitting an application shall indicate in which group corresponding to the species the relevant variety shall be assessed.
[16 August 2016]

22.[1] If several standard varieties are used for the assessment of the variety in the relevant group, the variety to be assessed shall be compared to the average assessment of all standard varieties of the relevant group.
[16 August 2016]

IV. Requirements for the Performance of Field Trials

23. Trials shall be performed in accordance with a trial scheme, including not less than four replications. The sequence of varieties shall be indicated in the schemes. Varieties in replications shall be laid out randomly.

24. Requirements for the determination of trial conditions shall be the following:

24.1. the principle of a sole difference shall ensure that:

24.1.1. all varieties have equal conditions in the trial;

24.1.2. only varieties may differ at the specific field trial site, but the number of germinating seeds sown, mordant, fertiliser, forecrop, the technology used for the soil

treatment, maintenance and harvesting of sowings and plantings, is of a uniform character. Not only the variety but also the mordant may differ for the Swede rape and turnip rape at the specific field trial site;

24.1.3. harvesting terms differ for varieties with different duration of the vegetation period;

24.2. accuracy shall ensure an accurate fulfilment of all works in accordance with the conditions of good agricultural practice and the requirements of this Regulation;

24.3. the distance from trial field plots to forests, coppices, highways, water reservoirs, buildings and structures, separate trees, motorways, collecting ditches and the edge of a field shall not affect the trial results;

24.4. assessments of field trials and measurements for one feature in one trial shall be performed by the same specialist.

[16 August 2016]

25. Trials shall be performed in a field which conforms to the following requirements:

25.1. data regarding the species, sown seeds, fertiliser, plant protection products and yield have been registered in the field history for at least the four previous years;

25.2. the presence of perennial weeds in the field shall not affect the results of trials;

25.3. the phosphorus and potassium content in the soil that can be easily used by plants depending on the soil reaction and granulometric composition shall be high or average;

25.4. prior to the organisation of trials, the levelling sowing where trials are not performed has been arranged in the field within the area intended for it for at least one year;

25.5. the trial for the suitability of variety for organic farming shall be performed in a field certified in compliance with the regulatory enactments regarding the monitoring and control of organic farming.

[16 August 2016]

26. The cultivation process requirements shall be the following:

26.1. the relevant species of plants may be cultivated repeatedly in the same field with an interval that is not less than four years, but the relevant species of cereal crops – with an interval of three years;

26.2. a forecrop shall be selected for each species in accordance with the conditions of good agricultural practice;

26.3. all works in field trials shall be carried out in compliance with the conditions of good agricultural practice for cultivation of the species to be assessed, paying special attention to a timely, uniform and qualitative fulfilment of the work;

26.4. trial sowing or planting shall be carried out observing the recommended seed rates in accordance with Annex 5 to this Regulation.

[16 August 2016]

27. Requirements for fertilisation shall be the following:

27.1. the following shall be taken into account when calculating the necessary total dose of fertiliser:

27.1.1. results of agro-chemical research of soils that are not older than the time periods referred to in the regulatory enactments regarding water and soil protection from nitrate pollution caused by agricultural activity;

27.1.2. plant nutrient removal;

27.1.3. influence of the forecrop;

27.1.4. other factors influencing the amount of fertiliser dose and time period of fertilisation;

27.2. one or several of the following methods shall be used in organic farming to provide plants with nutrients in crop rotation:

27.2.1. growing of papilionaceous plants;

27.2.2. growing of green manure plants;

27.2.3. growing of green manure plants as a catch crop;

27.2.4. working of plant waste into the soil – straw, herbaceous perennial plant waste, potato foliage or other plant waste;

27.2.5. use of a compost, manure or other organic mass;

27.2.6. performance of an additional soil treatment which promotes intensive activity of micro-organisms (for example, repeated inverting of the soil which increases the amount of potassium and phosphorus available to plants);

27.2.7. if necessary, use of fertilisers allowed in Annex I to Commission Regulation (EC) No 889/2008 of 5 September 2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production labelling and control.

28. Requirements for the disposition of trial field plots shall be the following:

28.1. plots shall be positioned perpendicularly to the ploughing direction;

28.2. in one trial the accounting area of plots and dimensions of plots shall be the same. The accounting area of plots shall be not less than that referred to in Annex 6 to this Regulation;

28.3. the replication (part of the trial area which includes all varieties) shall be positioned in one up to four rows without the division of replications, in between of which there are zones that allow to harvest each variety separately.

29. Requirements for the maintenance of sowings and plantings shall be the following:

29.1. maintenance in each trial for all varieties of the relevant species shall be carried out within the same time periods;

29.2. only such plant protection products shall be used for the maintenance thereof, which are permitted in accordance with the regulatory enactments regarding plant protection;

29.3. the maintenance of turning zones in order and marking of variants and replications shall be ensured. A labelling shall be positioned next to each plot and the preservation thereof shall be ensured throughout the vegetation period. The number or code of the variety, name of the variety and replication shall be indicated in the labelling.
[16 August 2016]

V. Observations Carried out During Field Trials and the Accounting Thereof

30. Observations and accounting of each species, and processing of the assessment data shall be carried out by the Latvia University of Agriculture.
[16 August 2016]

31. Phenological observations of cultivated plant varieties shall be carried out during the vegetation period marking the dates when plants have reached the relevant development stage. The beginning of the stage shall be deemed the moment when 10-15 per cent of the plants have reached the relevant development stage. The moment when 75 per cent of the plants have reached the relevant stage shall be considered a complete stage.

32. In carrying out phenological observations, the following growth (plant development) stages shall be marked:

32.1. for the cereal crop:

32.1.1. for all species, except the species referred to in Sub-paragraphs 32.1.2, 32.1.3 and 32.1.4 of this Regulation – full stage of seedlings,

beginning of ear or panicle emergence, full stage of blooming (only rye) and full stage of maturing;

32.1.2. for buckwheat – full stage of seedling, beginning of inflorescence emergence stage and full stage of maturing;

32.1.3. for oats to obtain green mass – middle of blooming;

32.1.4. for maize (to obtain green mass) – full stage of seedling, beginning of blooming stage and milky ripeness;

32.2. for fodder plants:

32.2.1. for field peas, field beans, vetches, white lupine, blue lupine, yellow lupine for obtaining of seeds – full stage of seedling, beginning of blooming stage and ripeness for harvesting;

32.2.2. for grasses – full stage of seedling and beginning of ear/panicle emergence;

32.2.3. for papilionaceous plants (for obtaining of green mass), oil radishes, California-bluebell – full stage of seedling and beginning of blooming;

32.3. oil plants and fibre plants:

32.3.1. for Swede rape and turnip rape, linseed, hempseed – full stage of seedling, beginning stage of blooming and ripeness for harvesting;

32.3.2. for fibre flax – full stage of seedling, beginning stage of blooming and early yellow ripening;

32.3.3. for fibre hemp – full stage of seedling, beginning stage of blooming and full stage of blooming;

32.3.4. for white mustard (green mass) – full stage of seedling and beginning of blooming stage;

32.4. for potatoes – full stage of seedling, beginning of blooming and end of vegetation period (for early varieties only).

[16 August 2016]

33. A variety shall be assessed in field trials in accordance with the indicators referred to in Annex 1 to this Regulation, as well as accounting and measurements (except quality analyses) shall be performed in accordance with the methods referred to in Annex 7 to this Regulation.

[16 August 2016]

34. If it is detected that diseases or pests have appeared on one or several varieties, the date, as well as the development stage of the variety shall be indicated in the accounting register and plant protection products shall be used during the whole trial.

35. If plants are partially or completely destroyed during the variety assessment trial, a deed shall be drawn up. Reasons for destruction and the amount of area by which the accounting area is reduced shall be indicated in the deed. A commission consisting of three persons shall be established for drawing up of the deed. The procedures for reimbursement of variety assessment expenditure shall be determined upon mutual agreement by and between the Latvia University of Agriculture and the applicant.

36. A deed shall be drawn up so that separate accounting areas of trial plots would be recognised invalid for observations. Upon reducing the accounting areas of trial plots, the following conditions shall be observed:

36.1. if up to 50 per cent of the trial plants from the accounting area of the plot have been destroyed, the actual accounting area shall be taken into account;

36.2. if more than 50 per cent of the trial plants from the accounting area of the plot have been destroyed, the plot shall be recognised as invalid for observations;

36.3. if more than 50 per cent of the trial plants from the accounting area of the replication have been destroyed, the replication shall be recognised as invalid for observations;

36.4. if more than 50 per cent of trial plants from the trial accounting area have been destroyed, the trial shall be written off.

37. If the observations and accounting regarding any characteristic of a variety differs greatly from the indices characterising the variety submitted in accordance with Annex 2 to this Regulation, conditions and results shall be analysed. These differences may not be the reason for the recognition of the results as invalid. Plots may not be recognised as invalid for observations, on the basis of the difference of yield per replications, if specific reasons for the differences have not been clarified.

38. The harvesting shall be carried out when the variety has reached ripeness for harvesting.

39. Prior to the harvesting, the turning zones, isolation zones and areas that have been recognised as invalid for observations, if any, shall be harvested first. The accounting area of plots shall be updated, taking into account the reduction of the accounting area.

VI. Performance of Quality Analyses

40. In order to assess the conformity of a variety with the variety assessment indicators referred to in Annex 1 to this Regulation, the Latvia University of Agriculture shall ensure the performance of quality analyses in accordance with the methods referred to in Annex 7 to this Regulation at any of the laboratories referred to in Paragraph 41 of this Regulation.
[16 August 2016]

41. The variety quality analyses referred to in Annex 1 to this Regulation may be performed at any of the following laboratories:

41.1. a laboratory accredited in the Latvian National Accreditation Bureau of the limited liability company "Standardisation, Accreditation and Metrology Centre" in compliance with the standard LVS EN ISO/IEC 17205:2005 "General requirements for the competence of testing and calibration laboratories" in the field of fodder, food, fibre and malt testing;

41.2. laboratories of the accredited institutions of other European Union Member States, Member States of the European Economic Area and of the European Free Trade Association;

41.3. a laboratory which has at least three years of experience in performance of quality analyses.
[16 August 2016]

VII. Variety Assessment, Compilation and Notification of Results

42. The Latvia University of Agriculture shall compile the data acquired in field trials of variety assessment, the results of quality analyses, analyse them, carry out the mathematical processing of data, as well as carry out the variety assessment in point system according to the variety assessment indicators, taking into account the assessment methods of value for cultivation and use of varieties (Annexes 7 and 8).
[16 August 2016]

43. The Latvia University of Agriculture shall, by 1 May of the current year, notify the Service and the Service shall, within five working days, send winter hardiness assessment

results of two years of winter cereal crops and oil plants (winter crop forms) regarding each trial site to expert groups of the National Plant Variety Council (hereinafter – expert groups).

44. Expert groups shall assess them within two weeks after receipt of the results referred to in Paragraph 43 of this Regulation, taking into account whether the wintering conditions have been appropriate for the assessment of winter hardiness, and submit proposals to the National Plant Variety Council regarding continuation of assessment of specific varieties for the third year.

45. The National Plant Variety Council shall, within two weeks after receipt of the proposal of the expert group, assess and provide proposals to the Latvia University of Agriculture regarding continuation of assessment of specific varieties for the third year.

46. If the Latvia University of Agriculture, taking into account the proposals of the National Plant Variety Council, takes a decision on continuation of assessment of specific varieties for the third year, it shall inform the applicant regarding the decision taken by 15 June of the current year.

47. The Latvia University of Agriculture shall notify the applicant as follows:

47.1. full results of the variety assessment referred to in Annex 1 to this Regulation in respect of the relevant species (except for maize and potatoes) – by 15 October of the current year but not later than by 25 October if the preparation of these results is delayed by the weather conditions inappropriate for harvesting or other justified circumstances;

47.2. full results of the variety assessment referred to in Annex 1 to this Regulation in respect maize and potatoes – by 1 November of the current year but not later than by 10 November if the preparation of these results is delayed by the weather conditions inappropriate for harvesting or other justified circumstances.
[16 August 2016]

48. If the applicant has doubts regarding accuracy of variety assessment results, the applicant may, within two weeks after notification of the variety assessment results, turn to the Latvia University of Agriculture with justified objections in order to revise the referred-to results.

49. The Latvia University of Agriculture upon agreement with the Service regarding technical preparation of the documents to be delivered shall submit the following to the Service for inclusion in the Assessment Database of the Plant Variety Value for Cultivation and Use:

49.1. full results of the variety assessment in respect to species referred to in Annex 1 to this Regulation (except for maize and potatoes) per each trial site – by 15 October of the current year but not later than by 25 October if the preparation of these results is delayed by the weather conditions inappropriate for harvesting or other justified circumstances;

49.2. full results of the variety assessment referred to in Annex 1 to this Regulation in respect maize and potatoes per each trial site – by 1 November of the current year but not later than by 10 November if the preparation of these results is delayed by the weather conditions inappropriate for harvesting or other justified circumstances.
[16 August 2016]

49.[1] The Service shall publish all variety assessment results on its website by 20 November of the current year.
[16 August 2016]

VIII. Closing Provisions

50. Cabinet Regulation No. 469 of 30 June 2008, Regulations for the Assessment of Plant Variety Value for Cultivation and Use (*Latvijas Vēstnesis*, 2008, No. 100), is repealed.

51. Quality analysis for those varieties, assessment of which has been started in compliance with the requirements of Cabinet Regulation No. 469 of 30 June 2008, Regulations for the Assessment of Plant Variety Value for Cultivation and Use, and for which the assessment takes place for the second year, shall be performed using the methods applied in the first year of examination.

52. Quality analysis for those varieties, assessment of which has been started in compliance with the requirements of Cabinet Regulation No. 469 of 30 June 2008, Regulations for the Assessment of Plant Variety Value for Cultivation and Use, and for which it is the first year of assessment in 2012 (also winter crop sown in the autumn of 2011), shall be performed in accordance with the procedures referred to in Chapter VI of this Regulation.

53. Quality analysis for those winter crop varieties, assessment of which has been started in compliance with the requirements of Cabinet Regulation No. 469 of 30 June 2008, Regulations for the Assessment of Plant Variety Value for Cultivation and Use, and for which it is the third year of assessment in 2013, shall be performed using the same methods with which the assessment was started, but in autumn 2012 varieties shall be sown at the sites referred to in Annex 3 to this Regulation.

54. The Service shall submit applications for assessment of value for cultivation and use in 2013, which have been received at the Service after 1 August 2012, to the Latvia University of Agriculture.

