

Technical Working Party for Agricultural Crops

TWA/46/10

**Forty-Sixth Session
Hannover, Germany, June 19 to 23, 2017****Original:** English
Date: June 30, 2017

REPORT

Adopted by the Technical Working Party for Agricultural Crops

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Opening of the session

1. The Technical Working Party for Agricultural Crops (TWA) held its forty-sixth session in Hanover, Germany, from June 19 to 23, 2017. The list of participants is provided in Annex I to this report.
2. The session was opened by Mr. Tanvir Hossain (Australia), Chairman of the TWA, who welcomed the participants and thanked Germany for hosting the TWA session.
3. The TWA was welcomed by Mr. Udo von Kröcher, President, Federal Plant Variety Office (Bundessortenamt), Germany.
4. The TWA received a presentation on plant variety protection in Germany by Ms. Beate Rücker, Head of Department, Bundessortenamt, a copy of which is provided in Annex II to this report.

Adoption of the Agenda

5. The TWA adopted the agenda as presented in document [TWA/46/1 Rev.](#)

Short Reports on Developments in Plant Variety Protection*(a) Reports on developments in plant variety protection from members and observers*

6. The TWA noted the information on developments in plant variety protection from members and observers, provided in document TWA/46/3 Prov. The TWA noted that reports submitted to the Office of the Union after June 9, 2017 would be included in the final version of document TWA/46/3.

- *Increasing the participation of new members in the technical work of UPOV*

7. The TWA considered document TWP/1/19 and received a presentation by an expert from the Netherlands on "Increasing participation of new members of the Union in the work of the TC and TWPs", a copy of which is reproduced in the Annex to document TWP/1/19. The TWA noted that cost of travel was a limiting factor for participating at UPOV meetings for both new and existing members alike. The TWA agreed that the provision of capacity-building activities to new members could overcome the perceived high technical threshold at TWP sessions and increase their participation in the work of UPOV.

(b) Reports on developments within UPOV

8. The TWA received a presentation from the Office of the Union on latest developments within UPOV, a copy of which is provided in document [TWA/46/2](#).

Organization of the UPOV sessions

9. The TWA considered document [TWP/1/24](#).
10. The TWA noted that the Council had decided:
 - (a) to organize a single set of sessions of the bodies that meet in Geneva from 2018, in the period of October/November;
 - (b) that the Enlarged Editorial Committee (TC-EDC) would meet twice a year, once in the period March/April and once in conjunction with the TC sessions later in the year;
 - (c) that Test Guidelines that could not be prepared in time for adoption by the TC at its session could be adopted by correspondence on the basis of the recommendations by the TC-EDC;
 - (d) to adopt the following contingency measures for 2018:
 - (i) for Test Guidelines proposed for adoption in 2018, to use a procedure for adoption by correspondence as follows:
 - Draft Test Guidelines would be prepared as agreed by the TWPs and circulated with the recommendations of the TC-EDC;
 - In the absence of any objections the Test Guidelines would be adopted;
 - In the case of objections, the objections would be referred to the relevant TWP for consideration at their 2018 session, and the Test Guidelines considered for adoption by the TC at its fifty-fourth session, in 2018;
 - TC-EDC to meet on March 26 and 27, 2018, and in conjunction with the TC at its fifty-fourth session, in 2018, if necessary.
 - (ii) for TGP documents, to invite the TC-EDC to consolidate comments made by the TWPs at their sessions in 2017 and, in the absence of consensus between the TWPs, formulate proposals for further consideration by the TWPs at their sessions in 2018;
 - (iii) all other matters to be considered at the fifty-fourth session of the TC in 2018 in the normal way."
11. The TWA noted that the TC had agreed to propose that the meetings of the BMT be held on an annual basis.
12. The TWA noted that the TC had agreed to propose that consideration be given to organizing the sessions of the TWC and BMT back-to-back in the same location to facilitate exchange of information.
13. The TWA noted that the TC had agreed that the preparatory workshops in 2018 should be organized on the Monday/Tuesday of the TWPs sessions to encourage participation by all TWP participants.
14. The TWA noted that, from 2017 for certain documents, the TWPs would be invited to consider the same document on a particular topic, using a common document code.

TGP documents

15. The TWA considered documents TWP/1/1 Rev.
16. The TWA noted the revisions to documents TGP/7, TGP/8 and TGP/14 agreed by the TC, as set out in document [TWP/1/1 Rev.](#), paragraphs 6 to 14 and Annexes I and II.
17. The TWA noted the program for the development of TGP documents, as set out in document TWP/1/1 Rev., Annex III.

TGP/5: Section 1: Model Administrative Agreement for International Cooperation in the Testing of Varieties

Confidentiality of molecular information

18. The TWA considered document [TWP/1/9](#).

19. The TWA considered the proposed guidance on confidentiality of molecular information for inclusion in document TGP/5, Section 1, as set out in document TWP/1/9, paragraph 4. The TWA agreed that clarification was needed on whether the term “material” would also include “DNA material” and agreed to propose that Article 4(2) should read as follows:

“(2) Except with the specific authorization of the Receiving Authority and the applicant, the Executing Authority shall refrain from passing on to a third person any material, including DNA, or molecular information of the varieties for which testing has been requested.”

TGP/7: Development of Test Guidelines

Duration of DUS tests

20. The TWA considered document [TWP/1/11](#).

21. The TWA considered the proposed revision of document TGP/7 to clarify the duration of DUS testing, as set out in document TWP/1/11, paragraph 11. The TWA agreed that the term “normally” was preferred and should be used throughout the guidance in ASW 2.

22. The TWA noted that the current standard wording in Test Guidelines allowed the examination of a candidate variety to be terminated earlier in case the differences observed between varieties were so clear that more than one growing cycle was not necessary.

23. The TWA agreed that it should be possible to terminate earlier the examination of a candidate variety (e.g. during the establishment period of the trial) and agreed to propose that particular situations should be addressed in a Guidance Note in document TGP/7 instead of amending the standard wording.

TGP/8: Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability

The Combined-Over-Years Uniformity Criterion (COYU)

24. The TWA noted the report on developments concerning the improved method of calculation of the Combined-Over-Years Uniformity Criterion (COYU), as set out in document [TWP/1/13](#). The TWA noted that the expert from the United Kingdom would report on the progress of development of probability levels for the improved method of calculation of COYU to the TWC, at its thirty-fifth session.

Data Processing for the Assessment of Distinctness and for Producing Variety Descriptions

25. The TWA considered document [TWP/1/15](#).

26. The TWA noted that the TC had agreed to invite the experts from France to check the highlighted values in the table in document TWP/1/15, Annex II “Comparison of methods used for producing variety descriptions: results of the practical exercise”, paragraph 6, for possible data inconsistency. The TWA noted that the expert from France planned to provide further information to the TWC, at its thirty-fifth session.

27. The TWA noted that the TC had agreed to invite participants in the practical exercise to provide a short description of their methods to transform measurements into notes and provide examples when these methods might be used, such as for particular characteristics, types of propagation or different situations, on the basis of the short descriptions provided by France and the United Kingdom, as set out in document TWP/1/15, Annexes III to V.

TGP/10: *Examining Uniformity*

Assessing Uniformity by Off-Types on the Basis of More than One Growing Cycle or on the Basis of Sub-Samples

28. The TWA considered document [TWP/1/17 Rev.](#)
29. The TWA considered the draft guidance presented in Annexes I and II of document TWP/1/17 Rev. as amended by the TWPs, at their sessions in 2016, for inclusion in a future revision of document TGP/10.
30. The TWA agreed to propose that the new sentence introduced in the draft guidance, Annex I, should be amended to read as follows:
- “It is important to identify whether differences in number of off-types between growing cycles were due to ~~biological~~ environmental reasons or sampling variation.”
31. The TWA agreed to propose a more general criteria for a variety to be rejected after a single growing cycle for inclusion in the different approaches of the draft guidance to read as follows:
- “If in the first growing cycle a variety exceeds a predefined upper limit of off-types the variety may be rejected after a single growing cycle.”
32. The TWA agreed that the upper limit of off-types could be defined by each authority according to the approaches used for the assessment of uniformity by off-types.
33. The TWA noted that guidance in document TGP/8/2: Part II: Section 8: “The method of uniformity assessment on the basis of off-types” would be revised in order to reflect the practice within members of the Union on the use of methods for more than one single test (year), in conjunction with the revision of document TGP/10 on “Assessing Uniformity by Off-Types on the Basis of More than One Growing Cycle or on the Basis of Sub-Samples”.
34. The TWA received the following presentations comparing the possible effect on uniformity decisions between Approaches 1 and 3 in document TWP/1/17 Rev., as reproduced in the Annexes to documents TWA/46/4 and TWA/46/4 Add. (in alphabetical order):

(a) “Effect of different approaches for the assessment of uniformity by off-types – examples for Barley”, prepared by an expert from Germany
(b) “Assessing Uniformity by Off-types on the basis of more than one Growing Cycle: examples from the Netherlands”, prepared by an expert from the Netherlands
(c) “Assessing uniformity by off-types on the basis of more than one growing cycle in wheat” prepared by an expert from Poland
(d) “The United Kingdom’s Experience with Winter Oilseed Rape (WOSR)” prepared by an expert from the United Kingdom

35. The TWA noted the approaches used for the assessment of uniformity by off-types in Germany and Poland for cereals, in the Netherlands for tomato and in the United Kingdom for oilseed rape.

Number of growing cycles in DUS examination

36. The TWA considered documents [TWP/1/21](#), [TWA/46/8](#) and [TWA/46/8 Add.](#)
37. The TWA noted the presentations made to the TWPs at their sessions in 2016, simulating the impact of using different numbers of growing cycles on DUS decisions using actual data, as set out in the Annexes to document TWP/1/21.
38. The TWA noted that the TC had agreed that the number of growing cycles for DUS examination should be the minimum necessary for a robust DUS decision and the establishment of a reliable variety description.

39. The TWA noted that the TC had agreed that it was not appropriate to generalize that ornamental varieties should be examined in a single growing trial while other types of crops should be examined in two growing cycles. It noted further that the TC had agreed that the typical number of growing cycles should be established on a crop-by-crop basis.

40. The TWA received the following presentations, as reproduced in documents TWA/46/8 and TWA/46/8 Add.:

(a)	“Impact of number of growing cycles on variety descriptions and discrimination power in wheat and barley”, prepared by an expert from Germany
(b)	“Number of Growing Cycles in Potato”, prepared by an expert from the Netherlands
(c)	“Number of growing cycles in potato varieties - DUS examination of lightsprouts”, prepared by an expert from Poland
(d)	“Number of growing cycles: the impact on cereal variety descriptions”, prepared by an expert from the United Kingdom

41. The TWA agreed that discussions on the number of growing cycles in DUS examination for agricultural crops should continue and welcomed the offers by Australia, Denmark, France, Germany, the United Kingdom and ISF to make presentations at its forty-seventy session.

Discussion on draft Test Guidelines (Subgroups)

**Barley (Hordeum vulgare L. sensu lato) (Revision)*

42. The subgroup discussed document TG/19/11(proj.2), presented by Ms. Beate Rücker (Germany), and agreed the following:

4.2	to add new SW paragraph after 4.2.1 to read “4.2.2 These Test Guidelines have been developed for the examination of self-pollinated and hybrid varieties. For varieties with other types of propagation the recommendations in the General Introduction and document TGP/13 “Guidance for new types and species”, Section 4.5 “Testing Uniformity” should be followed.”
Char. 4, 8	to delete “intensity of”
Char. 16	- state 4 to read “fusiform” - to delete state 5
Char. 28	- to be moved after Char. 2 - to read “Plant: intensity of green color” - state 1 to read “weak” - state 3 to read “strong”
Char. 29	to invert order of states of expression
Chars. 30 to 33	to be deleted
Ad. 1	to be deleted
Ad. 5	to improve drawings to better reflect leaf attitude
Ad. 10	state 9 to read “drooping”
Ad. 14	to read “...two-row...” (with hyphen)
Ad. 15	to read “... developed spikelets” (not “spikeltes”)
Ad. 16	to provide new illustration for new state 4 “fusiform”
Ad. 27	to add explanation in order to clarify that seasonal type is not related to winter hardiness

Ad. 29	- images to have base at bottom of image - to add "Observations should be made in the middle third of the ear. In the case of six row varieties, observations should be made in the middle row of spikelets."
TQ 4.2.1	(c) to be deleted
TQ 5.3	to add even notes

Castor Bean (Ricinus comunis L.)

43. The subgroup discussed document TG/RICIN(proj.3), presented by Mr. Tanvir Hossain (Australia), and agreed the following:

Char. 1	to be indicated as QN with three states of expression
Char. 2, 13, 23	to delete "intensity of"
Char. 4, 19, 22, 24	to add missing example varieties
Char. 5	to add illustration
Char. 11, 12	to be combined into a single QN characteristic to read "Petiole: waxiness" with states "absent or weak" to "strong"
Char. 13	to delete "intensity of"
Char. 23	to delete "intensity" (to avoid description: intensity: absent)
Char. 24	to be moved before Char. 4 (growth stage 61 only)
Char. 25	to be indicated as QL
Char. 27	- to check whether to add explanation on which inflorescence to be observed in case of separate inflorescences for male and female flowers (Char. 25)
Char. 29	to be moved after Char. 25
Char. 31	to delete "before pollination" and add an explanation in 8.2
Char. 35	to read "Capsule: color"
Char. 36, 37	to be combined with states "absent to short" to "long"
Char. 40	to check whether to be observed at earlier growth stage
Char. 43	to add illustrations for low and high ratio
Char. 44	to be deleted
Char. 45	to add example variety for state "black"
Char. 46	to add state "none"
Char. 47	to check whether to read "Seed: caruncle"
8.1 (a)	to read "...made on leaves that have..."
8.1 (f)	to read "Observations should be made on mature capsules."
Ad. 4	to read "Observations should be made including the inflorescence."
Ad. 15	to extend lines to indicate broadest point
Ad. 29	to add arrows to indicate male flowers
Ad. 47	to improve explanation (illustrations)
TQ 5	to present all states of expression (even notes)

**Cotton (Gossypium L.) (Revision)*

44. The subgroup discussed document TG/88/7(proj.3), presented by Mr. Antonio Escolano (Spain), and agreed the following:

2.3	to correct spelling of "and" (...hybrids and interspecific...)
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4.2	to add new Standard Wording paragraph after 4.2.1 to read “4.2.2 These Test Guidelines have been developed for the examination of seed-propagated varieties. For varieties with other types of propagation the recommendations in the General Introduction and document TGP/13 ‘Guidance for new types and species’, Section 4.5 ‘Testing Uniformity’ should be followed.”
4.2.2	to read “For the assessment of uniformity of seed-propagated varieties, ...”
Char. 4	to read “Petal: spot”
Char. 6	to delete VS
Char. 9	to delete example variety “DBB11 B2RF” from state 4
Char. 12	to delete example variety “DP 0935 B2R2” from state 1
Char. 18	to delete MS
Char. 19	to delete state (1) absent or very fine
Char. 21	to have notes 1, 3, 5
Char. 24	to replace VG with MG
Char. 27	- state 2 to read “greenish” - state 3 to read “yellowish” - state 4 to read “brownish”
Char. 28	to read “100 seed weight”
Char. 30	to check whether to add example variety for state (3) “short”
Char. 35	- state 2 to read “colored” - to add example variety “Rainbow-34” for state 2
8.1 (c)	to read “Observations should be made according to:...”
Ad. 6	to correct spelling of “should”
Ad. 11	to read “Observations should be made on the lower side of the leaf.”
Ad. 14	to read “Observations should be made on the middle third of the main stem.”
Ad. 28	to read “Observations should be made on a sample of delinted seed.”
8.3	to provide original editable text
9.	to check whether reference “Munger” to have capital “P” for “Munger” and “L” for “(<i>Gossypium hirsutum</i> L.)” to check quotation marks in reference “Cotton. Origin, History,...” (remove quotation marks before “Ed C.W...”)
TQ 1	to add a new line “1.3 Species”
TQ 4.2.1	to delete “(i) population”
TQ 5	to present all states of expression for characteristics 5.5, 5.8 and 5.10 to 5.12 (even notes)

**Elytrigia* (*Elytrigia pontica* (*Podp.*) *Holub*)

45. The subgroup discussed document TG/ELYTR(proj.7), presented by Mr. Alberto Ballesteros (Argentina), and agreed the following:

Cover page	- to have common name in Spanish Agropiro; - to update common names using common names in GRIN (see: https://npgsweb.ars-grin.gov/gringlobal/taxonomydetail.aspx?id=314153) - to update the botanical name to <i>Thinopyrum ponticum</i>
1.	to read “These Test Guidelines apply to all varieties of <i>Thinopyrum ponticum</i> (<i>Podp.</i>) Barkworth & D. R. Dewey”
3.3.3	to read “[...] A: spaced plants “B row plots”
3.4.1	to be deleted
3.4.3	to become 3.4.1

5.3 (c)	to be deleted
6.5	to add explanation on (A) and (B)
T.o.C.	to check whether to present characteristics in chronological order (growth stages)
Char. 1	to be moved after Char. 2 state 7 to read ""prostrate"
Char. 2	- to be observed at growth stages 29 to 31 - to be ordered as Characteristic 4
Char. 3	- to add colon (to read: Leaf: color) - to delete state "very light green" - to add example variety for states "light green" and "dark green" - to add (*)
Char. 4	- to be indicated as VG/A and to delete VS - to be ordered as Characteristic 1 (follow order of growth stages) - to add (*)
Char. 5	- to add example variety to state (5) medium - to delete (+)
Char. 6	state 7 to read "broad" state 9 to read "very broad"
Char. 8	- to read "Time of inflorescence..." (spelling) - to be indicated as MG/B MS/A - to be moved before Char. 5
Char. 10	- to be observed at growth stage 68 - to delete VS/A (to be indicated as MS/A only) - to add example variety for state "medium"
Ad. 1	- to correct spelling "... made visually..."
Ad. 4	to read "Observations should be made on leaves in the upper third of the main stem"
Ad. 5	to be deleted
Ad. 6	to read "Observations should be made at the broadest part of the flag leaf."
Ad. 8	to read "Time of inflorescence emergence is reached when 50% of plants have first awns visible"
Ad. 9	to be deleted
Ad. 10	to delete first sentence (covered by growth stage 68) to delete the cross-reference to Char. 10
8.2	to add "MEIER, U., 1997" to title
TQ. 5	- to add all states of expression and notes to characteristics 5.1 and 5.3 (to present the full scale of notes) - to check whether if Char. 2 is used as a grouping characteristic, add to TQ 5
TQ. 6	to add the following example: "Stem: length" with states of expression "short" and "medium"

**Field Bean (Vicia faba L. var. minor) (Revision)*

46. The subgroup discussed document TG/8/7(proj.3), presented by Ms. Cheryl Turnbull (United Kingdom), and agreed the following:

Cover page	to confirm botanical name
4.2	to add new SW paragraph after 4.2.1 to read "4.2.2 These Test Guidelines have been developed for the examination of seed-propagated varieties. For varieties with other types of propagation the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species", Section 4.5 "Testing Uniformity" should be followed."
Char. 1	to be presented without intermediate states (to delete states 2 and 4)

Char. 2	- to add example variety "Tundra" for state (1) absent - to add example variety "Espresso" for state (9) present
Char. 3	to delete example variety "Trumpet" from state (7) late
Chars. 6, 7, 14	to read "...Wing: melanin spot: present:..." (to add colon after "spot")
Char. 13	to be deleted
Char. 16	to check whether to delete example variety "Sultan" and to delete example varieties "Babylon" and "Lynx" from state (3) short
Char. 20	to have 3 states "light", "medium" and "dark" and to check example varieties (confirm for each state)
Char. 21	to be deleted
Char. 23	to delete "(beige)" from state 1
Char. 25	to read "100 seed weight"
8.1	to reorder explanations: to have current "c" as "a"
Ad. 8	to add "The standard should be flattened for assessment of the length"
Ad. 17	to read "Observations should be made..."
Ad. 18, 19	to replace "measured" by "assessed"
Ad. 23	to delete "(beige)"
TQ 4.2.1	to delete (c)

Ginseng (Panax ginseng C.A. Mey.) (Revision)

47. The subgroup discussed document TG/224/2(proj.1)(proj.3), presented by Mr. Wonsig Lee (Republic of Korea), and agreed the following:

3.4.1	to read "... at least 60 <u>plants</u> ..."
T.o.C.	- to check whether to add asterisk to other characteristics - to clarify time of observation of characteristics (information in 8.3) - to check whether to add new characteristic for number of leaflets - to check order of characteristics (chronological or botanical order)
Char. 1	to check whether to read "Stem: length"
Char. 2	- to check whether to add (+) and explanation on where to be observed on the stem - to have states "narrow" to "broad"
Char. 3	- to check whether to read "Plant: tendency to form more than one stem" and to have states (1) low, (3) medium, (5) high
Char. 5	to have states (1) on lower part only, (2) on upper part only, (3) along the whole stem
Char. 6	to check whether to read "Plant: number of leaves"
Char. 8	- to add asterisk (grouping characteristic) - to delete "intensity"
Char. 9	to read "Petiole: attitude"
Char. 10	state 7 to read "long"
Char. 11	- to check whether to read "Leaf: tendency to form additional leaflets" - to check whether to add a new char. before Char. 11: "Leaf: number of leaflets", to have states "three", "five", to be indicated as QL
Char. 13	to have notes 1, 3, 5
Char. 15	to be indicated as MS/VG
Char. 17	state 2 to read "flat"
Char. 18	to check whether 9 notes are necessary
Char. 19	to read "Time of sprouting"
Char. 22	to check whether to add example variety for state (3) "compound"

Char. 23	- to move explanation "(at berry maturity stage)" to Chapter 8.2 - to check whether state "semi recurved" to read "reflexed" (or upwards, outwards, downwards)
Char. 25	- to read "Berry: color" - to check whether to add growth stage - to have order of states: yellow>orange>pink>red
Char. 26	to check whether to have order of states: yellow>red>brown
Char. 27	to read "narrow, medium, broad"
Char. 29	state "cream" to read e.g. "yellowish white"
Char. 30	to check whether to read "Main root: number of rootlets"
8.1 (a)	to read "Observations on the leaf should be made on fully developed leaves."
8.1 (b)	to read "Observations on the leaflet should be made on central leaflets."
8.1 (c)	to be deleted
Ad. 3	to be deleted
Ad. 4	to be deleted
Ad. 8	to be deleted
Ad. 19	to read "Time of sprouting is reached when 50% of the plants have sprouted"
Ad. 23	- to add "Observations should be made at berry maturity stage." - to check whether observations should be made on the primary umbel
Ad. 24	to read "Observations should be made when the berries are fully ripe."
Ad. 25	- to delete illustrations - sentence to read "Observations should be made when the berries are fully ripe."
Ad. 26	to be deleted
8.3	to check number of leaves and leaflets in the life cycle versus in the characteristics
TQ	to be completed

Oats (Avena sativa L. & Avena nuda L.) (Revision)

48. The subgroup discussed document TG/20/11(proj.3), presented by Mr. Antonio Escolano (Spain), and agreed the following:

Cover page	to add italics to " <i>Avena byzantina</i> K. Koch"
3.4.2, 3.4.3	to invert order
6.5	to add standard legend text to "6 (a): See Explanations on the Table of Characteristics in Chapter 8.1"
Table of Chars.	to complete and improve set of example varieties for spring types
Char. 1	to add (a)
Char. 7	to delete "intensity of"
Char. 8	- to reduce the scale of notes 1 to 5 - to check/complete example varieties
Char. 10	to check whether to reduce scale to have notes 1 to 3 or 1 to 5 to check whether state "drooping" is applicable (example varieties?)
Char. 16	to read "Only for varieties with: seed: color of lemma: brown or black: Primary grain: hairiness of back of lemma"
Char. 19	- to read "Primary grain: frequency of awns" and to use scale from "absent of very low" to "very high" - to reduce scale to 5 notes only - to be indicated as VG/B
Char. 22	to check whether to add example variety for state (2) "alternative type"
8.1 (a)	to read "Characteristics which should be observed on <i>Avena sativa</i> L. only."