55. This Regulation shall be applicable from 1 August 2012.

56. For varieties of the winter cereal crops and oil plants (winter crop forms) applied for inclusion in the Catalogue until 1 September 2016, duration of the variety assessment shall be two years if the wintering conditions were appropriate for assessment of winter hardiness. If the National Plant Variety Council, upon assessing the winter hardiness assessment results of two years for a variety until 1 June of the current year, recognises that wintering conditions had not been appropriate for the assessment of winter hardiness, the variety assessment shall be continued for the third year upon a proposal of the National Plant Variety Council;
[16 August 2016]

57. Paragraphs 43, 44, 45 and 46 shall be repealed on 16 June 2018.
[16 August 2016]

Informative Reference to European Union Directive

This Regulation contains legal norms arising from Commission Directive 2003/90/EC of 6 October 2003 setting out implementing measures for the purposes of Article 7 of Council Directive 2002/53/EC as regards the characteristics to be covered as a minimum by the examination and the minimum conditions for examining certain varieties of agricultural plant species.

Acting for the Prime Minister, Minister for Welfare I. Viņķele

Minister for Agriculture L.Straujuma

Annex 1
Cabinet Regulation No. 518
24 July 2012

Assessment Indicators of Varieties in Conventional and Organic Farming

[16 August 2016]

1. Assessment Indicators of the Value for Cultivation and Use of Cereal Crop Varieties

1.1. Assessment of common wheat and durum wheat varieties

Field trial indicators:

1.1.1. winter hardiness (for winter wheat), points;
1.1.2. height of plants, cm*;
1.1.3. lodging resistance, points**;
1.1.4. grain yield at standard moisture, t ha^{-1}*;
1.1.5. grain yield, % (in comparison with the standard);
1.1.6. length of vegetation period, days*;
1.1.7. Mass of 1000 grains, g;

Quality indicators:

1.1.8. hectolitric weight, g l^{-1};
1.1.9. protein content, %;
1.1.10. gluten content, %;
1.1.11. sedimentation (*Zeleny* index), cm^3*;
1.1.12. falling number, s*;
1.1.13. starch content, %;
1.1.14. colour, unit (for durum wheat);
1.1.15. vitreous aspect, % (for durum wheat).

1.2. Assessment of rye varieties

Field trial indicators:

1.2.1. winter hardiness, points;
1.2.2. lodging resistance, points**;
1.2.3. grain yield at standard moisture, t ha^{-1}*;
1.2.4. grain yield, % (in comparison with the standard);
1.2.5. height of plants, cm*;
1.2.6. length of vegetation period, days*;
1.2.7. Mass of 1000 grains, g;

Quality indicators:

1.2.8. hectolitric weight, g l^{-1};
1.2.9. protein content, %;
1.2.10. falling number, s*;
1.2.11. starch content, %.

1.3. Assessment of triticale varieties

Field trial indicators:

1.3.1. winter hardiness (for winter triticale), points;
1.3.2. lodging resistance, points**;
1.3.3. grain yield at standard moisture, t ha^{-1}*;
1.4.3. grain yield, % (in comparison with the standard);
1.3.5. height of plants, cm*;
1.3.6. length of vegetation period, days*;

1.3.7. Mass of 1000 grains, g;

Quality indicators:

1.3.8. hectolitric weight, g l^{-1};

1.3.9. protein content, %;

1.3.10. falling number, s*;

1.3.11. starch content, %.

1.4. Assessment of barley varieties

Field trial indicators:

1.4.1. winter hardiness (for winter barley), points;

1.4.2. lodging resistance, points**;

1.4.3. grain yield at standard moisture, t ha^{-1}*;

1.4.4. grain yield, % (in comparison with the standard);

1.4.5. height of plants, cm*;

1.4.6. length of vegetation period, days*;

1.4.7. Mass of 1000 grains, g;

1.4.8. threshability, % (hulless);

Quality indicators:

1.4.9. protein content, % (for grain group N % x 5.7);

1.4.10. hectolitric weight, g l^{-1};

1.4.11. starch content, %;

1.4.12. extractivity (content of extract for barley in dry matter %, for malt group);

1.4.13. grain fractions % over 2.5 mm (for malt group);

1.4.14. protein content, % (for malt group (N % x 6.25)).

1.5. Assessment of oat varieties

1.5.1. To obtain grain:

Field trial indicators:

1.5.1.1. grain yield at standard moisture, t ha^{-1}*;

1.5.1.2. grain yield, % (in comparison with the standard);

1.5.1.3. lodging resistance, points**;

1.5.1.4. height of plants, cm*;

1.5.1.5. length of vegetation period, days*;

1.5.1.6. Mass of 1000 grains, g;

Quality indicators:

1.5.1.7. hectolitric weight, g l^{-1};

1.5.1.8. huskiness, %;

1.5.1.9. threshability, % (for hulless oats);

1.5.1.10. protein content, %;

1.5.1.11. fat content, %;

1.5.2. To obtain green mass:

Field trial indicators:

1.5.2.1. green mass yield, t ha^{-1}*;

1.5.2.2. height of plants, cm*;

1.5.2.3. lodging resistance, points**;

1.5.2.4. dry matter yield, t ha^{-1}*;

1.5.2.5. dry matter yield, % (in comparison with the standard);

1.5.2.6. length of vegetation period, days*;

Quality indicators:

1.5.2.7. dry matter content, %*;

1.5.2.8. content of crude protein in the dry matter, %.

1.6. Assessment of buckwheat varieties

Field trial indicators:

1.6.1. grain (nutlet) yield at standard moisture, t ha^{-1}*;

1.6.2. grain (nutlet) yield, % (in comparison with the standard);

1.6.3. lodging resistance, points;

1.6.4. height of plants, cm*;

1.6.5. length of vegetation period, days*;

1.6.6. Mass of 1000 grains (nutlets), g;

Quality indicators:

1.6.7. hectolitric weight, g l^{-1};

1.6.8. huskiness, %;

1.6.9. protein content, %;

1.6.10. starch content, %.

1.7. Assessment of maize varieties (to obtain green mass)

Field trial indicators:

1.7.1. green mass yield, t ha^{-1}*;

1.7.2. height of plants, cm*;

1.7.3. lodging resistance, points**;

1.7.4. number of ears, pcs*;

1.7.5. dry matter yield, t ha^{-1}*;

1.7.6. dry matter yield, % (in comparison with the standard);

Quality indicators:

1.7.7. dry matter content, %;

1.7.8. content of crude protein in the dry matter, %;

1.7.9. neutral detergent fibre (NDF), %, in the dry matter;

1.7.10. acid detergent fibre (ADF), %, in dry matter.

2. Assessment Indicators of Value for Cultivation and Use of Fodder Plants

2.1. Assessment of field pea, field bean varieties

Field trial indicators:

2.1.1. seed yield at standard moisture, t ha^{-1}*;

2.1.2. seed yield, % (in comparison with the standard);

2.1.3. lodging resistance, points;

2.1.4. height of plants, cm*;

2.1.5. length of vegetation period, days*;

2.1.6. Mass of 1000 seeds, g;

Quality indicators:

2.1.7. protein content, %.

2.2. Assessment of white lupine, blue lupine and yellow lupine varieties

2.2.1. To obtain seeds:

Field trial indicators:

2.2.1.1. seed yield at standard moisture, t ha^{-1}*;

2.2.1.2. seed yield, % (in comparison with the standard);

2.2.1.3. lodging resistance, points;

2.2.1.4. height of plants, cm*;

2.2.1.5. length of vegetation period, days*;

2.2.1.6. Mass of 1000 seeds, g;

Quality indicators:

2.2.1.7. protein content, %.

2.2.2. To obtain green mass:

Field trial indicators:

2.2.2.1. green mass yield, t ha^{-1}*;
2.2.2.2. height of plants, cm*;
2.2.2.3. lodging resistance, points**;
2.2.2.4. dry matter yield, t ha^{-1}*;
2.2.2.5. dry matter yield, % (in comparison with the standard);
2.2.2.6. length of vegetation period, days*;

Quality indicators:

2.2.2.7. dry matter content, %*;
2.2.2.8. content of crude protein in the dry matter, %.

2.3. Assessment indicators of cereal grass varieties

Field trial indicators:

2.3.1. winter hardiness (except annual Westerwold ryegrass), points;
2.3.2. green mass yield, t ha^{-1}*;
2.3.3. number of days until the first cutting (until flowering out), days*;
2.3.4. height of plants, cm*;
2.3.5. lodging resistance, points;
2.3.6. dry matter yield, t ha^{-1}*;
2.3.7. dry matter yield, % (in comparison with the standard);

Quality indicators:

2.3.8. dry matter content, %*;
2.3.9. content of crude protein in the dry matter, %.

2.4. Assessment of common vetch, hairy vetch, oil radish and California-bluebell varieties for obtaining of green mass

Field trial indicators:

2.4.1. green mass yield, t ha^{-1}*;
2.4.2. height of plants, cm*;
2.4.3. lodging resistance, points**;
2.4.4. dry matter yield, t ha^{-1}*;
2.4.5. dry matter yield, % (in comparison with the standard);
2.4.6. length of vegetation period, days*;

Quality indicators:

2.4.7. dry matter content, %*;
2.4.8 content of crude protein in dry matter, % (for oil radish, California-bluebell);
2.4.9. content of crude protein in dry matter, % (for vetches) in organic and conventional farming)*.

2.5. Assessment of previously not mentioned papilionaceous plants

Field trial indicators:

2.5.1. winter hardiness, points;
2.5.2. green mass yield, t ha^{-1}*;
2.5.3. number of days until the first cutting (until flowering out), days*;
2.5.4. height of plants, cm*;
2.5.5. lodging resistance, points;
2.5.6. dry matter yield, t ha^{-1}*;
2.5.7. dry matter yield, % (in comparison with the standard);

Quality indicators:

2.5.8. dry matter content, %*;
2.5.9. content of crude protein in the dry matter, %.

3. Assessment Indicators of the Value for Cultivation and Use of Oil Plant and Fibre Plant Varieties

3.1. Assessment of Swede rape and turnip rape varieties

Field trial indicators:

3.1.1. seed yield at standard moisture, t ha^{-1}*;

3.1.2. seed yield, % (in comparison with the standard);

3.1.3. winter hardiness (for winter Swede rape and winter turnip rape), points;

3.1.4. lodging resistance, points*;

3.1.5. height of plants, cm*;

3.1.6. length of vegetation period, days*;

3.1.7. oil yield, % (in comparison with the standard);

Quality indicators:

3.1.8. hectolitric weight, g l^{-1}*;

3.1.9. oil content, %*.

3.2. Assessment of flax varieties

3.2.1. Fibre flax:

Field trial indicators:

3.2.1.1. stalk yield, t/ha^{-1}*;

3.2.1.2. stalk yield, % (in comparison with the standard);

3.2.1.3. lodging resistance, points;

3.2.1.4. length of vegetation period (until yellow ripening), days*;

3.2.1.5. height of plants, cm;

Quality indicators:

3.2.1.6. average length of bundle, cm;

3.2.1.7. content of bark, %.

3.2.2. Linseed:

Field trial indicators:

3.2.2.1. seed yield, t ha^{-1}*;

3.2.2.2. seed yield, % (in comparison with the standard);

3.2.2.3. lodging resistance, points;

3.2.2.4. length of vegetation period (until maturity of seeds is reached), days*;

3.2.2.5. height of plants, cm*;

3.2.2.6. oil yield, % (in comparison with the standard);

Quality indicators:

3.2.2.7. oil content, %.

3.3. Assessment of hemp varieties

3.3.1. Fibre hemp:

Field trial indicators:

3.3.1.1. stalk yield, t/ha^{-1}*;

3.3.1.2. stalk yield, % (in comparison with the standard);

3.3.1.3. length of vegetation period (until full stage of blooming), days*;

3.3.1.4. height of plants, cm;

Quality indicators:

3.3.1.5. content of bark, %*.

3.3.2. Hempseed:

Field trial indicators:

3.3.2.1. seed yield, t ha^{-1}*;

3.3.2.2. seed yield, % (in comparison with the standard);

3.3.2.3. length of vegetation period (until maturity of seeds is reached), days*;

3.3.2.4. height of plants, cm*;

3.3.2.5. oil yield, % (in comparison with the standard);

Quality indicators:

3.3.2.6. oil content, %.

3.4. Assessment of white mustard varieties

Field trial indicators:

3.4.1. green mass yield, t ha^{-1}*;

3.4.2. height of plants, cm*;

3.4.3. lodging resistance, points**;

3.4.4. dry matter yield, t ha^{-1}*;

3.4.5. dry matter yield, % (in comparison with the standard);

3.4.6. length of vegetation period, days*;

Quality indicators:

3.4.7. dry matter content, %*;

3.4.8. content of crude protein in the dry matter, %.

4. Assessment Indicators of the Value for Cultivation and Use of Potato Varieties

4.1. Assessment of early potato varieties

Field trial indicators:

4.1.1. tuber yield 45 days after emergence of seedlings, t ha^{-1}*;

4.1.2. yield of medium and large tubers (hereinafter – market tuber) 45 days after emergence of seedlings, t ha^{-1}*;

4.1.3. market tuber yield, %, in (comparison with the standard variety 45 days after emergence of seedlings);

4.1.4. tuber yield 55 days after emergence of seedlings, t ha^{-1}*;

4.1.5. tuber yield 55 days after emergence of seedlings, t ha^{-1}*;

4.1.6. market tuber yield, %, (in comparison with the standard variety 55 days after emergence of seedlings);

4.1.7. yield at the end of vegetation period, t ha^{-1}*;

4.1.8. yield at the end of vegetation period, % (in comparison with the standard variety);

4.1.9. market tuber yield at the end of vegetation period, t ha^{-1}*;

4.1.10. market tuber yield at the end of vegetation period, % (in comparison with the standard variety);

4.1.11. the length of the vegetation period (from emergence of seedlings (full stage of seedling) until falling over of the foliage), days*;

4.1.12. average weight of market tuber, g*;

4.1.13. taste characteristics, points*;

4.1.14. starch content in tubers, %*;

4.1.15. resistance to diseases:

4.1.15.1. foliage infection with late blight (*Phytophtora infestans*), %;

4.1.15.2. foliage infection with early blight (*Alternaria solani*), %;

4.1.15.3. tuber infection with late blight (*Phytophtora infestans*), %;

4.1.15.4. tuber infection with bacterial soft rot (*Pseudomonas fluorescens, Xanthomonas spp., Clostridium spp.*), %;

4.1.15.5. tuber infection with dry rot (*Fusarium spp.* and *Phoma foveata*), %.