Ad. 4	to improve illustration for state 9 to delete indication of proportion (1/4 etc.)
Ad. 5	explanation for state 1 to read "1 (absent or very low): all or almost all flag leaves are rectilinear"
Ad. 17	to have same hair length in all illustrations
Ad. 18	to have same number of hairs in all illustrations
	to add explanation in order to clarify that seasonal type is not related to winter hardiness (to use same explanation as in Barley)
TQ 1.1.1, 1.1.2	to be deleted (synonym to <i>A. sativa</i>)
4.2	to confirm appropriate options and adjust boxes accordingly

Quinoa (*Chenopodium quinoa Willd.*)

49. The subgroup discussed document TG/CHENO(proj.4), presented by Mr. Erik Lawaetz (Denmark), and agreed the following:

2.2	to read "seed"
Char. 1	to check whether to add example variety for state (4) red
Char. 3	to check whether to add example variety for state (1) acute
Chars. 3, 4, 5	- to be observed at growth stages 5 to 6 - to add explanation "Observations should be made on the middle part of plant."
Char. 4	to check whether to precise leaves from which part of the plant to be observed
Char. 5	to be moved before Char. 3 (size>dentation>angle of base?)
Char. 7	- to be moved after stem characteristics observed in same growth stage - to use the same set of example varieties for characteristics on inflorescence and panicle (Jessie)
Char. 8	to be observed at growth stage 11
Char. 9	to be indicated as QL
Char. 10	- to be observed at growth stage 11 - to add example variety "Pasto" for state (4) red
Char. 11	- to delete "intensity of" - to check whether to add example varieties (to complete range of states of expression) - to be observed at growth stage 11
Char. 13	to read "Plant: height"
Char. 14	to have the following states of expression and example varieties: light yellow brown (Jessie), brown (Atlas), black (Red Carina)
Char. 17	to check whether to add missing example varieties or confirm necessity of states of expression "red" and "grey"
Char 18	to check whether sequence of colors to read: white>yellow>red>grey
Char. 19	to read "1000 seed weight"
Char. 20	- to have states "low" and "high" - to add explanation that "low" saponin content is below 0.11% and "high" is above [define value] - to check genetic background of the characteristic (whether QN or QL)
Ad. 20	1 to read "Weigh 0,5g..." (add "g") second line of 8 to be revised (written in full) - to include saponin values that equals to each state of expression - to check how the characteristic should be assessed (whether to have exact percentages or height of foam)
8.3	to check whether to improve image quality
TQ 1.2	to have same common names as on cover page
TQ 5.1	to display all states of expression including even notes

Red Clover (*Trifolium pratense* L.)

50. The subgroup discussed document TG/5/8(proj.2), presented by Ms. Beate Rücker (Germany), and agreed the following:

4.2.3	to be renumbered to 4.2.2 and to add full stop after the sentence
6.5	to add "types of plot" (A, B, C) to Legend
Table of Chars.	- to check whether to add asterisk to more characteristics (currently 9 only) - to add growth stage for all characteristics
Char. 1	to be deleted
Char. 2	to delete indication of method of observation and to keep "C"
Char. 5	to be indicated as VG/B
Char. 6	to add VS/A
Char. 8	- to check whether time of observation should be as in explanation (a) or growth stage 39 (compatible/contradictory?) - to delete "(a)" - to add VG/B - to correct spelling "vernalization"
Char. 9	- to check whether to be observed earlier than growth stage 39 - to check whether to be deleted
Char. 10	to add asterisk (grouping characteristic)
Char. 13	to check whether to be replaced by "Petiole: density of hairs" (to be indicated as VS/C and to have growth stage 11)
Chars. 14, 15	to have states from "weak" to "strong"
Char. 16	to check whether to be deleted
Char. 17	to be deleted
Char. 18	to check whether to be deleted
Char. 19	- state 1 to read "absent or very weak" - to check whether to have only one characteristic to read "Leaf: marking" - to add VG/B
Char. 20	to be deleted
Chars. 24, 25	to be deleted
8.1 (a)	to be deleted and to be replaced by correct indication of growth stages
8.1 (b)	to read "Observations should be made on the longest stem from the base to the terminal inflorescence. Side branches should not be included"
8.1 (c)	to be deleted
Ads. 3, 4	to read "Observations should be made..." (to delete "on the length and width of the cotyledon")
Ads. 5, 6	to be deleted
Ad. 7	- first sentence to be deleted - to correct explanation to be consistent with the 9 states used in the characteristic - second sentence to read "... make with the horizontal axis"
Ad. 8	to be deleted
Ad. 11	to read "The thickness should be measured at the midpoint of the third internode counted from the growing tip."
Ad. 16	to clarify "median trifoliate leaflet"
Ad. 18	to clarify "upper leaf blade"
Ad. 23	to read: "Time of flowering is reached when the plant has 3 inflorescences showing color."
8.3	- to specify growth stages in more detail - to indicate growth stages for all characteristics in Chapter 7
TQ 5.2 to 5.5	to present all states of expression (even notes)

Rice (Oryza sativa L.) (Revision)

51. The subgroup discussed document TG/16/9(proj.1), presented by Mr. Tanvir Hossain (Australia) and agreed the following:

6.5	to check whether to add missing legend in 6.5 (6(a))
Table of Chars.	- to check whether to add more example varieties - to check correlation of all anthocyanin coloration characteristics, are they all needed? Are they to be indicated as QN or QL (to be coherent)
Char. 5	state 4 to read
Char. 6	Do leaves without auricles exist? Is the characteristic needed? If so, to add example variety for state (1) absent
Char. 8	to add illustration
Char. 10	- Do leaves without ligules exist? Is the characteristic needed? - to check whether there is a correlation between auricles and ligules (can a leaf have ligules without auricles)
Char. 11	to check whether to be combined with Char. 10 and add state "none"
Char. 12	- state "colorless" to read "white" - state "purple" to read "dark purple" - to delete state 3 - to check correlation with anthocyanin; is this characteristic needed?
Char. 14	to reduce scale to have notes 1, 3, 5
Char. 15	- to read "Leaf blade: pubescence" - to check scale (3 or 5 notes?) - to check whether to be observed on upper or lower side of leaf blade and add explanation
Char. 16	to read "Plant: growth habit"
Char. 17	- to check whether this characteristic is needed or can be deleted - to check whether to read "Plant: kneeling ability"
Char. 18	- to check whether to add (+) and explanation and move "(50% of plants with heads)" to explanation - to check whether to read "Time of flowering" or add explanation on time of heading/when to be observed
Char. 19	- to check whether to be indicated as QL or QN (see Ad. 19) - to check states of expression (if QN states from "low" to "high"?) - to check method of observation (to check whether to be indicated as VS)
Char. 20	- to check whether to add (+) and explanation - to check whether to delete "CMS and EMS lines only" and add that it applies to male sterile varieties only
Char. 21	to check whether to add example varieties
Char. 22	to check whether state "purple" to read "dark purple"
Char. 24	to check whether to be indicated as QN and to add intermediate state
Char. 25	- to delete "Excluding deepwater/ floating varieties:" and to move to and explain in explanation - to check whether to add (+) and explanation to explain that observations should be made "excluding panicle"
Char. 27	to check whether to read "Plant: number of panicles"
Char. 28	- to check whether to read "Panicle: presence of awns" - to check whether QN or QL - to check states of expressions (if QN to have states from "absent or very few" to "very many"?) - to check whether to be indicated as VG/B
Char. 29	to check whether to read "Panicle: length of awns" to check whether to add (+) and explanation to be observed on longest awns

Char. 30	to check whether state 1 to read "white" or "whitish" to check whether all states are necessary and only use those for which example varieties are available
Ad. 33	to be improved (excluding awns?)

Soya Bean (Glycine max (L.) Merrill) (Revision)

52. The subgroup discussed document TG/80/7(proj.3), presented by Mr. Alberto Ballesteros (Argentina), and agreed the following:

3.3.2	to Additional Standard Wording (ASW 4) to distinguish characteristics to be observed on special test (e.g. plant: growth type)
4.2.2	- to read "...standard of 0.5%..." (instead of 5) - to read "... uniformity of self-pollinated varieties,..."
5.3	to be replaced by " Plant: time of beginning of flowering" (Characteristic 18)
Char. 1	- to read "Hypocotyl: anthocyanin coloration" - to have a 9 notes scale with states "absent or very weak" to "very strong" - to remove (*) and to be indicated as QN
Char. 2	- to be indicated as VS/MS - to indicate growth stages 66 to 89 - to add state "semi determinate to indeterminate" and to add example varieties
Char. 3	- to be observed at growth stages 66 to 80 - to read "Plant: attitude of branches" - to have notes 1 to 5 (as in the explanation)
Char. 4	- to remove underline - to check whether to order colors "light brown>dark brown>grey" - to read "Plant: color of hairs on stem"
Char. 6	to be deleted
Char. 7	- to check whether to be indicated as VG - to delete underlining - to check whether to add example varieties
Char. 9	to have states of expression "yellow brown", "brown", black
Char. 10	to be deleted
Char. 12	- to check whether to provide illustrations for the different shapes proposed - to check whether to separate in two characteristics: "shape in lateral view" and "shape in front view" (or in cross-section / longitudinal section) - to check the method of observation
Char. 13	- to have order of colors: green>yellow green>yellow>... - to delete "ground" - to add (+) and move "(excluding hilum)" to explanation - to add example varieties
Char. 14	- to delete underlining - to check whether to be indicated as VG - to correct spelling of "glossiness"
Char. 16	- to delete states "medium brown", "light or medium brown and imperfect black", "light black" - to have order of states according to TGP/14 - to read "Seed: hilum" - to add explanation on "imperfect" states of expression
Char. 17	- to check whether to add (+) and illustration - to be indicated as QL
Char. 18	- to delete underling
Char. 19	- to delete (*) - to reinstate characteristic "Time of maturity" from previous draft (document TG/80/7(proj.2)) - to add (+) and explanation

Ad. 2	to check whether “layout” for assessing this characteristic to be moved to section 3.4 “Test Design”
Ad. 6	to improve illustration and to use it for Char. 7
Ad. 7	to be improved
Ad. 15	to check whether to use superscript and subscript for cm ³ and H ₂ O ₂
Ad. 18	to check whether to read “Time of beginning of flowering is reached when 50% of plants have at least one flower open”
8.2	to add growth stage key
TQ 4.2	to select appropriate standard text options to be displayed (web-based TG template)
TQ 6	to replace example characteristic by a most suitable example (e.g. black and imperfect black)

TGP documents (continued)

TGP/14: *Glossary of Terms Used in UPOV Documents*

Illustrations for shape and ratio characteristics

53. The TWA considered document [TWP/1/18](#).

54. The TWA agreed that no additional examples were available at this time for improving the guidance on providing illustrations for shape and ratio characteristics in document TGP/14.

Characteristics which only apply to certain varieties

55. The TWA considered document [TWP/1/12](#).

56. The TWA agreed with the possibility to exclude varieties from observation on the basis of a preceding pseudo-qualitative or quantitative characteristic under particular circumstances, such as the impossibility to describe an organ that was not present in a variety or when variation existed only within a particular group of a crop.

Experiences with new types and species

57. No reports on experiences with new types and species were made during the forty-sixth session of the TWA.

Procedure for partial revision of UPOV Test Guidelines

58. The TWA considered document [TWP/1/20](#).

59. The TWA noted the procedures for notification of new characteristics or states expression in document TGP/5, Section 10: “Notification of additional characteristics and states of expression”.

60. The TWA noted that the TC had encouraged authorities to notify the use of new characteristics or states expression using the procedure established in document TGP/5, Section 10.

Minimum distance between varieties

61. The TWA considered document [TWA/46/6](#) and received a presentation by an expert from the Republic of Korea, as reproduced in document [TWA/46/6 Add](#) “New method to guarantee minimum distance between varieties in measured characteristics for distinctness and harmonization between UPOV members.”

62. The TWA noted that the new method was a form of calculating coefficient of variance and agreed to propose that it be considered further by the TWC.