4.2. Assessment of medium early and medium late and late potato varieties

Field trial indicators:

4.2.1. yield at the end of vegetation period, t ha^{-1}*;

4.2.2. yield at the end of vegetation period, % (in comparison with the standard variety);

4.2.3. market tuber yield at the end of vegetation period, t ha^{-1}*;

4.2.4. market tuber yield at the end of vegetation period, % (in comparison with the standard variety);

4.2.5. length of vegetation period (from emergency of seedlings (full stage of seedling) until falling over of the foliage), days*;

4.2.6. taste characteristics, points*;

4.2.7. average weight of market tubers, g*;

4.2.8. starch content in tubers, %;

4.2.9. starch yield, %, in comparison with the standard variety)*;

4.2.10. dry matter content in tubers, %*;

4.2.11. resistance to diseases:

4.2.11.1. foliage infection with late blight (*Phytophtora infestans*), %;

4.2.11.2. foliage infection with early blight (*Alternaria solani*), %;

4.2.11.3. tuber infection with late blight (*Phytophtora infestans*), %;

4.2.11.4. tuber infection with bacterial soft rot (*Pseudomonas fluorescens, Xanthomonas spp., Clostridium spp.*), %;

4.2.11.5. tuber infection with dry rot (*Fusarium spp.* and *Phoma foveata*), %.

Notes.

1. * The indicator shall be determined for informative purposes but it is not taken into account in the assessment of the value for cultivation and use of the varieties in accordance with Annex 8 to Cabinet Regulation No. 518 of 24 July 2012, Assessment of Value for Cultivation and Use of Plant Variety.

2. ** The indicator shall be taken into account only when assessing the suitability of the variety for organic farming.

Annex 2
Cabinet Regulation No. 518
24 July 2012

Information to be Included in the Application for the Assessment of a Variety

[16 August 2016]

1. Information regarding the applicant:

1.1. for a legal person – name, legal address, registration number in the Enterprise Register or the Commercial Register, contact information (for example, telephone number, e-mail address);

1.2. for a natural person – given name, surname, personal identity number, address of the place of residence, contact information (for example, telephone number, e-mail address).

2. Applicant - breeder, holder of the breeder's right, maintainer of a variety (for varieties that do not have a breeder), authorised representative of the breeder, holder of the breeder's right, or maintainer of a variety.

3. Information regarding the breeder:

3.1. for a legal person – name, registration number in the Enterprise Register or the Commercial Register, address, nationality, contact information (for example, telephone number, e-mail address);

3.2. for a natural person – given name, surname, personal identity number, address, nationality, contact information (for example, telephone number, e-mail address).

4. Information regarding the maintainer of the variety:

4.1. for a legal person – name, registration number in the Enterprise Register or the Commercial Register, address, nationality, contact information (for example, telephone number, e-mail address);

4.2. for a natural person – given name, surname, personal identity number, address, nationality, contact information (for example, telephone number, e-mail address).

5. Expanded name of the plant variety in Latin, specifying the genus, species, subspecies, variety.

6. Name of the plant species in Latvian.

7. Denomination of the variety or proposed name of the variety (if it is not recognised) and breeder's reference (if any).

8. State in which the variety was developed.

9. Information regarding whether the variety has been genetically modified.

10. Information regarding whether a variety has been applied for assessment of the value for cultivation and use:

10.1. in conventional farming;

10.2. organic farming.

11. Information regarding the indicators characterising the variety (for example, for cereal crop – winter or summer crop form, hulless grain or flake form, for barley – the number of ear edges, type of use: for obtaining of green mass or grain, for barley – for obtaining of malt, for potatoes – ripeness for harvest (earliness), for lupine (except for perennial) – the type of use: for obtaining of green mass or seeds, for flax – for obtaining of oil or fibre, for hemp – for obtaining of oil or fibre, a note as to whether the variety is a hybrid (and hybrid type) and which types shall be taken into account, cultivating the variety in a trial. An indication in which group corresponding to the variety in accordance with Annex 4.1 to Cabinet Regulation No. 518 of 24 July 2012, Assessment of Value for Cultivation and Use of Plant Variety, the variety shall be assessed.

12. Indication "I wish to receive all information in electronic form" (the indication shall be used if the applicant wishes to receive all information related to the variety assessment to the indicated e-mail address).

13. Date, signature and seal.

Note. Details of the document "signature", "date" and "place for a seal" shall not be completed if the electronic document has been drawn up in conformity with the regulatory enactments regarding the drawing up of electronic documents.

Annex 3
Cabinet Regulation No. 518
24 July 2012

Locations for the Performance of Assessment Field Trials of a Variety

[16 August 2016]

No.	Species, variety assessment group (indicate if trial sites for various assessment groups differ)	Trial sites			
		in conventional farming		in organic farming	
		number of sites	sites	number of sites	sites
1.	Common wheat (winter form)	3	Training and research farm "Pēterlauki" of the Faculty of Agriculture of the Latvia University of Agriculture (hereinafter – LUA)	2	LUA Research Institute of Agronomy
			Višķi trial site of the training and research farm "Pēterlauki" of LUA Faculty of Agriculture		Stende Research Centre of the scientific institute "Institute of Agricultural Resources and Economics" (hereinafter – AREI)
			LUA Research Institute of Agronomy		
2.	Rye	3	AREI Stende Research Centre	2	AREI Stende Research Centre
			Višķi trial site of the training and research farm "Pēterlauki" of LUA Faculty of Agriculture		LUA Research Institute of Agronomy
			AREI Priekuli Research Centre		
3.	Triticale	3	LUA training and research farm "Vecauce"	2	AREI Stende Research Centre
			AREI Priekuli Research Centre		LUA Research Institute of Agronomy
			Višķi trial site of the training and research farm "Pēterlauki" of LUA Faculty of Agriculture		
4.	Barley (winter form)	2	AREI Stende Research Centre	2	AREI Stende Research Centre
			Training and research farm		LUA Research Institute of

			"Pēterlauki" of LUA Faculty of Agriculture		Agronomy
5.	Common wheat (spring form), durum wheat (spring form)	3	LUA training and research farm "Vecauce"	2	LUA Research Institute of Agronomy
			LUA Research Institute of Agronomy		AREI Stende Research Centre
			Višķi trial site of the training and research farm "Pēterlauki" of LUA Faculty of Agriculture		
6.	Barley (all groups of spring form)	3	Training and research farm "Pēterlauki" of LUA Faculty of Agriculture	2	LUA Research Institute of Agronomy
			Višķi trial site of the training and research farm "Pēterlauki" of LUA Faculty of Agriculture		AREI Stende Research Centre
			LUA Research Institute of Agronomy		
7.	Oats, hulless oats	2	AREI Stende Research Centre	2	LUA Research Institute of Agronomy
			LUA Research Institute of Agronomy		AREI Priekuli Research Centre
8.	Maize	2	Training and research farm "Pēterlauki" of LUA Faculty of Agriculture	2	LUA Research Institute of Agronomy
			AREI Priekuli Research Centre		AREI Priekuli Research Centre
9.	Buckwheat	2	Višķi trial site of the training and research farm "Pēterlauki" of LUA Faculty of Agriculture	2	AREI Stende Research Centre
			LUA Research Institute of Agronomy		LUA Research Institute of Agronomy
10.	Field peas, field beans	2	AREI Stende Research Centre	2	AREI Stende Research Centre
			LUA Research Institute of Agronomy		LUA Research Institute of Agronomy
11.	Swede rape (all groups of winter form), turnip rape (winter form)	3	AREI Stende Research Centre	2	AREI Stende Research Centre
			Training and research farm "Pēterlauki" of LUA Faculty of Agriculture		LUA Research Institute of Agronomy
			LUA Research Institute of Agronomy		
12.	Swede rape (all groups of	3	Training and research farm "Pēterlauki" of the Faculty	2	AREI Stende Research Centre

	spring form), turnip rape (spring form)		of Agriculture of the Latvia University of Agriculture		
			LUA Research Institute of Agronomy		LUA Research Institute of Agronomy
			Višķi trial site of the training and research farm "Pēterlauki" of LUA Faculty of Agriculture		
13.	Potatoes	2	AREI Priekuli Research Centre	2	AREI Stende Research Centre
			LUA Research Institute of Agronomy		LUA Research Institute of Agronomy
14.	White, blue, yellow lupine, common vetch, hairy vetch, oil radish, California-bluebell	2	Training and research farm "Pēterlauki" of LUA Faculty of Agriculture	2	LUA Research Institute of Agronomy
			AREI Priekuli Research Centre		AREI Priekuli Research Centre
15.	Cereal grasses	2	AREI Stende Research Centre	2	AREI Stende Research Centre
			LUA Research Institute of Agronomy		LUA Research Institute of Agronomy
16.	Previously not mentioned papilionaceous plants	2	Training and research farm "Pēterlauki" of LUA Faculty of Agriculture	2	AREI Stende Research Centre
			LUA Research Institute of Agronomy		LUA Research Institute of Agronomy
17.	Lucerne, hybrid lucerne	2	AREI Stende Research Centre	2	AREI Stende Research Centre
			Training and research farm "Pēterlauki" of LUA Faculty of Agriculture		AREI Priekuli Research Centre
18.	Flax	2	Višķi trial site of the training and research farm "Pēterlauki" of LUA Faculty of Agriculture	2	AREI Stende Research Centre
			LUA Research Institute of Agronomy		LUA Research Institute of Agronomy
19.	Hemp	2	Višķi trial site of the training and research farm "Pēterlauki" of LUA Faculty of Agriculture	2	AREI Stende Research Centre
			Training and research farm "Pēterlauki" of LUA Faculty of Agriculture		LUA Research Institute of Agronomy
20.	White mustard	2	Training and research farm	2	LUA Research Institute of

			“Pēterlauki” of LUA Faculty of Agriculture		Agronomy
			AREI Priekuli Research Centre		AREI Priekuli Research Centre

Annex 4
Cabinet Regulation No. 518
24 July 2012

Pricing of the Variety Assessment

[16 August 2016]

No.	Species	Assessment of one variety at one trial site for one year (*euro*)*		
		in total	including	
			for field trials	for quality analyses and administrative expenditure
1.	Common wheat, durum wheat	249	185	64
2.	Barley	242	185	57
3.	Rye	249	185	64
4.	Oats	249	185	64
5.	Triticale	249	185	64
6.	Buckwheat, maize	256	185	71
7.	Field peas, field beans, white lupine, blue lupine, yellow lupine, common vetch, hairy vetch, oil radish, California-bluebell	249	185	64
8.	Swede rape, turnip rape, white mustard	249	185	64
9.	Cereal grasses, papilionaceous plants (previously not mentioned varieties)	246	185	61
10.	Potatoes	256	188	68
11.	Flax (fibre group), hemp (fibre group)	256	185	71
12.	Flax (oil group), hemp (oil group)	249	185	64

Note. * In accordance with Section 3, Paragraph eight of the Law On Value Added Tax, Value Added Tax shall not be applied.

Annex 4.[1]
Cabinet Regulation No. 518
24 July 2012

Groups of Variety Assessment

[16 August 2016]

I. Cereal crop

1. Rye (*Secale cereale* L.):
    1.1. inbred line varieties of winter rye;
    1.2. hybrid varieties of winter rye.

2. Common wheat (*Triticum aestivum* L.):
    2.1. winter wheat;
    2.2. summer wheat.

3. Durum wheat (*Triticum durum* Desf.) – spring form.

4. Barley (*Hordeum vulgare* L.):
    4.1. winter barley;
    4.2. summer barley:
        4.2.1. hulless barley;
        4.2.2. grains group;
        4.2.3. malt group.

5. Oats (*Avena sativa* L.):
    5.1. grain group;
    5.2. green mass group.

6. Hulless oats (*Avena nuda* L.).

7. Hybrids resulting from the crossing of a species of the genus *Triticum* and a species of the genus *Secale* (*xTriticosecale Wittm.* ex A. Camus) (hereinafter – triticale):
    7.1. winter triticale;
    7.2. summer triticale.

8. Buckwheat (*Fagopyrum esculentum* Moench).

9. Maize (*Zea mays* L.) – for obtaining of green mass.

II. Fodder plants*

10. Field peas (*Pisum sativum* L. (*partim*)) – for obtaining of seeds:
    10.1. white-blossom peas;
    10.2. pink-blossom peas.

11. White lupine (*Lupinus albus* L.):
    11.1. for obtaining of seeds;

11.2. for obtaining of green mass.

12. Blue lupine (*Lupinus angustifolius* L.):
12.1. for obtaining of seeds;
12.2. for obtaining of green mass.

13. Yellow lupine (*Lupinus luteus* L.):
13.1. for obtaining of seeds;
13.2. for obtaining of green mass.

14. Red clover (*Trifolium pratense* L.):
14.1. early clover;
14.2. medium clover;
14.3. late clover.

15. Festulolium (hybrids resulting from the crossing of a variety of the genus*Festuca* with a variety of the genus *Lolium*) (*x Festulolium*Asch. & Graebn.):
15.1. crossing of tall fescue with perennial ryegrass (x *Festulolium holmbergii* (Dörfl.) *P. Fourn. Festuca arundinacea x Lolium perenne* L.);
15.2. crossing of madow fescue with perennial ryegrass (x *Festulolium loliaceum* (Huds.) *P. Fourn. Festuca pratensis* Huds *x Lolium perenne* L.).

III. Oil plants and fibre plants

16. Swede rape (*Brassica napus* L. (*partim*)):
16.1. winter Swede rape:
16.1.1. inbred line varieties;
16.1.2. hybrid varieties, except the varieties referred to in Sub-paragraph 16.1.3 of this Annex;
16.1.3. CL, hybrid varieties;
16.2. summer Swede rape:
16.2.1. inbred line varieties;
16.2.2. hybrid varieties, except the varieties referred to in Sub-paragraph 16.2.3 of this Annex;
16.2.3. CL, hybrid varieties;**

17. Turnip rape (*Brassica rapa* L. var. *silvestris* (Lam.) Briggs):
17.1. winter turnip rape;
17.2. summer turnip rape.

18. Flax (*Linum usitatissimum* L.):
18.1. fibre flax;
18.2. linseed flax.

19. Hemp (*Cannabis sativa* L.):
19.1. fibre hemp;
19.2. hempseed.

20. White mustard (*Sinapis alba* L.) – for obtaining of green mass.

IV. Potatoes

21. Potatoes:

21.1. early varieties;

21.2. medium-early varieties;

21.3. medium-late varieties;

21.4. late varieties.

Notes.

* Other fodder plant varieties shall be assessed each variety separately as one group.