Impact of endophytes on DUS characteristics in grasses

63. The TWA received the following presentations on the impact of endophytes on DUS characteristics in grasses, as reproduced in documents document [TWA/46/5](#) and TWA/46/5 Add.:

- | |
|---|
| (a) "Impact of endophyte on DUS characteristics of grasses: New Zealand's experience of fungal endophyte in grass variety DUS testing", prepared by an expert from New Zealand; |
| (b) "Impact of endophytes on DUS characteristics in grasses", prepared by an expert from the European Union. |

Regional set of example varieties in Wheat for South America

64. The TWA considered the information presented in document TWA/46/9 and received a presentation by an expert from Brazil on the regional trial carried out by some members of the Union in South America to establish a regional set of example varieties in wheat. The TWA noted that a copy of the presentation by an expert from Brazil would be reproduced as an addendum to document TWA/46/9.

Use of disease and insect resistance characteristics in DUS examination

65. The TWA received the following presentations on the use of disease resistance characteristics in DUS examination, as reproduced in document [TWA/46/7](#):

- | |
|---|
| (a) "Rust Resistance as DUS Characteristics in Wheat", presentation prepared by an expert from Australia |
| (b) "Use of disease and insect resistance characteristics in DUS examination: experience of Brazil with soybean", document prepared by an expert from Brazil |
| (c) "Harmonization of resistance tests for DUS testing: 'Harmores 2'", presentation prepared by an expert from the European Union |
| (d) "Phasing-in period for asterisked disease resistance characteristics in CPVO vegetable technical protocols", presentation prepared by an expert from the European Union |

66. The TWA noted that disease and insect resistance characteristics used by members of the Union in individual authorities' test guidelines could be notified to the Office of the Union using the procedure established in document TGP/5 Section 10 "Notification of additional characteristics and states of expression". The TWA agreed there were many requirements that should be considered before considering the inclusion of disease resistance characteristics in UPOV Test Guidelines for agricultural crops.

Information and databases

Variety description databases

67. The TWA considered document [TWP/1/2](#).

68. The TWA noted the information on presentations on databases made at the BMT, TWC and TWV at their sessions in 2016, and that the expert from Germany had offered to report on the potato database currently under development within European Union to the TWV, at its session in 2017.

69. The TWA noted that the TC had agreed that UPOV would be able to facilitate cooperation in the establishment of common databases containing molecular information by the provision of training and sharing of information. It further noted that the TC had agreed on the value of inviting the contribution of breeders and academic institutions to UPOV's work on the constitution and maintenance of databases.

70. The TWA noted that the TC had agreed to request the Office of the Union to collect data on existing databases with morphological and/or molecular data. The TWA noted that information collected could be included in the GENIE database, subject to the availability of resources for the modification of the GENIE database.

Development of calculated thresholds for excluding varieties of common knowledge from the second growing cycle when COYD is used

71. The TWA considered document [TWP/1/22](#).

72. The TWA noted that further developments on calculated thresholds for excluding varieties of common knowledge from the second growing cycle when COYD was used would be reported to the TWC, at its thirty-fifth session, to be held in 2017.

Statistical methods for visually observed characteristics

73. The TWA considered document [TWP/1/23](#).

74. The TWA noted that an expert from France would make a report to the TWC, at its thirty-fifth session, on the study to develop software to implement the method developed by experts from Denmark and Poland.

75. The TWA noted that the TC, at its fifty-third session, had agreed that the appropriate naming and drafting of guidance on the method developed by experts from Denmark and Poland should be considered once further experience had been acquired and software had been made available to facilitate its use in DUS examination.

76. The TWA noted that China had made a presentation at the thirty-fourth session of the TWC to describe the statistical methods used in the DUSTC software package for the analysis of distinctness and uniformity.

Image analysis

77. The TWA noted the invitation of China for experts to join its project for the improvement of software for image analysis and the plans of the TWC to discuss image analysis during its thirty-fifth session, as reported in document [TWP/1/10](#).

Management of variety collections

78. The TWA noted the information in document [TWP/1/14](#) on presentations made to the TWC, at its session in 2016, and to the TC, at its session in 2017, on management of variety collections.

Software for statistical analysis

79. The TWA noted the developments concerning software for statistical analysis in DUS examination, as set out in document TWP/1/16, paragraphs 3 to 7.

Matters to be resolved concerning Test Guidelines adopted by the Technical Committee

80. On the basis of the recommendations by the Enlarged Editorial Committee (TC-EDC), at its meetings on January 11 and 12, 2017, and April 3 and 4, 2017, the TC adopted the Test Guidelines for Cassava, Scorpion Weed, Urochloa and Wheat subject to approval by correspondence by the TWA of the following issues (see document TC/53/31 "Report", Annex II):

Cassava (Manihot esculenta Crantz.)

To add new paragraph as 4.2.2 to specify the type of propagation of varieties considered for the recommendations on uniformity assessment (see documents [TG/CASSAV\(proj.8\)](#) and [TC/53/31](#))

Scorpion Weed (Phacelia tanacetifolia Benth.)

(a) To add new paragraph as 4.2.2 to specify the type of propagation of varieties considered for the recommendations on uniformity assessment (see documents [TG/PHACE\(proj.6\)](#) and [TC/53/31](#))

(b) Reduction of scale to have notes 1, 3, 5 and addition of example variety "Wolga" for state "long" in Characteristic 9 "Plant: length of stem including infructescences"

(c) Replacement of example variety "Factotum" with "Oka, Wolga" in state 1 "short" in Characteristic 10 "Infructescence: length"

Urochloa (Urochloa)

(a) To add new paragraph as 4.2.2 to specify the type of propagation of varieties considered for the recommendations on uniformity assessment (see documents [TG/UROCH\(PROJ.11\)](#) and [TC/53/31](#))

(b) Replacement of example variety "BRS Tupi" with "BRS Piatã" in state 1 "absent" in Characteristic 11 "Leaf blade: hairs"

Wheat (Triticum aestivum L. emend. Fiori et Paol.) (Revision)

(a) To add new paragraph as 4.2.2 to specify the type of propagation of varieties considered for the recommendations on uniformity assessment (see documents [TG/3/12\(proj.6\)](#) and [TC/53/31](#))

(b) Replacement of example variety "(W) SY Ideo" by "(W) Homeros" in state 7 "strong" in Characteristic 3 "Coleoptile: anthocyanin coloration"

81. The TWA noted that no objections were received by the deadline for comments and that the Test Guidelines for Cassava, Scorpion Weed, Urochloa and Wheat had, therefore, been adopted by the TC, with the amendments indicated above.

Molecular Techniques

82. The TWA considered document [TWP/1/7](#).

Developments in the TC, the TWPs and the BMT in 2016

83. The TWA noted the report on developments in the TC, the TWPs and the BMT, as set out in document TWP/1/7, paragraphs 5 to 24.

OECD/UPOV/ISTA/AOSA Joint Workshop on Molecular Techniques

84. The TWA noted that a Joint OECD/UPOV/ISTA/AOSA Workshop on Biochemical and Molecular Methods had been held in Paris on June 8, 2016, and that the recommendations of the Joint OECD/UPOV/ISTA/AOSA Workshop, as reproduced copied below, had been approved by the Annual Meeting of the OECD Seed Schemes, held in Paris on June 9 and 10, 2016:

- (a) To develop a joint document explaining the principal features (e.g. DUS, variety identification, variety purity, etc.) of the systems of OECD, UPOV, AOSA and ISTA and, for mutual understanding, to repeat the joint workshop at relevant meetings of the OECD and ISTA;
- (b) To carry out a joint inventory by UPOV, OECD, AOSA and ISTA of the use of molecular marker techniques, by crop, with a view to developing a document containing that information. The OECD will contribute to the document by sharing the ongoing list of molecular techniques used by National Designated Authorities (NDAs) and continuously collected by the Secretariat;
- (c) To develop a list of terms and their definitions as used by OECD, UPOV, AOSA and ISTA and to make an attempt to harmonize these;
- (d) To consider organizing another similar workshop in three years' time; and
- (e) To consider replacing the term used in the OECD Seed Schemes for the status of DNA based techniques from "internationally validated" to another term such as "internationally harmonized."

Presentation of information on the situation in UPOV with regard to the use of molecular techniques

85. The TWA noted that the following question and answer (FAQ) concerning the information on the situation in UPOV with regard to the use of molecular techniques for a wider audience, including the public in general, had been adopted by the Council, at its fiftieth ordinary session held in Geneva on October 28, 2016:

Is it possible to obtain protection of a variety on the basis of its DNA-profile?

For a variety to be protected, it needs to be clearly distinguishable from all existing varieties on the basis of characteristics that are physically expressed, e.g. plant height, time of flowering, fruit color, disease resistance etc. The DNA-profile is not the basis for obtaining the protection of a variety, although this information may be used as supporting information.

A more detailed explanation is provided in the FAQ 'Does UPOV allow molecular techniques (DNA profiles) in the examination of Distinctness, Uniformity and Stability ('DUS')?

See also: 'What are the requirements for protecting a new plant variety?'

86. The TWA noted that the TC, at its session in 2017, had agreed that possible future collaboration between UPOV, the Organization for Economic Co-operation and Development (OECD) and the International Seed Testing Association (ISTA) might include the harmonization of terms and methodologies used for different crops and the possible development of standards, after agreement by those organizations.

87. The TWA noted that a first practical workshop "DNA Techniques and Variety Identification" had been held in Roelofarendsveen, Netherlands, from May 8 to 10, 2017, and that a second practical workshop was planned for September 2017.

88. The TWA noted that the TC had agreed that UPOV and the OECD should consider making progress in collaboration on the matters above if ISTA was unable to participate in the near future.

89. The TWA noted that the TC had agreed to propose that the meetings of the BMT be held on an annual basis and that consideration be given to organizing the sessions of the TWC and BMT back-to-back in the same location to facilitate exchange of information.

Variety denominations

90. The TWA considered document [TWP/1/6](#).

91. The TWA noted the developments concerning the consideration by the Working Group on Variety Denominations (WG-DEN) of a possible revision of document UPOV/INF/12 "Explanatory Notes on Variety Denominations under the UPOV Convention", as set out in document TWP/1/6, paragraphs 5 to 12.

92. The TWA noted the developments concerning the consideration by the WG-DEN of a UPOV similarity search tool for variety denomination purposes, as set out in document TWP/1/6, paragraphs 13 to 20.

93. The TWA noted the developments concerning the possible expansion of the content of the PLUTO Database avoiding re-use of denominations in all cases, as set out in document TWP/1/6, paragraphs 21 to 26.

94. The TWA noted the developments concerning the consideration by the WG-DEN of for variety denominations, as set out in document TWP/1/6, paragraphs 27 to 32.

95. The TWA noted the draft agenda of the fourth meeting of the WG-DEN, as set out in document TWP/1/6, paragraph 34, and noted that the meeting would be held in Geneva, on October 27, 2017.

Information and databases [cont'd]

UPOV information databases

96. The TWA considered document [TWP/1/4](#).

GENIE database

97. The TWA noted that a specification document explaining the data structure and functions of the GENIE database was being developed by the Office of the Union in order that IT related maintenance could be provided in the future.

UPOV code system

98. The TWA noted that:

(a) 173 new UPOV codes had been created in 2016 and that a total of 8,149 UPOV codes were included in the GENIE database.

(b) the Office of the Union had received a request from the OECD to create new UPOV codes for 191 forest-tree species moving in international trade under the OECD certification schemes.

(c) the TC, at its fifty-third session, had agreed that it would not be appropriate to revise the Guide to the UPOV Code System in relation to the principal botanical name for inter-generic and interspecific hybrids.

(d) the TC had noted that, in order to avoid any misinterpretation, the CPVO would make it clear that the information provided to the Office of the Union would be in alphabetical order.

99. The TWA noted the invitation to check the amendments to UPOV codes, the new UPOV codes or new information added for existing UPOV codes, and the UPOV codes used in the PLUTO database for the first time, which were provided in Annex II of document TWP/1/4. The TWA noted that comments were to be submitted to the Office of the Union by October 31, 2017.

100. The TWA agreed that the UPOV Code ZEAAA_MAY_SAC should be combined with the UPOV Code ZEAAA_MAY_MAY under a single UPOV Code ZEAAA_MAY following the reclassification of Sweet Corn (*Zea mays* var. *saccharata*) as a subspecies of *Zea mays* subsp. *mays*.

PLUTO database

101. The TWA noted the summary of contributions to the PLUTO database from 2013 to 2016 and the current situation of members of the Union on data contribution, as presented in document TWP/1/4, Annex I.