** The group shall be formed after inclusion of the first relevant variety in the Latvian Catalogue of Plant Varieties.

Annex 5
Cabinet Regulation No. 518
24 July 2012

Recommended Seed Rates

[16 August 2016]

No.	Species or a group of species	Number of germinative seeds per m^2
1.	**Cereals**	
1.1.	Common wheat (winter)	400-550
1.2.	Common wheat (summer), durum wheat (summer)	500-600
1.3.	Winter rye (inbred line varieties)	400-550
1.4.	Winter rye (hybrids)	200-250
1.5.	Winter triticale	400-550
1.6.	Spring triticale	500-550
1.7.	Oats (grain group)	500-600
1.8.	Oats (green mass group)	530-630
1.9.	Winter barley	350-400
1.10.	Summer barley (hulless, grain group, malt group)	400-450
1.11.	Buckwheat	250-300
1.12.	Maize (for obtaining of green mass)	8-10
2.	**Fodder plants**	
a)	**Cereal grasses**	
2.1.	Meadow foxtail	1300-1500
2.2.	Cocksfoot	1400-1600
2.3.	Tall oatgrass	600-800
2.4.	Meadow fescue	1000-1200
2.5.	Tall fescue	1100-1400
2.6.	Reed canarygrass	1200-1400
2.7.	Smooth brome	700-900
2.8.	Timothy	2500-2900
2.9.	Perennial ryegrass	1000-1300
2.10.	Hybrid ryegrass	1000-1300
2.11.	Festulolium	1000-1300
2.12.	Italian ryegrass, annual	1000-1200
2.13.	Redtop	6000-6200
2.14.	Creeping bent	5000-7000
2.15.	Brown top	5000-7000

2.16.	Red fescue	1500-1800
2.17.	Sheep’s fescue	2200-2700
2.18.	Smooth - stalk meadowgrass	3700-4000
2.19.	Swamp meadow-grass	4500-5000
2.20.	Rough-stalk meadowgrass	4500-5000
b)	**Papilionaceous plants**	
2.21.	Red clover (early, medium, late)	500-700
2.22.	Alsike clover	1300-1500
2.23.	White clover	1200-1400
2.24.	Lucerne	800-1100
2.25.	Hybrid lucerne	600-900
2.26.	Galega orientalis	300-500
2.27.	Birdsfoot trefoil	700-900
2.28.	Sainfoin	300-400
2.29.	Field peas (white-blossom, pink-blossom)	100–120–150
2.30.	Common vetch (for obtaining of green mass)	120-150
2.31.	Field beans	50-60
2.32.	White lupine	100-130
2.33.	Blue lupine	100-130
2.34.	Yellow lupine	100-130
c)	**Other species**	
2.35.	California-bluebell (for obtaining of green mass)	100-150
2.36.	Oil radish (for obtaining of green mass)	80-120
3.	**Oil plants and fibre plants**	
3.1.	Swede rape (hybrid varieties of winter form)	60-80
3.2.	Swede rape (inbred line varieties of winter form), turnip rape (winter form)	80-100
3.3.	Swede rape (hybrid varieties of spring form)	60-80-100
3.4.	Swede rape (inbred line varieties of spring form), turnip rape (spring form)	80-100-120
3.5.	Flax (for obtaining of fibre)	1800-2000
3.6.	Flax (for obtaining of oil)	600-700
3.7.	Hemp (for obtaining of fibre)	550-600
3.8.	Hemp (for obtaining of oil)	200-300
3.9.	White mustard (for obtaining of green mass)	80-120
4.	**Potatoes** (early, medium-early, medium-late and late varieties)	5-6

Annex 6
Cabinet Regulation No. 518
24 July 2012

Area for the Accounting of Plots

[16 August 2016]

No.	Species or a group of species	Accounting area of a plot (at least), m^2
1.	Cereal crops, oil plants and fibre plants	10
2.	Fodder plants	10
3.	Potatoes	25
4.	Early potatoes for determination of the dynamics of yield increase	2 × 5

Annex 7
Cabinet Regulation No. 518
24 July 2012

Variety Assessment Methods

[16 August 2016]

1. Assessment of Winter Hardiness

1.1. Assessment of winter hardiness for Swede rape and turnip rape

1. Winter hardiness for the Swede rape and turnip rape shall be assessed in trial plots, by counting the density of the plants in two marked sites distributed evenly along the plot area, using an accounting frame of 0.5 m^2. Location of the accounting frame shall match in spring and autumn.

2. The accounting shall be performed in each replication in autumn before wintering and in spring after the renewal of vegetation period.

3. Each marked site shall be assessed separately, and the assessment shall be summed up and divided by two.

4. Winter hardiness in spring shall be calculated in per cent (the accounting of spring plant density comparing to the accounting of autumn plant density) (Table 1).

Table 1

Assessment of Swede Rape and Turnip Rape Winter Hardiness

No.	Assessment in points	Assessment of Winter Hardiness (the number of surviving plants in spring in per cent in comparison with the number of plants in autumn)
1.	9	91–100 %
2.	8	81-90 %
3.	7	71-80 %
4.	6	61-70 %
5.	5	50-60 %
6.	4	36-49 %
7.	3	26-35 %
8.	2	16-25 %
9.	1	0-15 %

1.2. Assessment of winter hardiness for other species

5. For assessment of winter hardiness for other species, a visual assessment shall be made of the sowing condition in autumn of the year before wintering and in spring after renewal of vegetation in accordance with the indicators of Table 2 of this Annex.

Table 2

Assessment of the Condition of Sowing

No.	Assessment in points	Condition of sowing (in autumn, spring)
1.	9	Very good, density normal (no visual signs of rarefication, there is also no place for lifeless plants), plants healthy
2.	8	
3.	7	Good, density is not less than 75% of normal, plants healthy
4.	6	
5.	5	Average, density is not less than 50% of normal, plants with negligible signs of diseases
6.	4	
7.	3	Poor, density is not less than 25% of normal, plants diseased
8.	2	Very poor, density is less than 25%
9.	1	Plants are completely destroyed

6. Table 3 of this Annex shall be used for the assessment of the winter hardiness in points, from which the assessment of winter hardiness is read according to the condition of the sowing in spring and autumn.

Table 3

Assessment of Winter Hardiness

Condition of the sowing in autumn (in points)	Winter hardiness (points)								
1	–								
2	1	9							
3	1	8	9						
4	1	7	8	9					
5	1	6	7	8	9				
6	1	5	6	7	8	9			
7	1	4	5	6	7	8	9		
8	1	3	4	5	6	7	8	9	
9	1	2	3	4	5	6	7	8	9
	1	2	3	4	5	6	7	8	9
	Condition of sowing in spring (points)								

7. If the condition of sowing is not even, the plot shall be divided into several equal parts and each part shall be assessed separately. Assessments shall be summed up and divided by the number of plot parts, obtaining the average assessment of the plot.

2. Lodging resistance

8. Lodging resistance shall be assessed in two stages. As soon as lodging appears, the stage of development and the degree of lodging of the plant shall be noted. The final assessment shall be carried out prior to the harvesting. If lodging is uneven, it shall be assessed separately per plot parts and the average shall be calculated. The degree of lodging shall be determined by visually assessing the deviation from the vertical condition of the stalks in points in accordance with Table 4 of this Annex.

Table 4

Assessment of Lodging Resistance

No.	Condition of sowing	Assessment in points
1.	There is no lodging, the stalks are in vertical position	9
2.		8
3.	A little lodging, all the stalks have bent in the obliquity of up to 30 or 3/4 of the stalks have bent in the obliquity of up to 45°, or 1/2 of the stalks have bent in the obliquity of up to 60°, or 1/4 of the stalks have bent in the obliquity of up to 90°	7
4.		6
5.	Lodging is average, all the stalks have bent in the obliquity of up to 45 or 3/4 of the stalks have bent in the obliquity of up to 60°, or 1/2 of the stalks have bent in the obliquity of up to 90°	5
6.		4
7.	Lodging is strong, all the stalks have bent in the obliquity of up to 60°, or 3/4 of the stalks have bent in the obliquity of up to 90°	3
8.		2
9.	Lodging is very strong, all the stalks have bent in the obliquity of up to 90°	1

3. Height of Plants

9. The height of plants shall be measured in two replications not located next to each other.

10. The height of plants shall be measured in accordance with the procedures referred to in Paragraph 13 of this Annex in two places of the plot in an equal distance from the end of the plot.

11. Measurements shall be performed with a measuring stick, on which sections are marked in centimetres.

12. The height of plants for the variety shall be calculated as the average result of the measurements, rounding up to a whole number.

13. The height of the plants shall be measured as follows:

13.1. the height of the plants for the cereals (except buckwheat and maize) shall be measured during the stage of developing of yellow ripening, by measuring the height from the soil to the top of the last ear/panicle (not counting awns);

13.2. for the buckwheat the height of the plant shall be measured when it has reached the technical maturity (70-75 % nutlets have matured), by measuring the height of the plants from the soil to the top of the highest situated inflorescence;

13.3. the height of the plant for maize shall be determined during the stage of blooming, by measuring the height of the plants from the soil to the top of the stalk;

13.4. the height of the plant for field peas, field beans, white lupine, blue lupine and yellow lupine shall be determined at the end of the blooming stage – by measuring the height of the plants from the soil to the top of the stalk at the beginning of the pod development stage;

13.5. the height of the plant for oil plants and fibre plants shall be determined during the stage of blooming, by measuring the height of the plants from the soil to the top of the stalk or stem;

13.6. for annual species for which the green mass yield is assessed, the height of the plants shall be determined prior to harvest, by measuring the height of the plant from the soil to the top of the stalk or stem;

13.7. the height of the cereal grasses or perennial papilionaceous plants shall be determined prior to first harvest, by measuring the height of the plants from the soil to the top of the stalk or stem.

4. Phenological Observations

4.1. Determination of the vegetation period for cereal crop

14. For the varieties of the summer crop form of the cereal crop (except buckwheat) for which the grain yield is assessed, the length of the vegetation period in days shall be determined between the plant development stages 11 and 92, while for the varieties of the summer crop form of the cereal crop for which the green mass yield is assessed – between the plant development stages 11 and 65 based on the decimal code system.

15. The length of the vegetation period in days for the varieties of the summer crop form of the cereal crop shall be determined from 1 January to the 92nd development stage of the plants based on the decimal code system. In addition, the following shall be determined and indicated:

15.1. the end of the vegetation period in autumn for winter wheat and triticale. The end of the vegetation period shall be the last of the five days when the average daily temperature does not exceed 5°C, for winter rye it does not exceed 4 °C but during rapid decrease of the temperature below 0°C – the first day of lowering of the temperature. If the vegetation during the winter period temporarily restores, it shall be noted;

15.2. renewal of vegetation in spring.

16. The length of the vegetation period in days for buckwheat shall be determined from the full stage of seedling until ripeness for harvesting.

17. The length of the vegetation period in days for maize (green mass) shall be determined from the full stage of seedling until milky ripeness.

4.2. Determining of the vegetation period for fodder plants

18. The length of the vegetation period in days for field peas, field beans, white lupine, blue lupine and yellow lupine for obtaining of seeds shall be determined from the full stage of seedling until ripeness for harvesting.

19. The length of the vegetation period in days for hairy vetch shall be determined from 1 January until ripeness for harvesting. In addition, the following shall be determined and indicated:

19.1. the end of the vegetation period in autumn and renewal of vegetation in spring. The end of the vegetation period shall be the last of the five days when the average daily temperature does not exceed 5 °C, but during rapid decrease of the temperature below 0 °C – the first day of lowering of the temperature. If the vegetation during the winter period temporarily restores, it shall be noted;

19.2. renewal of vegetation in spring.

20. For cereal grasses and perennial papilionaceous plants the number of days from the beginning of growth or renewal of vegetation in spring until the first harvest shall be determined, i.e.:

20.1. until the beginning of ear/panicle emergence for cereal grasses;

20.2. until the beginning of the blooming stage for papilionaceous plants;

20.3. in addition, the end of the vegetation in autumn and renewal of vegetation in spring when the average daily temperature exceeds 0 °C.

21. For annual fodder plants for which the green mass yield is assessed, the length of the vegetation period in days shall be determined from the full stage of seedling to the ripeness for harvest at the beginning of blooming.

4.3. Determination of the vegetation period for oil plants and fibre plants

22. The length of the vegetation period in days for the summer Swede rape and summer turnip rape shall be determined from the full stage of seedling until ripeness for harvesting.

23. The length of the vegetation period in days for the winter Swede rape and winter turnip rape shall be determined from January 1 until the 89th day of the development stage of the plants based on decimal code system. The following shall be additionally noted for the Swede rape and turnip rape:

23.1 end of the vegetation period in autumn. The end of the vegetation period shall be the last of the five days when the average daily temperature does not exceed 3 °C for Swede rape and 2°C for turnip rape, but during rapid decrease of the temperature below 0 °C – the first day of lowering of the temperature;

23.2. renewal of vegetation shall be marked at the beginning of growing of leaves.

24. The length of the vegetation period in days for flax shall be determined from the full stage of seedling until early stage of yellow ripening.

25. The length of the vegetation period in days for the hemp shall be determined from the full stage of seedling until:

25.1. ripeness of harvesting – for hempseeds;

25.2. until full blooming stage – for fibre hemp.

26. The length of the vegetation period in days for white mustard shall be determined from the full stage of seedling until the beginning of blooming.

4.4. Establishing of the vegetation period for potatoes

27. The length of the vegetation period in days for the early potatoes shall be determined from the full stage of seedling until falling over of the foliage.

28. The length of the vegetation period in days for medium-early, medium-late and late potatoes shall be determined from the full stage of seedling until destroying or falling over of the foliage.

5. Determining of seed yield of cereal crop, fodder plants and oil plants

29. The seeds shall be harvested during their ripeness for harvest, i.e.:

29.1. cereals (except for buckwheat) – during the plant development stage 89-91;

29.2. buckwheat – during the plant development stage 87-88;

29.3. field peas – during the plant development stage 87-88;

29.4. field beans, white lupine, blue lupine and yellow lupine – during the plant development stage 85-88;

29.5. Swede rape and turnip rape – during the plant development stage 85-89;

29.6. linseed – when the seed-vessels has become brown and dried (if the seed-vessels are shaken, seeds rattle);

29.7. hempseed – when seeds turned grey, and the leaves enveloping the nuts have opened up.

30. Turning, isolation and spacing zones shall be harvested first. Lodged plants shall be unbent from the isolating paths. The accounting area of plots shall be updated, adjusting their size in relation to spacing, if any.

31. Harvesting shall be started with the earliest varieties. At first all replications shall be harvested in consecutive order for one variety, then according to the time of variety maturity time – all replications for each subsequent variety. After harvesting of each plot the combine shall be idled for several minutes in order to prevent the accumulation of grains or seeds in combine units. If variety ripeness for all varieties is the same, at first all varieties shall be harvested in one replication and then in the following.

32. Yield from each plot (replication) shall be threshed in a separate bag, in which one label shall be inserted and another shall be attached to the bag. Yield shall be weighed on the field or in warehouses with accuracy of up to 0.01 kg. During weighing, scoops shall be taken from each bag (replication) and one joint sample shall be prepared for each variety in accordance with the standard LVS EN ISO 24333+AC:2011 "Cereals and cereal products. Sampling (ISO 24333:2009)" and LVS EN ISO 542:2001 "Oilseeds – sampling".

33. Mass of the joint sample shall be such that it would not be less than 1 kg after drying and separation of admixture (for peas, beans and lupines – 2 kg, for oil plants – 0.5 kg, for hulless barley – 1.5 kg). The joint sample shall be inserted in a special packaging preventing changes in the moisture of the sample. The purity shall be determined for the joint sample as soon as possible (before the seeds start spoiling) in accordance with the standard LVS-271:2000 "Cereals. Methods of analysis. Determination of admixtures in cereal crop" and LVS EN ISO 658:2003 "Seeds of oil plants – Determination of admixture content". Concurrently seed moisture shall be determined for the pure fraction applying verified express equipment or in accordance with the standard LVS 272:2000 "Grain – Methods of analysis – Determination of the moisture contents of cereal products".

34. The joint sample shall be immediately dried until the moisture content thereof is equal to the standard moisture or lower. Increase of moisture is allowed not exceeding 2.00 % above the standard moisture. The sample shall be cleaned from admixture. The samples shall be dried gradually so that the sample temperature would not exceed 40 °C. An average sample(s)

for determining of quality indicators (for peas, beans and lupines – 2 kg, for cereals – 1 kg, for oil plants – 0.5 kg) shall be prepared from the dried and cleaned joint sample. The average sample from the joint sample shall be divided with a special sample divider or by using the cross-division method. By dividing the average samples with the cross-division method, the joint sample shall be poured on a flat, smooth surface, carefully mixed and the grains evened out in a shape of a square, using two laths the blower edge whereof is pointed. The evened out grains then are divided diagonally into four triangles. The mass of the two opposite triangles shall be combined for creating of an average sample. A square shall be made of the remaining two triangles which shall be divided diagonally. This operation shall be continued until an average sample of the necessary size is obtained.

35. Harvest t ha^{-1} shall be calculated applying standard moisture and 100% purity with two digits after comma, using the following formula:

$$X = \frac{A \times (100 - B) \times E}{(100 - D) \times 10C}, \text{ where}$$

X – grain (seed) yield at the standard moisture (t ha^{-1});
A − grain (seed) mass (weight) of the plot yield (weight) (kg);
B – grain (seed) moisture (%) during weighing of the yield;
C − accounting area of the plot (m^2);
D − standard moisture, in % (for cereal crops and pulse – 14%, for Swede rape – 8%, for turnip rape – 9%, for linseeds – 12%, for hemp – 12%);
E − purity (%).

36. The output of oil from a hectare shall be determined, using the following formula:

$$X = \frac{(A \times 92) / 100) \times B}{100}, \text{ where}$$

X – oil yield (t ha^{-1});
A – seed yield at the standard moisture (t ha^{-1});
B – content of oil in dry matter (%).

37. Grain (seed, oil) yield in % in comparison with the standard shall be calculated using the following formula:

$$X = \frac{A \times 100}{B}, \text{ where}$$

X – yield of grains or seeds, or oil, % in comparison with the standard variety;
A – yield of grains or seeds, or oil of the trial variety (t ha^{-1});
B – yield of grains or seeds, or oil of the standard variety (t ha^{-1}).

6. Determination of Threshability for Hulless Barley

38. Determination of threshability for hulless barley:

38.1. four samples of 100 g each shall be taken from the average sample;

38.2. the sample shall be divided in two parts – in grains with separated flakes and grains with non-separated flakes (if the sample also contains admixture of other varieties – grains of husky barley, they shall be sorted separately);

38.3. the quantity in per cent for the grains with non-separated flakes shall be calculated for each sample and the average from all samples.

7. Harvesting and Accounting of Fibre Plant Yield

39. The harvest shall be picked by hand during ripeness for harvest:
39.1. flax for fibre – during early yellow ripening;
39.2. hemp for fibre – during full blooming phase.

40. After plucking of fibre flax plots a sample bundle of each variety of a diameter of 15-17 cm shall be prepared from covered stalks, taking evenly a handful from each plot.

41. Stalks of fibre flax shall be tied in bundles and 8-10 bundles shall be arranged in stacks for drying. Seeds shall be threshed not more than 10-12 days afterwards. Stalks and seeds shall be weighed separately.

42. The fibre hemp shall be cut 8-10 cm from the top of the soil and inflorescences shall be cut (technical height of the plant). After plucking thereof, a sample bundle of each variety of a diameter of 15-20 cm shall be prepared from covered stalks, taking evenly a handful from each plot.

43. The fibre hemp shall be tied together in separate bundles (with a diameter of 15-20 cm) and arranged in stacks for drying. Stalks shall be weighed.

44. 150 grams of stalks shall be separated from the flax of the sample bundle and cut in 2-3 cm-long pieces. 300 grams of stalks shall be separated from the flax of the sample bundle and cut in 2-3 cm-long pieces. The cut pieces shall be intermixed. For determination of the moisture content two weighed amounts shall be weighed: for flax – 50 g, for hemp – 100 g, each with accuracy of 0.01 g. They shall be dried in a moisture extraction oven at 100–105 °C, until their mass is constant. In weighing with accuracy up to 0.01 g, the difference between the mass of the last two weighings shall not exceed 0.02 g. The moisture content for each sample shall be calculated, using the following formula:

$$M = \frac{(a - b) \times 100}{a}, \text{ where}$$

M – moisture (%);
a – weighed amount of green mass (g);
b – mass of the dried weighed amount (g).

45. The moisture content for each variety shall be calculated as the average result of both samples.

46. Seed yield at the standard moisture shall be recalculated (t ha^{-1}). Stalk yield t ha^{-1} shall be calculated applying the standard moisture with two digits after comma, using the following formula:

$$X = \frac{A \times (100 - B) \times E}{(100 - D) \times 10C}, \text{ where}$$

X – stalk yield at the standard moisture (t ha^{-1});
A – weight of stalks in the plot (kg);
B – stalk moisture (%) during weighing of the yield;
C – accounting area of the plot (m^2);
D – standard moisture, % (for flax and hemp stalks – 19 %);
E – purity (%).

47. Stalk yield in % in comparison with the standard shall be calculated using the following formula:

$$X = \frac{A \times 100}{B}, \text{ where}$$

X – stalk yield, % (in comparison with the standard);
A – stalk yield of the variety to be assessed (t ha^{-1});
B – stalk yield of the standard variety (t ha^{-1}).

48. The sample bundle shall be dried until reaching of the moisture not exceeding the standard moisture. An average sample (1.5–1.6 kg) shall be formed from the dried sample bundle to determine quality analyses.

8. Harvesting and Accounting of Potato Yield

49. Harvesting of tuber yield shall be carried out in increase dynamics trials of early potato variety yield:

49.1. 45 days after full stage of seedlings for at least one variety – first term;

49.2. 55 days after full stage of seedlings for at least one variety – second term.

50. The harvest at the end of the vegetation period for the early and medium early potato varieties shall be started when 75 % of the variety plants have started to turn yellow and their foliage has fallen over. For medium late and late potato varieties maturation of tubers shall be precipitated (if necessary) by at least 10-12 days, by cutting or destroying foliage using chemical products prior to harvesting.

51. Excluded areas and isolations shall be harvested first.

52. The potato yield for each replication shall be sorted in three groups, using templates: small tubers, medium-sized tubers and large tubers. The size of the small tubers for the early varieties is less that 28 mm. The diameter of the small tubers for the medium early, medium late and late varieties of potatoes is less than 35 mm, for elongated tubers – less than 30 mm. The diameter of large tubers exceeds 80 mm, for elongated tubers – exceeds 75 mm.

Rotten tubers shall be collected separately, weighed with accuracy of up to 0.1 kg and this amount shall be counted into the total yield. Each of the three groups shall be weighed separately and the proportion of tubers of each group in % in the total yield at the end of the vegetation period shall be calculated. Mechanically damaged tubers which, according to the size, are suitable for use in food, shall be added to the market tuber group depending on their size. The yield of the tubers of the trial variety 45 days after emergence of seedlings or the yield of tubers 55 days after emergence of seedlings, or the yield at the end of the vegetation period shall be calculated, using the following formula:

$$R = \frac{S + N}{L} \text{ x } 10, \text{ where}$$

R – the yield of the tubers of the trial variety 45 days after emergence of seedlings (t ha^{-1}) or the yield of tubers 55 days after emergence of seedlings (t ha^{-1}), or the yield at the end of the vegetation period (t ha^{-1});
S – the mass of the market tubers of the trial variety 45 days after emergence of seedlings (kg) or the mass of the market tubers 55 days after emergence of seedlings (kg), or the mass of the market tubers at the end of the vegetation period (kg);
N – the mass of the small tubers of the trial variety 45 days after emergence of seedlings (kg) or the mass of the small tubers 55 days after emergence of seedlings (kg), or the mass of the small tubers at the end of the vegetation period (kg);
L – plot area (m^2).

The yield of the market tubers of the trial variety 45 days after emergence of seedlings or the yield of the market tubers 55 days after emergence of seedlings, or the yield of the market tubers at the end of the vegetation period shall be calculated, using the following formula:

$$Rs = \frac{S}{L} \text{ x } 10, \text{ where}$$

Rs – the yield of the market tubers of the trial variety 45 days after emergence of seedlings (t ha^{-1}) or the yield of the market tubers 55 days after emergence of seedlings (t ha^{-1}), or the yield of the market tubers at the end of the vegetation period (t ha^{-1});
S – the mass of the market tubers of the trial variety 45 days after emergence of seedlings (kg) or the mass of the market tubers 55 days after emergence of seedlings (kg), or the mass of the market tubers at the end of the vegetation period (kg);
L – plot area (m^2).

53. In the trials of the yield increase dynamics for the early potato varieties, the tubers shall be harvested 45 days after the full stage of seedling, 55 days after the full stage of seedling and at the end of the vegetation period. The yield shall be divided and weighed in three groups – small, medium and large. Medium and large are the market tubers. Each group shall be weighed separately.

54. The average mass for market tubers of potatoes shall be determined as follows: after sorting of the yield in groups, the proportions in % of large and medium tubers in the yield of market tubers for all replications shall be calculated using the following formulas:

$$L = \frac{B \times 100}{(B + C)}, \text{ where}$$

L – large tubers, %;
B – mass of the large tubers, kg;
C – mass of the medium tubers, kg;

$$V = \frac{C \times 100}{(B + C)}, \text{ where}$$

V – medium tubers %;
B – mass of the large tubers, kg;
C – mass of the medium tubers, kg.

100 tubers from the joint sample shall be selected (a group of the joint sample is obtained by sorting and for each replication dividing the tubers into groups by size, and after weighing, all tubers corresponding to one fraction shall be placed together or combined) for both groups, proportionally to the obtained number in % (as many tubers of each group as calculated in %, for example, 20 % of large tubers – 20 tubers from the group of large tubers and 80 from the group of the medium tubers are selected). The tubers are washed, weighed in g, and the obtained mass is divided by the number of tubers (100), obtaining the average mass of the market tubers in grams.

55. The yield of the market tubers of the trial variety (in comparison with the standard variety 45 days after emergence of seedlings) or the yield of the market tubers in % (in comparison with the standard variety 55 days after emergence of seedlings), or a yield at the end of the vegetation period in % (in comparison with the standard variety) shall be calculated, using the following formula:

$$A = \frac{B \times 100}{C}, \text{ where}$$

A – the yield of the market tubers of the trial variety (in comparison with the standard variety 45 days after emergence of seedlings) or the yield of the market tubers in % (in comparison with the standard variety 55 days after emergence of seedlings), or the yield at the end of the vegetation period in % (in comparison with the standard variety);
B – the yield of the market tubers of the trial variety 45 days after emergence of seedlings (t ha^{-1}) or the yield of the market tubers 55 days after emergence of seedlings (t ha^{-1}), or the yield at the end of the vegetation period (t ha^{-1}), or the yield of the market tubers at the end of the vegetation period (t ha^{-1});
C – the yield of the market tubers of the standard variety 45 days after emergence of seedlings (t ha^{-1}) or the yield of the market tubers 55 days after emergence of seedlings (t ha^{-1}), or the yield at the end of the vegetation period (t ha^{-1}), or the yield of the market tubers at the end of the vegetation period (t ha^{-1}).

56. For determining of the content of the potato starch, 7 kg of sample tubers not affected by diseases and mechanically undamaged shall be selected from the joint sample of the market tubers. The selected sample shall be washed and dried. The content of the starch shall be determined as soon as possible after harvest for all samples of earliness group at the same time. Access of air shall be ensured for the packaging of samples.

57. The starch content for potatoes shall be determined as follows:

57.1. a basin for water, scales, two plastic or metal baskets or containers of 5.5 kg for weighing of potatoes and a rack shall be used;

57.2. the basin shall be filled with water the temperature of which shall be 17.5 °C. The baskets or containers for weighing the potatoes shall be placed on the scales on the rack, by hanging one basket under the other. The bottom basket shall be placed in the basin with water so that the basket would fully sink into the water. The scales shall be adjusted in balance or on 0 mark;

57.3. the bottom basket (in the air) shall be filled with 5000 g of washed dry potatoes or 5050 g of wet potatoes, and weighed (weight in the air). The potatoes shall be then placed in the bottom basket which is sunk into the water. Slightly shake for the air bubbles to appear.

Weigh potatoes in the water (weight in the water). Percentage of the starch content shall be read in Table 5 of this Annex.