102. The TWA noted that the WG-DEN, at its third meeting, held in Geneva on April 7, 2017, had agreed that agenda item 5 “Expansion of the content of the PLUTO database” would be considered at a later meeting on the basis of the document presented at its second meeting.

Exchange and use of software and equipment

103. The TWA considered document [TWP/1/5](#).

104. The TWA noted that the Council, at its fiftieth ordinary session, held in Geneva, on October 28, 2016, had adopted document UPOV/INF/16/6 “Exchangeable Software”, with the deletion of the SIVAVE software.

105. The TWA noted that the TC, at its fifty-third session, had agreed that the proposed revision of document UPOV/INF/16/6 in conjunction with the comments of the TC, as set out in Annex I of document TWP/1/5, be reported to the CAJ at its seventy-fourth session, on October 23 and 24, 2017 and, if agreed by the CAJ, that a draft document UPOV/INF/16/7 “Exchangeable Software” would be presented for adoption by the Council at its fifty-first ordinary session, on October 26, 2017, on that basis.

106. The TWA noted that the TC had agreed that the information presented in document UPOV/INF/16 should be made available in a searchable form on the UPOV website, and had noted that the Office of the Union would investigate a tool for that purpose

Electronic application systems

107. The TWA considered document TWP/1/3 “Electronic application systems” and noted developments concerning the development of an electronic application form.

108. The TWA received a presentation on the “UPOV PBR Application Tool - Electronic Application Form (EAF) - Report to Technical Working Parties” by the Office of the Union. The TWA noted that a copy of the presentation would be provided as an Addendum to document TWP/1/3.

109. The TWA noted that Version 1 of the EAF had been available online since January 2017 at <http://www.upov.int/upoveaf>, and that a new Version 1.1 would be released in July 2017, offering the possibility for users to submit PBR application data in more authorities. The TWA noted that a future version (Version 2.0) would contain more functionalities (e.g. payment options and link to the Genie Database) and would cover more authorities and more crops.

110. The TWA agreed on the need to communicate more about the UPOV PBR Application Tool and to invite the authorities in charge of DUS examination to publicize the EAF, using communication tools available (e.g. leaflet in different languages, posters, link to the EAF on their website).

Guidance for drafters of Test Guidelines

111. The TWA considered document [TWP/1/8](#).

112. The TWA noted the items resolved in Version 1.0 of the web-based TG template, as set out in document TWP/1/8, paragraph 18.

113. The TWA noted that a general revision of the software code was underway to eliminate remaining reported malfunctioning issues and to stabilize the system.

114. The TWA noted the issues to be considered for inclusion in Version 2 of the web-based TG Template, as set out in document TWP/1/8, paragraph 21.

115. The TWA noted the issues on the web-based TG template agreed by the TC, at its fifty-third session, as set out in document TWP/1/8, paragraphs 25 to 27:

“Order of UPOV codes and botanical names

“25. The TC agreed that UPOV codes and botanical names in draft Test Guidelines should, in general, be displayed in alphabetical order. However, the TC agreed that the web-based TG Template should allow the Leading Expert to change the order, if appropriate.

“Order of methods of observation

“26. The TC agreed that the methods of observation of a characteristic should continue to be presented in alphabetical order, thereby avoiding any indication of order of preference.

“Subsequent explanations covering several characteristics

“27. The TC agreed that characteristics with the same explanation could be displayed in Chapter 8.2 “Explanations for individual characteristics” with subsequent explanations being cross-referenced to the first characteristic displaying the appropriate information, as follows (see document TC/53/31 “Report”, paragraphs 107 to 110):

e.g.: Ad. 10 “[explanation text/illustration]”

Ad. 11 “See Ad. 10”

[...]

Ad. 50 “See Ad. 10”.

116. The TWA considered whether explanations covering all characteristics should be displayed before Chapter 8.1 “Explanations covering several characteristics” without a note in the Table of Char (see document TWP/1/8, paragraphs 28 and 29 and agreed that explanations covering all characteristics were not used in agricultural crops Test Guidelines.

117. The TWA noted that the following issues were currently addressed on the web-based TG template for inclusion during the second semester of 2017:

- to specify information for more than one method of propagation in Chapter 3.4 “Test Design”;
- addition of new SW paragraph at Chapter 4.2 “Uniformity” to specify type of propagation considered in the Test Guidelines;
- example variety master list: addition of a pop up window with related characteristics before confirming the deletion of a variety from the master list of example varieties;
- improved functionality to move characteristics up and down in the table of characteristics (drag and drop);
- addition of characteristics not contained in the table of characteristics at the end of the Technical Questionnaire (TQ);
- separation of color characteristics in TQ to be indicated as RHS Colour Chart reference or color group;
- addition of a possibility to edit the scope of the Test Guidelines on the cover page (e.g. for excluding species and UPOV Codes).

118. The TWA noted that training on the use of the web-based TG template would be offered to the TWPs at their sessions in 2017, during the preparatory workshops of the sessions and during discussions on agenda item “guidance for drafters’ of Test Guidelines”.

119. The TWA noted that feedback and questions could be provided directly to the Office of the Union via the web-based TG template using the “Feedback” button on the dashboard.

120. The TWA agreed to propose the addition of commonly used growth stage keys to the web-based TG Template, such as the BBCH Growth stages of mono-and dicotyledonous plants and the Zadoks’ Decimal code for the growth stages of cereals. The TWA agreed that the growth stage keys should be

available in an appropriate format to be adapted and used by Leading Experts of relevant Test Guidelines in the web-based TG Template.

Recommendations on draft Test Guidelines

(a) *Test Guidelines to be put forward for adoption by the Technical Committee*

121. The TWA agreed that the following draft Test Guidelines should be submitted to the TC for adoption at its fifty-fourth session, to be held in Geneva on October 29 and 30, 2018, on the basis of the following documents and the comments in this report:

<u>Subject</u>	<u>Relevant document(s)</u>
*Barley (<i>Hordeum vulgare</i> L. <i>sensu lato</i>) (Revision)	TG/19/11(proj.2)
*Cotton (<i>Gossypium</i> L.) (Revision)	TG/88/7(proj.3)
*Elytrigia (<i>Elytrigia elongata</i> (Host) Nevski), (<i>Agropyron elongatum</i> (Host) P. Beauv.)	TG/ELYTR(proj.7)
*Field Bean (<i>Vicia faba</i> L. var. <i>minor</i>) (Revision)	TG/8/7(proj.3)

(b) *Test Guidelines to be discussed at the forty-seventh session*

122. The TWA agreed to discuss the following draft Test Guidelines at its forty-seventh session:

*Castor Bean (<i>Ricinus comunis</i> L.)
Ginseng (<i>Panax ginseng</i> C.A. Mey) (Revision)
*Oats (<i>Avena sativa</i> L. & <i>Avena nuda</i> L.) (Revision)
*Quinoa (<i>Chenopodium quinoa</i> Willd.)
Red Clover (<i>Trifolium pratense</i> L.) (Revision)
Rice (<i>Oryza sativa</i> L.) (Revision)
Soya Bean (<i>Glycine max</i> (L.) Merrill) (Revision)
Sunflower (<i>Helianthus annuus</i> L.) (Revision)
Tea (<i>Camellia sinensis</i> (L.) Kuntze) (Revision)
Triticale (x <i>Triticosecale</i> Witt.)

123. The leading experts, interested experts and timetables for the development of the Test Guidelines are set out in Annex IV of this report.

(c) *Possible Test Guidelines to be discussed in 2019*

124. The TWA agreed that it should consider the development or revision of Test Guidelines for the following at a future session:

Species	Basic Document(s)
Finger millet (<i>Eleusine coracana</i> (L.) Gaertn.)	New
Rape Seed (<i>Brasica napus</i> L. <i>oleifera</i>)	TG/36/6 Corr.
Rye (<i>Secale cereale</i> L.)	TG/58/6

(d) *Participation in discussions of Test Guidelines from other TWPs*

125. The TWA agreed to propose that the following experts be added as interested experts to the following draft Test Guidelines being discussed by the Technical Working Party for Vegetables (TWV), subject to the deadlines agreed in document TWV/50/32 "Report", Annex IV:

Subject	Interested experts (States/organizations) ¹
*Brown Mustard (<i>Brassica juncea</i> (L.) Czern.)	CA, DE, ES, FR, GB, QZ
Turnip (<i>Brassica rapa</i> L. var. <i>rapa</i> (L.) Thell.)	DE, FI, GB, NZ, PL, QZ
Pea (<i>Pisum sativum</i> L.) (Partial revision: disease resistance explanations for <i>Fusarium oxysporum</i> f. sp. <i>pisi</i> race 1 (Ad. 51), <i>Ascochyta pisi</i> race C (Ad. 60))	AR, AU, BR, CA, CZ, DE, DK, ES, FR, IT, JP, NZ, PL, QZ, ZA, CLI

Date and place of the next session

126. At the invitation of Kenya, the TWA agreed to hold its forty-seventh session in Naivasha, Kenya, from May 21 to 25, 2018, with the preparatory workshop on the morning of May 21, 2018.

Chairperson

127. The TWA thanked Mr. Tanvir Hossain for his chairmanship and noted that he was awarded a UPOV bronze medal in recognition of his chairmanship of the TWA from 2015 to 2017.

Future program

128. The TWA agreed to discuss the following items at its next session:

1. Opening of the session
2. Adoption of the agenda
3. Short reports on developments in plant variety protection
 - (a) Reports from members and observers (written reports to be prepared by members and observers)
 - Increasing participation of new members of the Union in the work of the TC and TWPs
 - (b) Reports on developments within UPOV (oral report by the Office of the Union)
4. Information and databases
 - (a) UPOV information databases (document to be prepared by the Office of the Union)
 - (b) Variety description databases (document to be prepared by the Office of the Union and documents invited)
 - (c) Exchangeable software (document to be prepared by the Office of the Union)
 - (d) Electronic application systems (document to be prepared by the Office of the Union and documents invited)
5. Variety denominations (document to be prepared by the Office of the Union)
6. Molecular Techniques (document to be prepared by the Office of the Union)
7. TGP documents (documents to be prepared by the Office of the Union)
8. Experiences with new types and species (presentations invited)
9. Number of growing cycles in DUS examination (documents to be prepared by Australia, Denmark, France, Germany, the United Kingdom and documents invited)
10. Minimum distance between varieties (document to be prepared by the European Union)

¹ for name of experts, see list of participants

11. Development of calculated thresholds for excluding varieties of common knowledge from the second growing cycle when COYD is used (document to be prepared by the Office of the Union)
12. Statistical methods for visually observed characteristics (document to be prepared by the Office of the Union)
13. Procedure for partial revision of UPOV Test Guidelines (document to be prepared by the Office of the Union)
14. Image analysis (documents invited)
15. Management of variety collections (documents invited)
16. Software for statistical analysis (documents invited)
17. Matters to be resolved concerning Test Guidelines adopted by the Technical Committee (if appropriate)
18. Discussion on draft Test Guidelines (Subgroups)
19. Recommendations on draft Test Guidelines
20. Guidance for drafters of Test Guidelines
21. Date and place of the next session
22. Future program
23. Adoption of the Report on the session (if time permits)
24. Closing of the session

Visit

129. On the afternoon of June 21, 2017, the TWA visited the Bundessortenamt testing station at Scharnhorst. The TWA was welcomed by Ms. Beate Rücker, Head of Department, Bundessortenamt, and Ms. Elisabeth Thiemt, Head of Section, DUS Testing oil and fibre plants and legumes, Bundessortenamt. The TWA received a presentation by Ms. Elisabeth Thiemt on the history, organization and DUS testing performed at the Scharnhorst station, with 4400 varieties currently under examination. A copy of the presentation is provided as Annex III to this report. The TWA visited DUS trials for white mustard, fodder radish, field bean, phacelia, linseed, peas, red clover, and grasses. The visit to the trials was guided by Ms. Elisabeth Thiemt and Ms. Susanne Wöster, Head of Section, Bundessortenamt.

130. The TWA adopted this report at the end of the session.

[Annexes follow]

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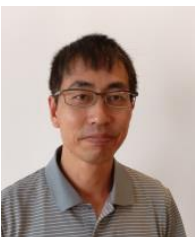
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[Annex II follows]




Bundessortenamt

UPOV TECHNICAL WORKING PARTY FOR AGRICULTURAL CROPS
 Forty-sixth Session, Hanover, Germany, June 19 to 23, 2017

Responsibilities and Structure of the Bundessortenamt

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Bundessortenamt


Federal Variety Office - Bundessortenamt (BSA)

The BSA is an independent federal authority by order of the Ministry of Food and Agriculture.

<p>Preparation of Legal Matters for the Federal Government</p>	<p>Admission to National List</p> <p>Seed Act</p> <p>Value for cultivation and Use (VCU) Distinctness, Uniformity and Stability (DUS)</p> <p>Maintenance control</p> <p>Variety List</p>	<p>Granting Plant Breeders' Rights</p> <p>Variety Protection Act</p> <p>Novelty; Distinctness, Uniformity and Stability (DUS)</p> <p>Control of continued existence</p> <p>Variety Register</p>	<p>Descriptive Variety List</p> <p>Seed Act</p>
<p>National Coordination in Variety and Seed Matters</p>			<p>Collaboration in National Genebanks</p>

- German representation in international organisations and councils such as EU (Commission, Council, AC-CPVO), UPOV, OECD ...

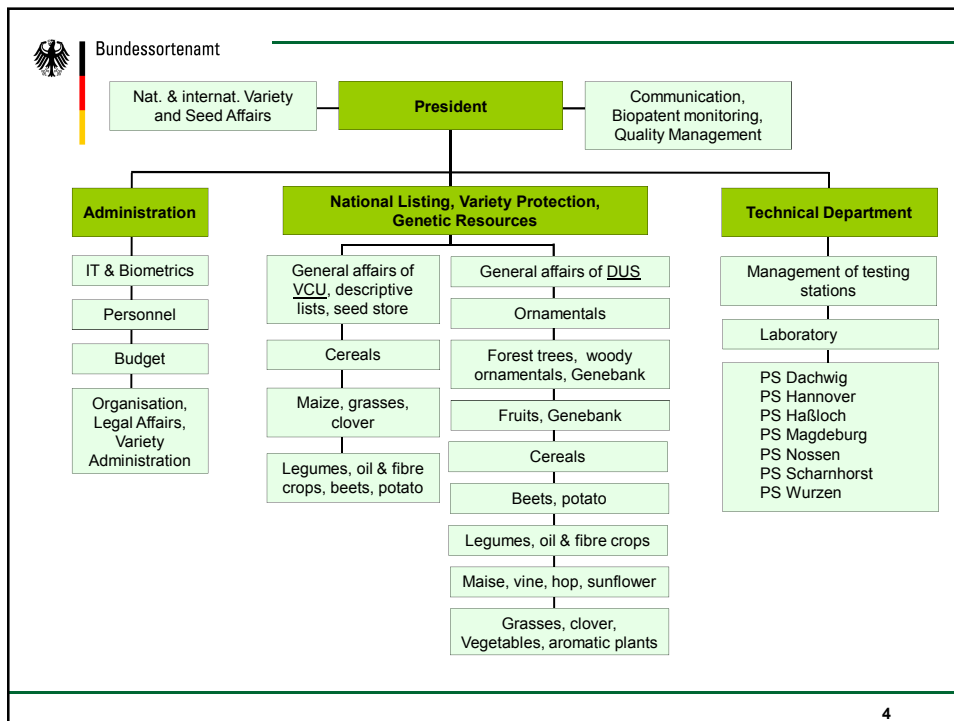
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 Bundessortenamt

History of variety testing and Plant breeders rights

- 1869 Foundation of the world's first seed testing station in Tharandt/Saxony (Standardized rules for seed testing)
- 1888 Comparative trials by DLG
- 1905 DLG-Hochzuchtregister (Register for qualified varieties)
- 1934 Statutory order for admission of varieties and certification of seeds (Reichssortenregister)
- 1953 Variety and Seed Act (PBR, NL, Certification)
Installation of the Bundessortenamt as independent federal authority
- 1968 Seed Act and Variety Protection Act
- 1968 Member of UPOV
- 1985 New Seed Act and Variety Protection Act
- 1990 Validity of law for the whole of Germany
- 1997 New Variety Protection Act
- 1998 Ratification of UPOV Convention 1991

3




 Bundessortenamt

Organization

- Head of Office: President
- 1 Administrative Division,
2 Technical Divisions
- Headquarters located in Hannover
- 7 Testing Stations
(with about 410 ha field, 7000 m² greenhouse)
- Gazette: Blatt für Sortenwesen
- 280 posts (330 employees, incl. part time and seasonal staff)
- Expenses ⁽²⁰¹⁵⁾ 21.1 Mio. EUR
Income 11.4 Mio. EUR



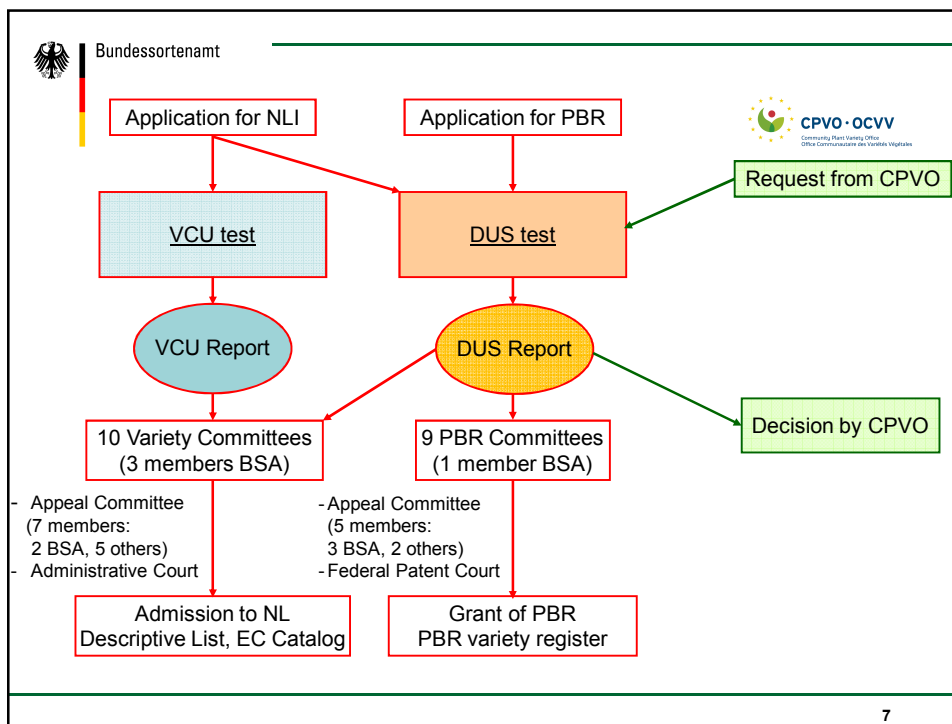
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 Bundessortenamt

Procedure before the Bundessortenamt

<u>Plant Breeders' Rights</u>	<u>National List</u>
Application on official forms of BSA	Application on official forms of BSA
All plant species (no microorganisms)	Species according to Seed Act
Applicant: any breeder or discoverer (EC resident, others by EC-representative)	Applicant: any person or company within EC, others by EC-representative
Publication in the Gazette (dates, name, applicant)	
Examination: Tests organized by BSA (DUS & VCU) Certain requirements for test material	
Duration: 25 years (30 years for potato, vine, hop, trees)	Duration: 10 years (20 years for vine) Prolongation possible if justified by value
Termination: Variety is not longer U&S Fees are not paid	
Fees: Application fee, Testing fee, Annual fee for protection/registration year	

6



Number of registered varieties and candidate varieties in DUS tests
(30.06.2016)

	Registered		Candidates in DUS tests			
	NLI	PBR	Applied PBR / NLI	For other countries	Total	Number of species
Cereals	809	139	839	74	913	18
Forage Crops	898	247	345	102	447	29
Oil-, Fiber Crops	266	123	203	4	207	6
Beets	366	1	130	0	130	1
Potato	204	36	46	24	70	1
Vine	128	71	24	19	43	2
Vegetable	545	88	43	3	46	22
Fruits	1	138	55	142	197	17
Ornamentals (incl. Roses)	-	523	25	516	541	51
Woody Plants	-	81	2	38	40	9
Others	-	77	11	32	42	14
Total	3217	1524	1722	954	2676	169

Community plant variety protection is granted for about 2700 varieties per year. 25274 varieties protected under the Community system at the end of 2016.


8

Bundessortenamt	
<u>Main crops:</u>	
Applications PBR/NLI per year (mean 1.7.2013 - 30.6.2016)	
Maize	158
Winter wheat	129
Sugar beet	101
Rose	100
Winter barley	96
Winter oilseed rape	91
Spring barley	53 (total n > 50 ca. 50%)
Petunia	50
Pelargonium	39
Potato	35
Perennial ryegrass	33
Winter rye	33
Calibrachoa	30
Winter triticale	27
Kalanchoe	27
Osteospermum	24 (total n > 20 ca. 70%)
Total (134 species)	1474

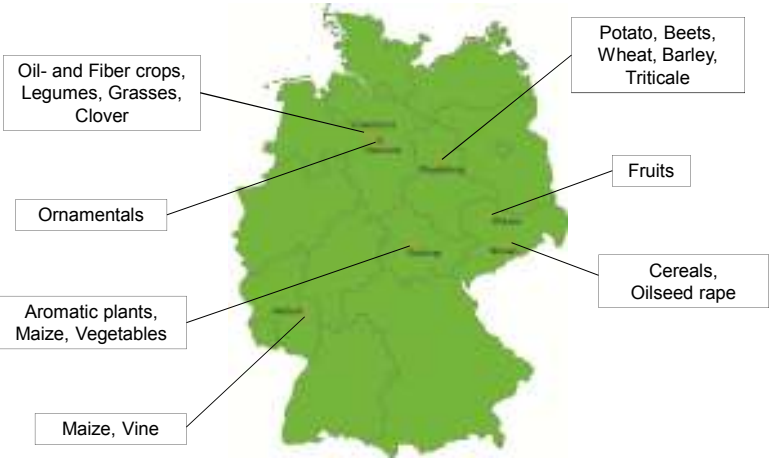
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Bundessortenamt	
<u>Places and duration of DUS test</u>	
<u>Place of DUS test:</u>	
DUS test is performed for all crops <u>at one BSA location</u> with the following <u>exceptions</u> :	
two locations BSA	- Winter Wheat, Winter Barley, Spring Barley, Winter Triticale, Maize, Winter oilseed rape (each location considered separately)
test in other countries	- 183 varieties in 36 species in 2011-2016 (bilateral cooperation)
non-BSA locations	- Hop, Rhododendron, Azalee, <i>Erica gracilis</i> , <i>Acer rubrum</i> (observations by BSA staff)
<u>Duration of DUS test:</u>	
Cereals	3 years
Ornamentals	1 year
Other species	2 years

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 Bundessortenamt


DUS-Testing



The map shows various regions of Germany with callouts to specific crop types tested there:

- Oil- and Fiber crops, Legumes, Grasses, Clover
- Ornamentals
- Aromatic plants, Maize, Vegetables
- Maize, Vine
- Potato, Beets, Wheat, Barley, Triticale
- Fruits
- Cereals, Oilseed rape