Table 5

Determination of Specific Weight, Dry Matter and Starch Content

Weight of 5 kg potatoes in water, g	Specific weight	Dry matter, %	Starch, %
250	1.0526	15.12	8.17
255	1.0537	15.36	8.40
260	1.0549	15.62	8.65
265	1.0560	15.86	8.88
270	1.0571	16.09	9.11
275	1.0582	16.33	9.34
280	1.0593	16.57	9.57
285	1.0604	16.81	9.80
290	1.0616	17.06	10.05
295	1.0627	17.30	10.28
300	1.0638	17.54	10.51
305	1.0650	17.80	10.77
310	1.0661	18.04	11.00
315	1.0672	18.27	11.23
320	1.0684	18.53	11.46
325	1.0695	18.77	11.71
330	1.0707	19.03	11.96
335	1.0718	19.26	12.19
340	1.0730	19.52	12.44
345	1.0741	19.76	12.67
350	1.0753	20.02	12.92
355	1.0764	20.26	13.15
360	1.0776	20.52	13.40
365	1.0787	20.75	13.63
370	1.0799	21.01	13.88
375	1.0811	21.27	14.13
380	1.0823	21.53	14.38
385	1.0834	21.77	14.61
390	1.0846	22.03	14.86
395	1.0858	22.28	15.11
400	1.0870	22.54	15.36
405	1.0881	22.78	15.59
410	1.0893	23.04	15.85
415	1.0905	23.30	16.10

420	1.0917	23.56	16.35
425	1.0929	23.82	16.60
430	1.0941	24.08	16.85
435	1.0953	24.33	17.10
440	1.0965	24.59	17.35
445	1.0977	24.85	17.60
450	1.0989	25.11	17.85
455	1.1001	25.37	18.10
460	1.1013	25.63	18.35
465	1.1025	25.89	18.60
470	1.1038	26.17	18.88
475	1.1050	26.43	19.13
480	1.1062	26.69	19.38
485	1.1074	26.94	19.63
490	1.1086	27.20	19.88
495	1.1099	27.48	20.15
500	1.1111	27.74	20.40
505	1.1123	28.00	20.65
510	1.1136	28.28	20.92
515	1.1148	28.54	21.18
520	1.1161	28.82	21.45
525	1.1174	29.10	21.72
530	1.1186	29.36	21.97
535	1.1199	29.64	22.24
540	1.1211	29.90	22.49
545	1.1223	30.16	22.74
550	1.1236	30.44	23.02
555	1.1249	30.72	23.29
560	1.1261	30.98	23.54
565	1.1274	31.26	23.81
570	1.1287	31.54	24.08
575	1.1299	31.80	24.33
580	1.1312	32.08	24.60
585	1.1325	32.36	24.88
590	1.1338	32.64	25.15
595	1.1351	32.92	25.42
600	1.1364	33.20	25.69
605	1.1377	33.48	25.96
610	1.1390	33.76	26.23
615	1.1403	34.04	26.51
620	1.1416	34.32	26.78

625	1.1429	34.60	27.05
630	1.1442	34.88	27.32
635	1.1455	35.16	27.59
640	1.1468	35.44	27.87
645	1.1481	35.72	28.14
650	1.1494	36.01	28.41
655	1.1507	36.29	28.68
660	1.1521	36.59	28.97
665	1.1534	36.87	29.24

9. Harvesting and Accounting of Perennial and Annual Herbaceous Plants

58. Accounting of yield in the sowing year, when cutting down perennial herbaceous plants, shall not be carried out. For annual cereal grasses in the sowing year and for perennial cereal grasses in the first and second year of use, the first harvest shall be carried out at the beginning of the paniculation or flowering stage, for papilionaceous plants – at the beginning of blooming. The second and third harvest for the cereal grasses shall take place at the beginning of blooming for the species and varieties which form stalks at the 2nd and 3rd harvest. The second harvest for the early clover and California-bluebell shall take place at the beginning of blooming. The second harvest for the late clover, as well as the third harvest for the clovers and California-bluebell shall take place in approximately 40 days after the previous harvest but not earlier than the sward has reached the height of 25 cm. The height of harvesting shall be not less than 5 cm.

59. Turning, isolation and spacing zones shall be harvested first. The accounting areas of plots shall be updated, adjusting their size in relation to exclusions, if any.

60. Harvesting shall be carried out when the relevant variety has reached ripeness for harvesting. Harvesting shall be started with the earliest varieties. At first all replications shall be harvested in consecutive order for one variety, then according to the time of variety maturity time – all replications for each subsequent variety. If variety ripeness for all varieties is the same, at first all varieties shall be harvested in one replication and then in the following.

61. Green mass obtained from each harvest of each plot shall be weighed (with accuracy of 0.1 kg), at the same time taking one average sample of 1 kg.

62. The average sample shall be weighed with accuracy of up to 0.01 kg and sorted in the variety to be tested and admixtures (for example, other plants, residue).

63. The samples for the quality analyses shall be taken from the average sample of the first harvest (with the idea that it could be used to prepare a sample with a mass of 1 kg for quality analyses) for determination of the dry matter and crude protein for the variety to be assessed.

64. Green mass of the variety to be tested shall be calculated for each harvest of each repetition, using the following formula:

$$R = \frac{P \times M}{K \times L} \text{ x } 10, \text{ where}$$

R – green mass yield of the harvest of the variety to be tested (t ha^{-1});
R – mass of the variety to be tested in an average sample (after sorting) (kg);
K – mass of an average sample prior to sorting (kg);
M – mass of the grass harvested from the plot (kg);
L – plot area (m^2).

65. Yield of the green mass for the trial variety shall be calculated as the sum of the yield of the green mass of all harvests.

66. The average sample of the products of the trial variety shall be immediately cut into 2-3 cm long pieces. From the average sample of the first harvest, 1 kg sample for the performance of the quality analyses shall be taken.

67. For determination of the moisture content for each harvest, two weighed amounts shall be weighed – 50 g each with accuracy of 0.01 g. They shall be dried in the moisture extraction oven at 100-105°C until their mass is constant. In weighing with accuracy up to 0.01 g, the difference between the mass of the last two weighings shall not exceed 0.02 g. The moisture content for each sample shall be calculated, using the following formula:

$$M = \frac{(a - b) \times 100}{a}, \text{ where}$$

M – moisture (%);
a – weighed amount of green mass (g);
b – mass of the dried weighed amount (g).

68. The moisture content for each harvest shall be calculated as the average result of both samples.

69. The remaining part of the sample of the first harvest shall be prepared for the quality analyses. It shall be heated for 20-30 minutes at temperature of 80-90°C in order to discontinue the activity of ferments and micro-organisms. Drying of the sample in the temperature not exceeding 60-65 °C until a constant mass is reached shall be continued after heating. The dried sample shall be inserted in a fabric bag and labels shall be attached – one label shall be inserted inside and the second shall be attached outside.

70. Yield of dry matter of the trial variety shall be calculated for each harvest of each replication, using the following formula:

$$X = \frac{A \times (100 - M)}{100}, \text{ where}$$

X – dry matter yield (t ha^{-1});
A – green mass yield (t ha^{-1});
M – moisture of the green mass during weighing of the yield (%).

71. Yield of the dry matter for the trial variety shall be calculated as the sum of the yield of the dry matter of all harvests.

72. Yield of the dry matter in % in comparison with the standard shall be calculated, using the following formula:

$$X = \frac{A \times 100}{B}, \text{ where}$$

X – dry matter yield in % in comparison with the standard;
A – dry matter yield of the variety to be assessed (t ha^{-1});
B – dry matter yield of the standard variety (t ha^{-1}).

10. Harvest and Accounting of Green Mass Plants (Oil Radish, White Mustard, California-bluebell, Oats, Common Vetch, White Lupine, Blue Lupine, Yellow Lupine, Maize) Yield

73. Oil radish, white mustard, California-bluebell, common vetch, white lupine, blue lupine and yellow lupine shall be harvested for the fodder plants at the beginning of blooming, for the green manure – at the end of blooming. Maize shall be harvested as late as possible, however, before the autumn frost. Oats shall be harvested in the middle of blooming.

74. Harvesting of the green mass plants, calculation of green mass, preparation of samples for quality analyses, determination of the moisture content and calculation of the dry matter yield shall be performed in accordance with the methodology provided for perennial and annual herbaceous plants.

75. The number of ears for maize shall be determined for five normally developed stalks. The developed ears shall be counted. The average number of ears for each variety shall be calculated.

76. The mass of ears (with covering leaves) and the mass of stalk leaves shall be counted for maize in each plot individually. Ears, stalks and leaves shall be chopped, an average sample shall be prepared and it shall be immediately taken to the designated laboratory for performance of quality analyses or an air-dry sample (moisture not exceeding 15 % – dried in a moisture extraction oven in the temperature of 55 °C for at least 48 hours until constant mass of the dried sample is obtained) in an airtight packaging shall be delivered to this laboratory.

77. Yield of the dry matter in % in comparison with the standard shall be calculated, using the following formula:

$$X = \frac{A \times 100}{B}, \text{ where}$$

X – dry matter yield in % in comparison with the standard;
A – dry matter yield of the variety to be assessed (t ha^{-1});
B – dry matter yield of the standard variety (t ha^{-1}).

11. Accounting of Potato Diseases

78. The accounting of diseases shall be carried out within the time periods indicated in the phytopathological accounting calendar (Table 6).

Table 6

Phytopathological Accounting Calendar

No.	Disease	Time period for accounting	Accounting indicator
1. Potato Top Diseases			
1.1.	Late blight (*Phytophthora infestans*)	For the first time – upon emergence of the disease. For the second time – 10 days after the first accounting. For the third time – 10 days after the second accounting.	Level of infection, %
1.2.	Early blight of foliage (*Alternaria solani Sor.*)	During the vegetation period, upon emergence of the symptoms of the disease	Level of infection, %
2. Potato Tuber Diseases			
2.1.	Late blight (*Phytophtora infestans*)	Upon assessment and sorting	Infected tubers, % based on mass
2.2.	Bacterial soft rot (*Pseudomonas fluorescens, Xanthomonas spp. Clostridium spp.*)	Upon assessment and sorting	Infected tubers, % based on mass
2.3.	Dry rot (*Fusarium spp.* and *Phoma foveata*)	Upon assessment and sorting	Infected tubers, % based on mass

79. Potato top diseases shall be determined visually establishing the level of damages in per cent for the entire plot (surface of the damaged leaves from the surface of plant leaves of the whole plot).

80. Infected tubers in % based on the mass shall be calculated, using the following formula:

$$A = \frac{I \times 100}{\mathrm{S} + \mathrm{N}}, \text{ where}$$

A – infected tubers of the variety to be tested (% based on mass);
S – mass of market tubers of the variety to be tested (kg);
N – mass of small tubers of the variety to be tested (kg);
I – mass of infected tubers of the variety to be tested (kg);.

12. Taste Assessment

81. Taste characteristics for potatoes shall be determined organoleptically according to a 9-point scale in accordance with Table 7 of this Annex.

Table 7

Assessment of Taste Characteristics for Potatoes

No.	Taste	Assessment in points
1.	Very tasty	9
2.	Tasty	7
3.	Partly tasty	5
4.	Unpalatable	3
5.	Very unpalatable	1

82. Taste characteristic of potato varieties shall be assessed by tasting at all variety assessment sites for all earliness groups of varieties. At least five tasters shall assess varieties in tasting. For potatoes peeled tubers of each variety shall be boiled in separately in a pot in 2 per cent salt solution (20 g salt to 1 l water). Tubers with signs of greening shall not be used for tasting. When potatoes are soft, water shall be poured off and they shall be dried on a small flame. Potatoes shall be tasted while warm (varieties shall be served with encoded numbers).

13. Mass of 1000 Grains, Nutlets and Seeds

83. For the cereals and legume the mass of 1000 grains shall be determined according to the standard LVS EN ISO 520:2011 "Cereals and legume. Determination of the mass of 1000 grains".

84. The mass of 1000 nutlets shall be determined according to the standard LVS EN ISO 520:2011 "Cereals and legume. Determination of the mass of 1000 grains".

14. Quality Analyses

85. For wheat:

85.1. for determination of protein, starch, sedimentation (*Zeleny* index), gluten and hectolitric weight the grain analyser *Infratec 1241* and the programme *WH 280710 T4*shall be used;

85.2. the falling number shall be determined according to the standard LVS EN ISO 3093:2011 "Wheat, rye and their flours, durum wheat and durum wheat semolina – Determination of the falling number according to Hagberg-Perten (ISO 3093:2009)";

86. For rye and triticale:

86.1. for determination of protein, starch and hectolitric weight the grain analyser *Infratec 1241* and the programme: for rye – RY 310705 T, for triticale – TR310705 T2 shall be used;

86.2. the falling number for the rye shall be determined according to the standard LVS EN ISO 3093:2011 "Wheat, rye and their flours, durum wheat and durum wheat semolina". Determination of the falling number according to Hagberg-Perten (ISO 3093:2009)";

86.3. the falling number for the triticale shall be determined according to the standard LVS 274:2000 "Determination of the "falling-number" according to Hagberg-Perten as a measuring of the degree of alpha-amylase activity in grain and flour".

87. For barley:

87.1. for determination of protein, starch and hectolitric weight the grain analyser *Infratec 1241* and the programme BA 040609 T3 shall be used;

87.2. the grain fractions in % above 2.5 mm shall be determined as follows:

87.2.1. an automatic sorter-fractionater of seed grains shall be used (sieve size: 1st sieve – 2.8 mm, the 2nd sieve – 2.5 mm, the 3rd sieve – 2.2 mm);

87.2.2. a sample of 100 g shall be taken by a divider from the average sample, placed on the top sieve and fractioned for 3 minutes. Admixtures and damaged grains shall be picked out of each sieve and weighed with accuracy of up to 0.01 g. Each fraction shall be weighed with accuracy of up to 0.01 g. The first and second fractions shall be summed up. The sum shall be expressed in per cent with accuracy of up to one digit after the decimal point;

87.3. extractivity shall be determined as follows:

87.3.1. disk mills, scales with accuracy of 0.01 g, mashing equipment, conical flask of 500 ml (with 100 ml graduations), a funnel with a diameter of 200 mm, filter paper, pycnometer or appropriate density measuring device, analytical scales with accuracy of 0.01 g, electric stove, density measurer shall be used;

87.3.2. a divider shall be used to take 50 g of sample from the average sample and milled. Then 25 g of the milled barley sample shall be weighed. Barley malt of 25 g (finely milled) shall be weighed. Malt shall be placed in a beaker, 200 ml of distilled water shall be added and mixed. The beaker shall be placed on the electrical stove, and the mixture shall be heated to 90 °C by mixing it. The temperature shall be maintained until the starch has fully turned into gel. As much cold distilled water shall be added to the mixture as it is necessary to lower the temperature to 70-75 °C. Then 1 g of milled malt shall be added, waiting (for approximately 5 minutes) until the mixture liquefies. It shall be boiled for 5–10 minutes. The beaker shall be placed in the mashing equipment, by turning on the mixer and cooling the sample to 45 °C. The rest of the miller malt (approximately 24 g) and 100 ml of distilled water in the temperature of 45 °C shall be added. When the temperature of the mixture has reached 70 °C, 50 ml of distilled water shall be added. Extractivity shall be calculated, using the following formula:

$$E_A = \frac{P \times (1600 + M_M + M_A)}{100 - P} - E_M$$

$$E_A\,(\%) = \frac{EA \times 100}{100 - M_A}, \text{ where}$$

E_A – extractivity (content of extract in the sample of barley, %);

E_A – extractivity (content of extract for barley (in dry matter)), %;

E_M – extractivity for malt (content of extract in malt (in dry matter)); %;

M_M – moisture content for malt, %;

M_A – moisture content (for sample of barley), %;

P – extractivity (content of extract) for mash (%), w/w.