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 Bundessortenamt

Places and duration of VCU test

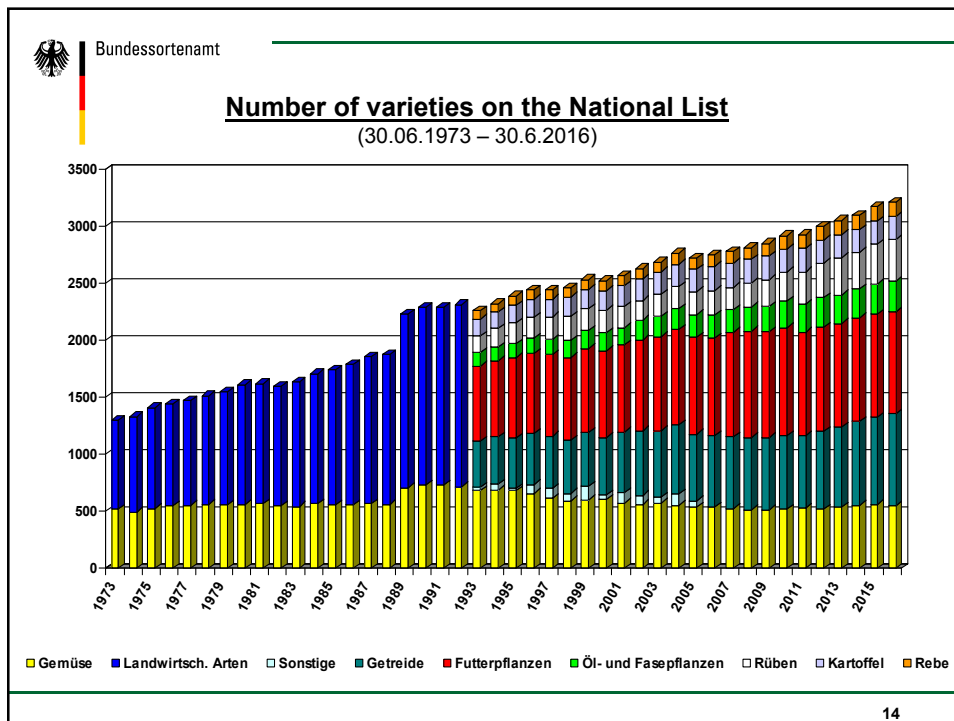
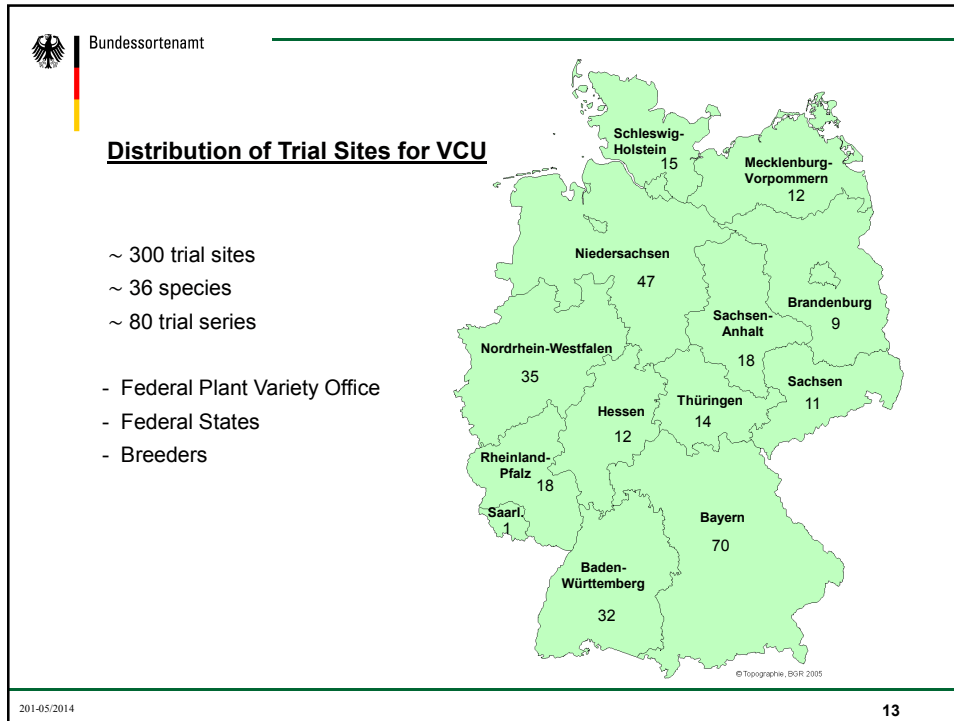
- Value for cultivation and use (VCU) required for National Listing for agricultural crops (species according to Seed Act)

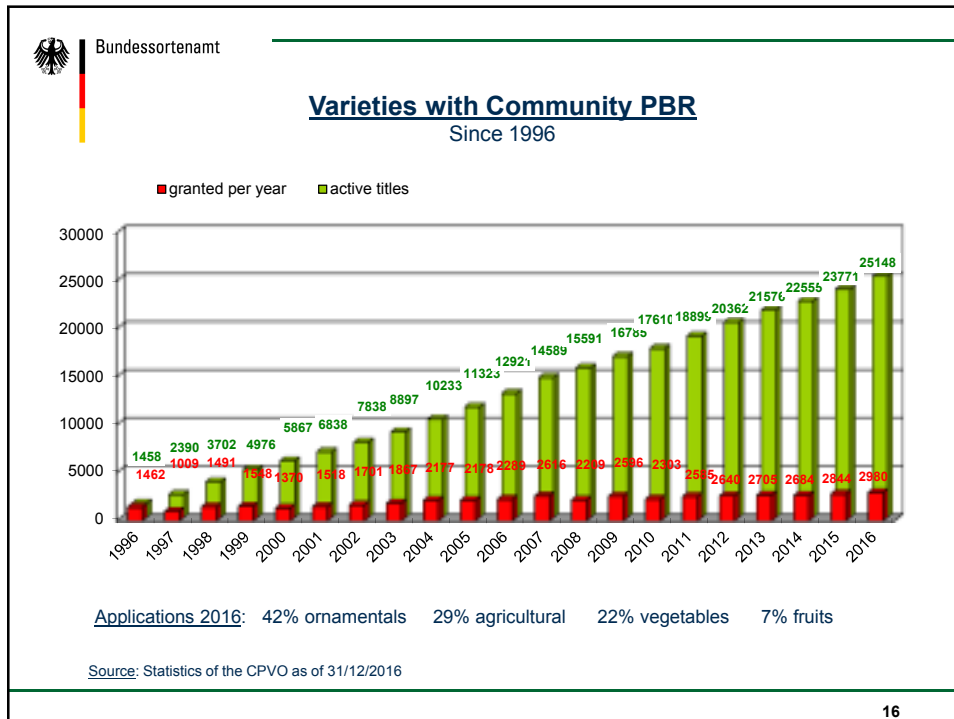
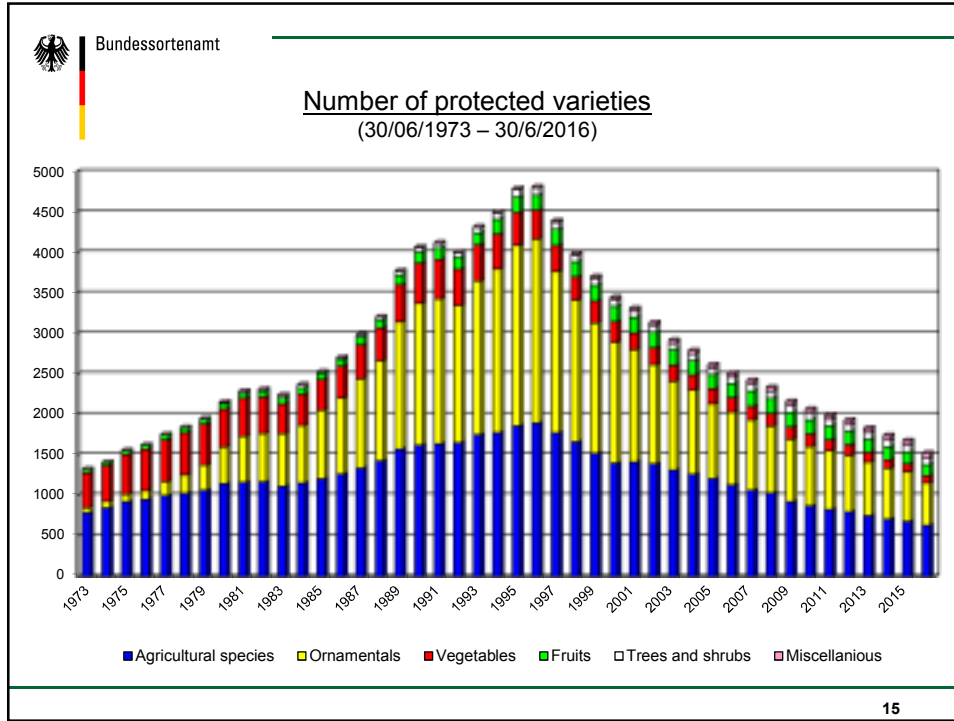
Duration


- 3 years**
Cereals, Winter oilseed rape, Perennial fodder plants
- 2 years**
All other species

- Trial series 12-20 locations per year
- Federal Variety Office, Federal States, Breeders

201-05/2011 12





 Bundessortenamt


Plant Genetic Resources

The Ministry of Food and Agriculture commissioned tasks in the framework of the National Programm for Maintenance and sustainable Use of Plant Genetic Resources in agricultural and horticultural Crops to the Bundessortenamt in 2011 and 2012.

National coordinator for Plant Genetic Resources and biodiversity is the Bundesanstalt für Landwirtschaft und Ernährung (Federal Office for Agriculture and Food).

The Bundessortenamt collaborates in national genebank networks for several crops. Maintenance of genetic resources in fruit and ornamentals organized in decentralized genebank collections.

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 Bundessortenamt

Genebank responsibilities of the Bundessortenamt

- Coordination of the German genbank for ornamental species
- Development and Coordination of decentralized genebank networks for
Berry fruits, Pear, Wild fruits,
Seed and vegetatively propagated Ornamentals, Rhododendron
- Maintenance of genebank collections in
Apple, Strawberry, Plum, Grape vine,
Berry fruits, Pear, Wild fruits
Seed and vegetatively propagated Ornamentals, Roses

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Homepage

Bundessortenamt

Welcome to our Bundessortenamt website.

The use of modern plant varieties is amongst the most efficient means of production in agriculture and horticulture. Tremendous improvements in the performance of German agriculture and horticulture over the past 50 years would not have been possible without the successes in plant breeding. Effects of these successes range from the increase in hectare yields to progress in value for cultivation and qualities of many crop species and to higher levels of resistance to plant diseases and pests.

The Bundessortenamt is responsible for granting of Plant Breeders' Rights (PBR) and National Listing (NL) of varieties and thus supports the manifold activities to promote plant breeding and biological diversity. PBR protect the plant breeder's ownership of an intellectual property and promote plant breeding and the breeding progress made in agriculture and horticulture. A breeder or discoverer of a new variety can apply for PBR for new varieties from the whole plant kingdom.

National Listing serves to protect the consumer and ensures the provision of high quality seed and planting stock material of resistant and high performance varieties for farmers and horticulturists. Therefore varieties of agricultural species are tested for characteristics of value, they are tested for yield, quality, health, and cultivation qualities. This regulates the addition of only high-value varieties to the National List and protects the interests of farmers and other seed consumers.

Additional interesting descriptions of varieties in Germany and can be viewed characteristics of varieties registered in other European countries and to be engaged in plant studies.

Besides the descriptive list available on our website is also available [online](#) (only in German).

For plant breeders, especially those applying for PBR or for NL, we offer access to the valid data by means of a password. As of the year 2007 the Bundessortenamt is the first variety office to offer [online applications](#) (only in German) to plant breeders. On these pages the breeders can even access all data and results pertaining to varieties in current testing processes.

We hope that you enjoy an informative visit to our website.

For more information please see:
www.bundessortenamt.de

Bundessortenamt

THANK YOU!