The sum shall be expressed in per cent with accuracy of up to one digit after the decimal point;

87.3.3. the malt extract shall be determined as follows:

87.3.3.1. a sample of 2 x 55 g shall be taken from the average sample and milled in disc mills (0.20 mm distance between discs). The extraction containers shall be filled with 50.0 g of milled malt. Obtaining of mash: 50.0 g of milled malt shall be covered with 200 ml warm (46 °C) distilled water and mixed. The basin of mash water shall be warmed in advance to 45 °C. The extraction containers shall be placed in the water basin, turning on mixers. The

temperature of 45 °C shall be ensured in mash for 30 minutes. Then the temperature of the mash within 25 minutes shall be increased by 1 °C per minute to 70 °C. When the temperature in the mash has reached 70 °C, additional 100 ml of distilled water (70 °C) shall be added to the extraction container. The temperature of 70 °C shall be maintained for 1 hour, then within 10-15 minutes it shall be cooled to the room temperature. The mixers shall be rinsed in a small amount of water. The content of the containers shall be balanced with distilled water to 450.0 g. Filtering: the content of the extraction container shall be mixed with a glass stick and immediately filtered. The first 100 ml of the filtrate shall be poured back into the filter. Filtering shall be ended when the residue cracks. If the mash filters slowly, the filtering shall be ended in 2 hours and a conclusion regarding the filtering speed shall be made;

87.3.3.2. the measuring device *Densito 30PX* shall be used for determination of the extract content in mash. A tube for taking of sample shall be placed in mash, and by manually pressing a button, sucked into the measuring device by avoiding formation of air bubbles. Then "OK" shall be pressed and after 3 seconds (after a signal) result in degrees Plato shall be read;

87.3.3.3. extractivity of malt shall be calculated, using the following formula:

a) $E_1 = \dfrac{P \times (M + 800)}{100 - P}$

b) $E_M = \dfrac{E_1 \times 100}{100 - M}$, where

E_1 – extract content in sample, % (m/m);
E_M – extract content in malt (dry matter) % (m/m);
P – extract content g/100 g mash, % Plato;
M – malt moisture % (m/m);
800 – the amount of distilled water added to 100 g of malt.

The sum shall be expressed in per cent with accuracy of one digit after the decimal point.

88. For oats:

88.1. for determination of protein, fat and hectolitric weight the grain analyser *Infratec 1241* and the programme *OA 070308 LV* shall be used;

87.2. huskiness shall be determined as follows:

88.2.1. pure grain group of the joint sample shall be used for the analysis by weighing in two replications ~ 5 g of weighed amount. Flakes for the grains shall be separated, using the preparation needle;

88.2.2. the deflaked bare grain shall be weighed with accuracy up to 0.01 g;

88.2.3. huskiness of grain shall be calculated, using the following formula:

$$a = \frac{100 \times (P - K)}{P}, \text{ where}$$

a – huskiness of grain, %;
K – mass of the deflaked grain in weighed amount, g;
P – weighed amount, g;

88.2.4. huskiness shall be calculated as the arithmetic mean from the results of two replications. The admissible difference between the quantity of flakes determined in both replications for oat grain shall not exceed 1 %. If the difference is larger, the analysis shall be repeated.

89. For buckwheat:

89.1. the hectolitric weight shall be determined according to the standard LVS EN ISO 7971-3:2011 "Cereals – Determination of bulk density, called mass per hectolitre – Part 3: Routine method (ISO 7971-3:2009)";

89.2. the protein content shall be determined according to the standard LVS EN ISO 20483-3:2014 "Cereals and legume. Determination of nitrogen content and calculation of crude protein content. Kjeldahl method";

89.3. the starch content shall be determined according to the standard LVS EN ISO 10520-3:2001 "Natural starch. Determination of starch content. Ewers polarimetric method";

89.4. huskiness shall be determined as follows:

89.4.1. pure nutlet group of the joint sample shall be used for the analysis by weighing in two replications ~ 2.5 g of weighed amount. Nutlets shall be pressed in the pestle to the degree that kernels may be separated from the shells;

89.4.2. the separated flakes shall be weighed with accuracy of 0.01 g;

88.4.3. huskiness of nutlets shall be calculated, using the following formula:

$$a = \frac{K \times 100}{P}, \text{ where}$$

a – huskiness of nutlets, %;
K – mass of flakes in weighed amount, g;
P – weighed amount, g;

89.4.4. huskiness shall be calculated as the arithmetic mean from the results of two replications. The admissible difference between the quantity of flakes determined in both replications for buckwheat nutlets shall not exceed 1 %. If the difference is larger, the analysis shall be repeated.

90. The grain analyser *Infratec 1241* and the programme *RA 050904 T3* shall be used for determination of oil and hectolitric weight for Swede rape.

91. For linseed and hempseed the oil content shall be determined according to the standard LVS EN ISO 659:2009 "Oilseeds – Determination of oil content (Reference method) (ISO 659:2009)".

92. The protein content for field peas shall be determined according to the standard LVS EN ISO 20483:2014 "Cereals and legume. Determination of nitrogen content and calculation of crude protein content. Kjeldahl method (ISO 20483:2013)".

93. For perennial and annual herbaceous plants the crude protein content in the dry matter shall be determined for the first harvest according to the standard LVS EN ISO 5983-2:2009 "Animal feeding stuffs – Determination of nitrogen content and calculation of crude protein content – Part 2: Block digestion and steam distillation method (ISO 5983-2:2009)".

94. For green mass plants (oil radish, white mustard, California-bluebell, common vetch, white lupine, blue lupine and yellow lupine, maize, oats):

94.1. crude protein content in the dry matter shall be determined according to the standard LVS EN ISO 5983-2:2009 "Animal feeding stuffs. Determination of nitrogen content and calculation of crude protein content – Part 2: Block digestion and steam distillation method (ISO 5983-2:2009)";

94.2. the content of the dry matter shall be established according to the standard LVS ISO 6496:1996 "Animal feeding stuffs – determination of moisture and the content of other volatile substances".

95. For maize:

95.1 the group of neutral detergent fibres (NDF) shall be determined according to the standard LVS EN ISO 16472:2006 "Animal feeding stuffs. Determination of amylase-treated neutral detergent fibre content (NDF)";

95.2. the group of acid detergent fibres (ADF) shall be determined according to the standard LVS EN ISO 13906:2008 "Animal feeding stuffs. Determination of acid detergent fibre (ADF) and acid detergent lignin (ADL) contents (ISO 13906:2008)".

96. The grain analyser *Infratec 1241* and the programme *FP 310804* shall be used for determination of protein for the field beans.

97. The protein content for the white lupine, blue lupine and yellow lupine shall be determined according to the standard LVS EN ISO 20483:2014 "Cereals and legume. Determination of nitrogen content and calculation of crude protein content. Kjeldahl method (ISO 20483:2013)".

98. The content of the dry matter for the cereal grasses shall be determined according to the standard LVS ISO 6496:1999 "Animal feeding stuffs – determination of moisture and the content of other volatile substances".

99. The content of the dry matter for papilionaceous plants shall be determined according to the standard LVS ISO 6496:1999 "Animal feeding stuffs – determination of moisture and the content of other volatile substances".

100. Bark content for the fibre flax and fibre hemp shall be established for the sample bundle. For the flax 50 g of stalk and for the hemp – 500 g of stalk shall be taken from the sample bundle. The sample based on mass shall be divided in two parts. Two weighed amounts shall be weighed from each sample on the scales for determination of the bark content – 10 g for flax and 100 g for hemp – with accuracy of up to 0.01 g, then they shall be milled with LM-3 (a device consisting of two ribbed metal rolls grinding shives) and shives shall be separated by combing and shaking. If necessary, milling shall be repeated until the quantity of the shives in the bark does not exceed 10 %. The remaining shives shall be picked by hand (on the table covered with a dark paper). The clean bark shall be weighed with accuracy of up to 0.01 g. The bark content shall be calculated by using the following formula:

$$C = \frac{S \times 100}{L}, \text{ where}$$

C – bark content, %;
S – mass of flax (hemp) stalk, g;
L – mass of bark, g.
The bark content for each variety shall be calculated as the average result of both samples.

101. If there are no methodological standards approved in Latvia for determination of any quality indicator, it shall be determined according to generally recognised international methods.

Annex 8
Cabinet Regulation No. 518
24 July 2012

Indicators and Point Scales of the Variety Assessment

[16 August 2016]

1. Indicators and Point Scales of the Cereal Crop Variety Assessment

1.1. Assessment of the factors forming cereal crop variety yield according to 9-point scale

Indicators	Points								
	1	2	3	4	5	6	7	8	9
Winter hardiness	very poor		poor		medium		good		very good
Lodging resistance*	very poor		poor		medium		good		very good
Grain yield, % (in comparison with the standard)**	very poor < 66	66-75	poor 76-85	86-95	medium 96-105	106-115	good 116-125	126-135	very good > 135

1.2. Assessment of the quality indicators of common wheat and durum wheat variety grain according to 9-point scale

Indicators	Points								
	1	2	3	4	5	6	7	8	9
Hectolitric weight, g l^{-1}	very low < 688	688-709	low 710-719	720-729	medium 730-750	751-770	high 771-785	786-799	very high > 799
Protein content, %	very low < 9.0	9.0-9.6	low 9.7-10.3	10.4-11.2	medium 11.3-11.9	12.0-13.0	high 13.1-14.0	14.1-16.0	very high > 16.0
Gluten content, %	very low < 15.0	15.0-18.0	low 18.1-19.0	19.1-22	medium 22.1-23.0		high 23.1-25.0	25.1-29.0	very high > 29.0
mass of 1000 grains for winter wheat, g	very low < 27.0	27.0-30.9	low 31.0-34.9	35.0-38.9	medium 39.0-42.9	43.0-46.9	high 47.0-50.9	51.0-54.0	very high > 54.0
mass of 1000 grains for spring	very low <	20.0-24.9	low 25.0-28.9	29.0-32.9	medium 33.0-36.9	37.0-41.9	high 42.0-45.9	46.0-50.0	very high > 50.0

wheat, g	20.0								
Starch content, %	very low < 65.0	65.0-65.6	low 65.7-66.3	66.4-67.0	medium 67.1-67.7	67.8-68.4	high 68.5-69.1	69.2-70.0	very high > 70
Colour, unit (for durum wheat)	very pale < 14.0		pale 15-16		medium golden 17-18		golden 19-20		very bright golden > 20
Vitreous aspect, % (for durum wheat)	very low < 20.0	20-30	low 30-40	40-50	medium 50-60	60-70	high 70-80	80-90	very high > 90

1.3. Assessment of the quality indicators of rye variety grain according to 9-point scale										
Indicators		Points								
		1	2	3	4	5	6	7	8	9
Hectolitric weight, g l^{-1}		very low < 600	600-620	low 621-640	641-660	medium 661-680	681-700	high 701-720	721-730	very high > 730
Protein content, %		very low < 8.0	8.0-8.9	low 9.0-9.9	10.0-10.9	medium 11.0-11.9	12.0-12.9	high 13.0-13.9	14.0-15.0	very high > 15.0
Mass of 1000 grains, g	for tetraploid rye	very low < 30.0	30.0-33.9	low 34.0-37.9	38.0-41.9	medium 42.0-45.9	46.0-50.9	high 51.0-54.9	55.0–60.0	very high > 60.0
	for diploid rye	very low < 25.0	25.0-28.9	low 29.0-31.9	32.0-34.9	medium 35.0-37.9	38.0-40.9	high 41.0-43.9	44.0-46.0	very high > 46.0
Starch content, %		very low < 60.0	60.0-60.9	low 61.0-61.9	62.0-62.9	medium 63.0-63.9	64.0-64.9	high 65.0-65.9	66.0	very high > 66

1.4. Assessment of the quality indicators of triticale variety grain according to 9-point scale									
Indicators	Points								
	1	2	3	4	5	6	7	8	9
Hectolitric weight, g l^{-1}	very low < 650	650-660	low 661-670	671-680	medium 681-690	691-700	high 701-730	731-750	very high > 750
Protein content, %	very low	8.0-8.9	low 9.0-9.9	10.0-10.9	medium 11.0-11.9	12.0-12.9	high 13.0-13.9	14.0-15.0	very high

	< 8.0								> 15.0
Mass of 1000 grains, g	very low < 31.0	31.0-33.9	low 34.0-36.9	37.0-39.9	medium 40.0-43.9	44.0-46.9	high 47.0-50.9	51.0-54.0	very high > 54
Starch content, %	very low < 61.0	61.0-62.0	low 62.1-63.0	63.1-64.0	medium 64.1-65.0	65.1-66.0	high 66.1-67.0	67.1-68.0	very high > 68

1.5. Assessment of the quality indicators of barley variety grain according to 9-point scale

Indicators	Points								
	1	2	3	4	5	6	7	8	9
Hectolitric weight, g l^{-1}	very low < 550	550-570	low 571-590	591-600	medium 601-620	621-650	high 651-680	681-700	very high > 700
Hectolitric weight, g l^{-1} (for hulless barley)	very low < 650	650-670	low 671-690	691-700	medium 701-720	721-750	high 751-780	781-800	very high > 800
Protein content, % (for grain group)	very low < 8.1	8.1-9.0	low 9.1-10.0	10.1-12.0	medium 12.1-13.0	13.1-14.0	high 14.1-15.0	15.1-17.0	very high > 17.0
Mass of 1000 grains, g	very low < 34.1	34.1-36.0	low 36.1-38.0	38.1-40.0	medium 40.1-42.0	42.1-45.0	high 45.1-48.0	48.1-50.0	very high > 50.0
Starch content, %	very low < 55.0	55.0-56.6	low 56.7-58.3	58.4-60.1	medium 60.2-61.9	62.0-63.6	high 63.7-65.3	65.4-67.0	very high > 67.0
Threshability, % (for hulless barley)	> 25.0	20.1-25.0	15.1-20.0	10.1-15.0	5.1-10.0	2.6-5.0		0.1-2.5	0
Protein content, % (for malt group (N % 6.25))	very poor < 8.0 > 12.0		poor 11.6-12.0		medium 11.1-11.5		good 8.0-8.9 10.1-11.0		very good 9.0-10.0
Grain fractions % over 2.5 mm (for malt	79.1-81.0	81.1-83.0	83.1-85.0	85.1-87.0	87.1-89.0	89.1-91.0	91.1-93.0	93.1-95.0	> 95

group)									

1.6. Assessment of the quality indicators of oat and hulless oat variety grain according to 9-point scale									
Indicators	Points								
	1	2	3	4	5	6	7	8	9
Hectolitric weight, g l^{-1}	very low < 430	431-445	low 446-460	461-475	medium 476-490	491–505	high 506-520	521-535	very high > 535
Huskiness, %	very high > 35.0	33.0-35.0	high 30.0-32.9	26.0-29.9	medium 24.0-25.9	22.0-23.9	low 20.0-21.9	18.0-19.9	very low < 18.0
Huskiness, % (for hulless oats)	very high > 15.0	12.1-15.0	high 9.1-12.0	7.1-9.0	medium 5.1-7.0	3.1-5.0	low 1.6-3.0	0.6-1.5	very low < 0.6
Protein content, %	very low < 8.0	8.0-9.0	low 9.1-10.0	10.1-11.0	medium 11.1-12.0	12.1-13.0	high 13.1-15.0	15.1-16.0	very high > 16.0
Fat content, %	very low < 3.5	3.5-4.0	low 4.1-4.5	4.6-5.0	medium 5.1-5.5	5.6-6.0	high 6.1-6.5	6.6-7.0	very high > 7.0
Mass of 1000 grains, g	very low < 18.0	18.0-19.9	low 20.0-22.9	23.0-25.9	medium 26.0-30.9	31.0-35.9	high 36.0-40.9	41.0-45.0	very high > 45.0

1.7. Assessment of the quality indicators of buckwheat variety nutlets according to 9-point scale									
Indicators	Points								
	1	2	3	4	5	6	7	8	9
Hectolitric weight, g l^{-1}	very low < 500	501-520	low 521-540	541-560	medium 561-580	581-600	high 601-620	620-650	very high > 650
Huskiness, %	very high > 25.0	24.1-25.0	high 23.1-24.0	22.1-23.0	medium 21.1-22.0	20.1-21.0	low 19.1-20.0	18.0-19.0	very low < 18.0
Protein content, %	very low < 10.0	10.0-11.0	low 11.1-12.0	12.1-13.0	medium 13.1-14.0	14.1-15.0	high 15.1-16.0	16.1-17.0	very high > 17.0
Mass of 1000	very low	20.0-21.0	low 21.1-	22.1-23.0	medium 23.1-	24.1-25.0	high 25.1-	27.1-30.0	very high

nutlets, g	< 20.0		22.0		24.0		27.0		> 30.0
Starch content, %	very low < 52.0	52.0-53.0	low 53.1-54.0	54.1-55.0	medium 55.1-56.0	56.1-57.0	high 57.1-58.0	58.1-60.0	very high > 60

1.8. Assessment of maize varieties (for obtaining of green mass) according to 9-point scale

Indicators	Points								
	1	2	3	4	5	6	7	8	9
Dry matter yield, % (in comparison with the standard)	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135
Dry matter content, %	< 20 or > 50	20.1-21.9 or 48.1-50.0	22.0-23.9 or 46.1-48.0	24.0-24.9 or 43.1-46.0	25.0-25.9 or 40.1-43.0	26.0-27.9 or 38.1-40.0	28.0-29.9 or 37.1-38.0	30.0-31.9 or 35.1-37.0	32.0-35.0
Content of crude protein in the dry matter, % (N% x 6.25)	very low < 4.0	4.0-5.0	low 5.1-6.0	6.1-7.0	medium 7.1-8.0	8.1-9.0	high 9.1-10.0	10.1-11.0	very high > 11.0
Neutral detergent fibre (NDF), %, in the dry matter	very high > 50.0	47.1-50.0	high 44.1-47.0	42.1-44.0	medium 40.1-42.0	38.1-40.0	low 36.1-38.0	34.0-36.0	very low < 34.0
Acid detergent fibre (ADF), %, in the dry matter	very high > 32.0	30.1-32.0	high 29.1-30.0	28.1-29.0	medium 27.1-28.0	26.1-27.0	low 25.1-26.0	24.0-25.0	very low < 24.0
Lodging resistance*	very low		low		medium		high		very high

2. Indicators and Point Scales of the Fodder Plant Variety Assessment

2.1. Assessment of the factors forming the yield of the varieties of field peas, field beans, vetch, white lupine, blue lupine and yellow lupine according to 9-point scale

Indicators	Points								
	1	2	3	4	5	6	7	8	9
Winter hardiness, %	very poor		poor		medium		good		very good
Lodging resistance	very low		low		medium		high		very high
Seed yield, % (in comparison with the standard) in pure-stand**	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135

2.2. Assessment of the quality indicators of field pea varieties according to 9-point scale									
Indicators	Points								
	1	2	3	4	5	6	7	8	9
Protein content in seeds, %	very low < 17.0	17.1-18.0	low 18.1-19.0	19.1-20.0	medium 20.1-21.0	21.1-22.0	high 22.1-23.0	23.1-25.0	very high > 25.0
Mass of 1000 seeds, g	very little < 100.0	100.0-140.9	little 141.0-180.9	181.0-220.9	medium 221.0-260.9	261.0-300.9	big 301.0-340.9	341.0-370.0	very big > 370.0

2.3. Assessment of the quality indicators of field bean varieties according to 9-point scale									
Indicators	Points								
	1	2	3	4	5	6	7	8	9
Protein content in seeds, %	very low < 22.0	22.1-23.0	low 23.1-24.0	24.1-25.0	medium 25.1-27.0	27.1-29.0	high 29.1-31.0	31.1-32.0	very high > 32.0
Mass of 1000 seeds, g	very little < 100.0	100.0-140.9	little 141.0-180.9	181.0-220.9	medium 221.0-260.9	261.0-300.9	big 301.0-340.9	341.0-370.0	very big > 370.0

2.4. Assessment of quality indicators of the varieties of white lupine, blue lupine and yellow lupine according to 9-point scale										
Indicators		Points								
		1	2	3	4	5	6	7	8	9
Protein content in seeds, %		very low < 32.0	32.1-34.0	low 34.1-36.0	36.1-38.0	medium 38.1-40.0	40.1-42.0	high 42.1-44.0	44.1-48.0	very high > 48.0
Mass of 1000 seeds, g	white lupine	very little < 200.0	201.0-250.9	little 251.0-300.9	301.0-350.9	medium 351.0-400.9	401.0-450.9	big 451.0-500.9	501.0-550.0	very big > 550.0
	blue lupine	very little < 100	100.0-120.9	little 121.0-140.9	141.0-160.9	medium 161.0-180.9	181.0-200.9	big 201.0-220.9	221.0-240.0	very big > 240.0
	yellow lupine	very little < 80.0	80.0-100.9	little 101.0-120.9	121.0-140.9	medium 141.0-160.9	161.0-180.9	big 181.0-200.9	201.0-220.0	very big > 220.0

2.5. Assessment of cereal grasses according to 9-point scale									
Indicators	Points								
	1	2	3	4	5	6	7	8	9
Winter hardiness	very low, plants are totally destroyed		low, about 25% of plants have hibernated		average, about 50 % of plants have hibernated		high, about 75% of plants have hibernated		very high, all plants have hibernated

Dry matter yield, % (in comparison with the standard)	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135
Content of crude protein in the dry matter, %	very low < 4.0	4.0-6.0	low 6.1-8.0	8.1-10.0	medium 10.1-12.0	12.1-15.0	high 15.1-18.0	18.1-20.0	very high > 20.0

2.6. Assessment of papilionaceous plants according to 9-point scale									
Indicators	Points								
	1	2	3	4	5	6	7	8	9
Winter hardiness	very low, plants are totally destroyed		low, about 25% of plants have hibernated		average, about 50 % of plants have hibernated		high, about 75% of plants have hibernated		very high, all plants have hibernated
Dry matter yield, % (in comparison with the standard)	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135
Content of crude protein in the dry matter, %	very low < 10.0	10.0-14.0	low 14.1-17.0	17.1-20.0	medium 20.1-22.0	22.1-25.0	high 25.1-27.0	27.1-30.0	very high > 30.0

2.7. Assessment of the varieties of oil radish, white mustard, common vetch, white lupine, blue lupine and yellow lupine and oats according to 9-point scale									
Indicators		Points							
		1	2	3	4	5	6	7	8	9
Dry matter yield, % (in comparison with the standard)		very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135
Content of crude protein in the dry matter, %	for oil radishes	very low < 8.0	8.0-9.0	low 9.1-11.0	11.1-13.0	medium 13.1-15.0	15.1-17.0	high 17.1-18.9	19.0-20.0	very high > 20.0
	for white mustard	very low < 9.0	9.0-10.0	low 10.1-11.0	11.1-13.0	medium 13.1-14.0	14.1-15.0	high 15.1-16.0	16.1-18.0	very high > 18.0
	for california bluebell	very low < 5.0	5.0-7.0	low 7.1-8.0	8.1-10.0	medium 10.1-11.0	11.1-13.0	high 13.1-14.0	14.1-15.0	very high > 15.0
	oats	very low < 2.5	2.6-3.5	low 3.6-4.5	4.6-5.5	medium 5.6-6.5	6.6-7.5	high 7.6-8.5	8.6-9.5	very high > 9.5

Lodging resistance*		very low		low		medium		high		very high
Content of crude protein in the dry matter, % *	for oil radishes	very low < 1.28	1.28-1.44	low 1.45-1.76	1.77-2.08	medium 2.09-2.40	2.41-2.72	high 2.73-3.04	3.05-3.20	very high > 3.20
	for white mustard	very low < 1.44	1.44-1.60	low 1.61-1.76	1.77-2.08	medium 2.09-2.24	2.25-2.40	high 2.41-2.56	2.57-2.88	very high > 2.88
	for california bluebell	very low < 0.80	0.80-1.12	low 1.13-1.28	1.29-1.60	medium 1.61-1.76	1.77-2.08	high 2.09-2.24	2.25-2.40	very high > 2.40

3. Indicators and Point Scales of the Oil Plant and Fibre Plant Variety Assessment

3.1. Quality assessment and the factors forming winter and spring Swede rape and turnip rape yield according to 9-point scale

Indicators	Points								
	1	2	3	4	5	6	7	8	9
Winter hardiness	very poor		poor		medium		good		very good
Seed yield, % (in comparison with the standard)**	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135
Oil yield, % (in comparison with the standard)	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135

3.2. Assessment of yield and quality indicators of fibre flax varieties according to 9-point scale

Indicators	Points								
	1	2	3	4	5	6	7	8	9
Stalk yield, % (in comparison with the standard)	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135
Height of plants, cm	< 70	70-72	73-75	76-78	79-81	82-84	85-87	88-90	> 90
Length of fibre, cm	< 60	60-64	65-68	69-72	73-76	77-80	81-84	85-88	> 88
Bark content, %	< 20	20-22	23-24	25-26	27-28	29-30	31-32	33-34	> 35

3.3. Assessment of yield and quality indicators of linseed varieties according to 9-point scale									
Indicators	Points								
	1	2	3	4	5	6	7	8	9
Seed yield, % (in comparison with the standard)**	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135
Oil yield, % (in comparison with the standard)	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135
Oil content, %	< 38.0	38.0-38.9	39.0-39.9	40.0-40.9	41.0-41.9	42.0-42.9	43.0-43.9	44.0-45.0	> 45.0

3.4. Assessment of yield and quality indicators fibre hemp varieties according to 9-point scale									
Indicators	Points								
	1	2	3	4	5	6	7	8	9
Stalk yield, % (in comparison with the standard)	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135
Fibre content, %	< 30	30-32	33-34	35-36	37-38	39-40	41-42	43-44	> 45
Height of plants, cm	< 200	200-230	231-260	261-290	291-310	311-340	341-370	371-400	> 400

3.5. Assessment of yield and quality indicators of hempseed varieties according to 9-point scale									
Indicators	Points								
	1	2	3	4	5	6	7	8	9
Seed yield, % (in comparison with the standard)**	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135
Oil yield, % (in comparison with the standard)	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135
Oil content, %	< 38.0	38.0-38.9	39.0-39.9	40.0-40.9	41.0-41.9	42.0-42.9	43.0-43.9	44.0-45.0	> 45.0

4. Indicators and Point Scales of the Potato Variety Assessment

4.1. Assessment of yield and quality indicators of potatoes according to the 9-point scale									
Indicators	Points								
	1	2	3	4	5	6	7	8	9
Market tuber yield, %, in comparison with the standard	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135

variety 45 days after emergence of seedlings (to be assessed for early varieties)									
Market tuber yield, %, in comparison with the standard variety 55 days after emergence of seedlings (to be assessed for early varieties)	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135
Yield at the end of the vegetation period, % in comparison with the standard variety**	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135
Market tuber yield, %, in comparison with the standard variety	very low < 66	66-75	low 76-85	86-95	medium 96-105	106-115	high 116-125	126-135	very high > 135
Starch content in tubers, % (to be assessed for medium and late varieties)	< 10.0	10.0-12.0	12.1-14.0	14.1-15.0	15.1-17.0	17.1-18.0	18.1-19.0	19.1-20.0	> 20.0
Resistance of foliage against late blight, degree of infection in %, in the third time of accounting	81-100	66-80	51-65	41-50	31-40	21-30	11-20	1-10	0
Resistance of foliage against early blight, %	81-100	66-80	51-65	41-50	31-40	21-30	11-20	1-10	0
Dry rot, infected tubers, %	> 70	61-70	51-60	41-50	31-40	21-30	11-20	1-10	0
Bacterial soft rot, infected tubers, %	> 70	61-70	51-60	41-50	31-40	21-30	11-20	1-10	0
Late blight, infected tubers, %	> 70	61-70	51-60	41-50	31-40	21-30	11-20	1-10	0

Notes.
* The indicator shall be taken into account only when assessing the suitability of variety for organic farming.
** The number of points shall be doubled when assessing a variety.