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 Bundessortenamt

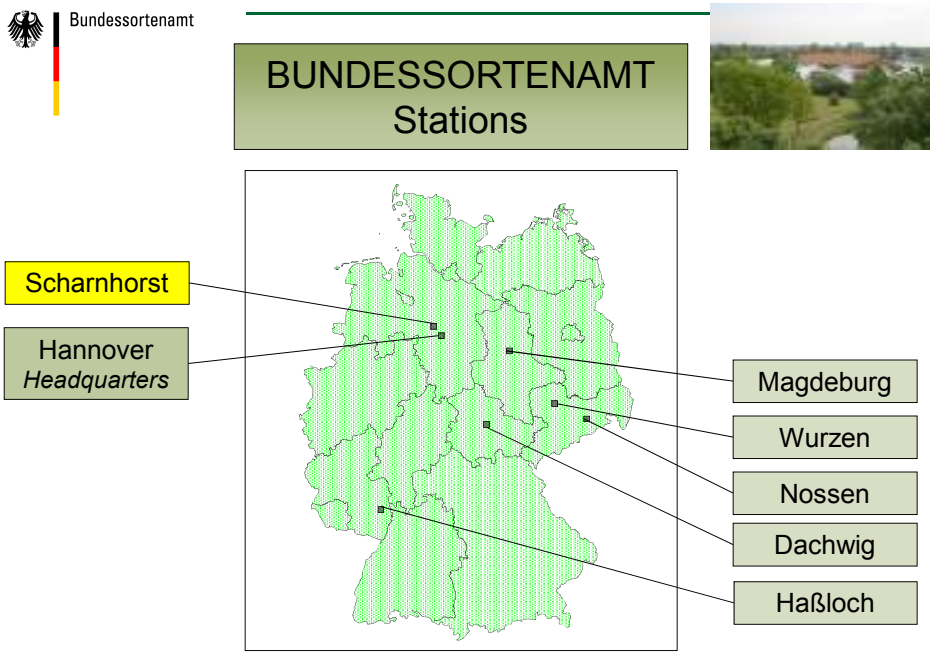
Welcome to Scharnhorst



Introduction BSA Scharnhorst May 2017

 Bundessortenamt

BUNDESSORTENAMT Stations



Scharnhorst

Hannover
Headquarters

Magdeburg


Wurzen

Nossen

Dachwig

Haßloch

June 2017




Bundessortenamt

History of Scharnhorst

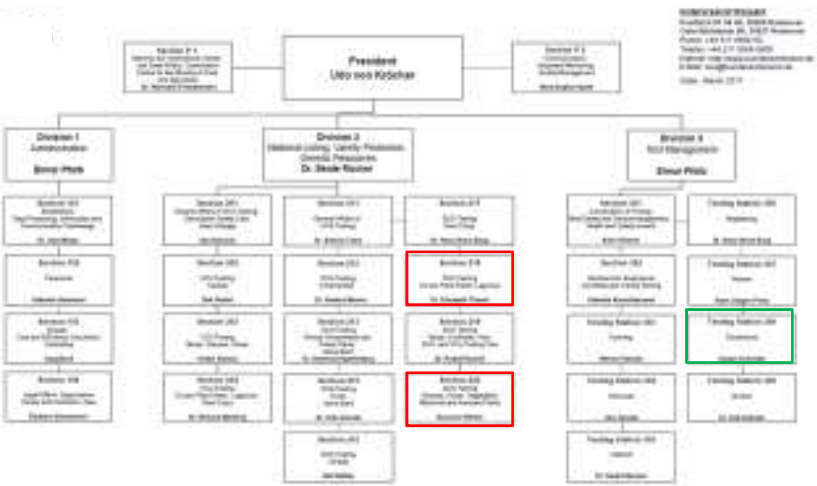
1254	First documents on Scharnhorst.
1400 – 1800	Outlying estate of the Monastery Mariensee.
1894 – 1947	Military training camp for horses.
1920 – 1930	New buildings for horses.
1945	British Military.
1946	Kaiser-Wilhelm-Institute for Plant Research from Eastern Prussia, plant material: lupin and potatoes.
1947 – 1967	Max-Planck-Institute for Plant Breeding, research: lupin, potatoe, rye (hybrids).
1.1.1969	Bundessortenamt started variety testing.
1976	Cooperation with Friedrich-Löffler-Institute for Farm Animal Genetics.
1989 – 1997	Completely renovation.

June 2017



Bundessortenamt


Organigram Bundessortenamt



The organizational chart shows the following structure:

- President:** Udo von Kroschke
- Division 1 (Administrative):**
 - Section 1.1: Administration, Information Systems, Legal Affairs, HR
 - Section 1.2: Finance
 - Section 1.3: Quality Management
 - Section 1.4: External Relations
- Division 2 (Research, Variety Protection, Genetic Resources):**
 - Section 2.1: Breeding of Plant Varieties
 - Section 2.2: Plant Variety Protection
 - Section 2.3: Plant Variety Rights
 - Section 2.4: Breeding of Plant Varieties (highlighted in red)
 - Section 2.5: Breeding of Plant Varieties
 - Section 2.6: Breeding of Plant Varieties
 - Section 2.7: Breeding of Plant Varieties
 - Section 2.8: Breeding of Plant Varieties
 - Section 2.9: Breeding of Plant Varieties
 - Section 2.10: Breeding of Plant Varieties
- Division 3 (Testing Stations):**
 - Section 3.1: Testing Station - Oldenburg
 - Section 3.2: Testing Station - Oldenburg
 - Section 3.3: Testing Station - Oldenburg
 - Section 3.4: Testing Station - Oldenburg
 - Section 3.5: Testing Station - Oldenburg
 - Section 3.6: Testing Station - Oldenburg
 - Section 3.7: Testing Station - Oldenburg
 - Section 3.8: Testing Station - Oldenburg
 - Section 3.9: Testing Station - Oldenburg
 - Section 3.10: Testing Station - Oldenburg

June 2017


 Bundessortenamt

Testing Station Scharnhorst

Responsibilities

- DUS testing of oil- and fibre plants and large seeded legumes, post-control tests (Section 218).
- DUS testing of grasses, clovers and small seeded legumes, testing of amenity grasses, post-control tests (Section 220).
- DUS testing and other examinations of forestal trees and ornamental shrubs (Section 213, Hannover).
- Performance of VCU tests of fodder crops, legumes, cereals and others.

June 2017

 Bundessortenamt

Testing Station Scharnhorst

Area of the station

- Total ~ 150 ha
- Examination Area: ~ 40 ha

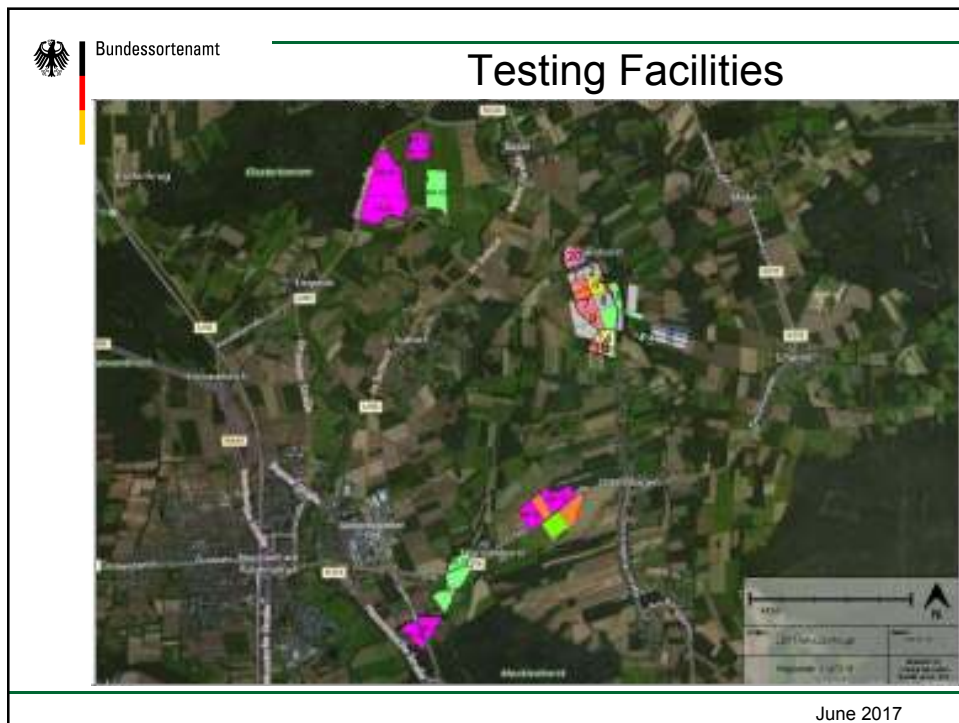
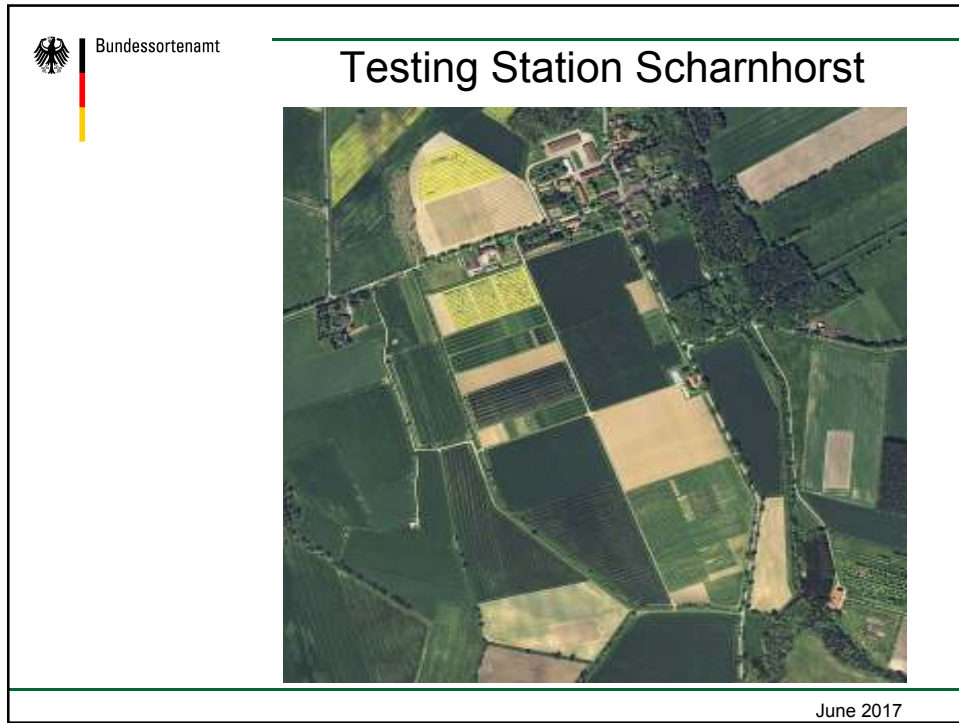
Staff

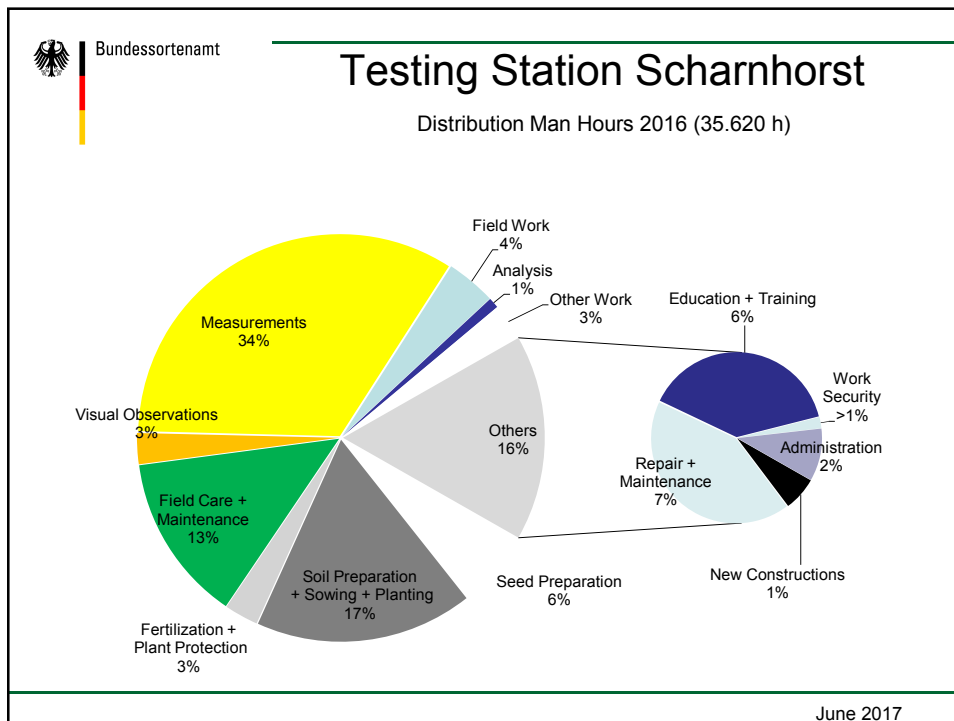
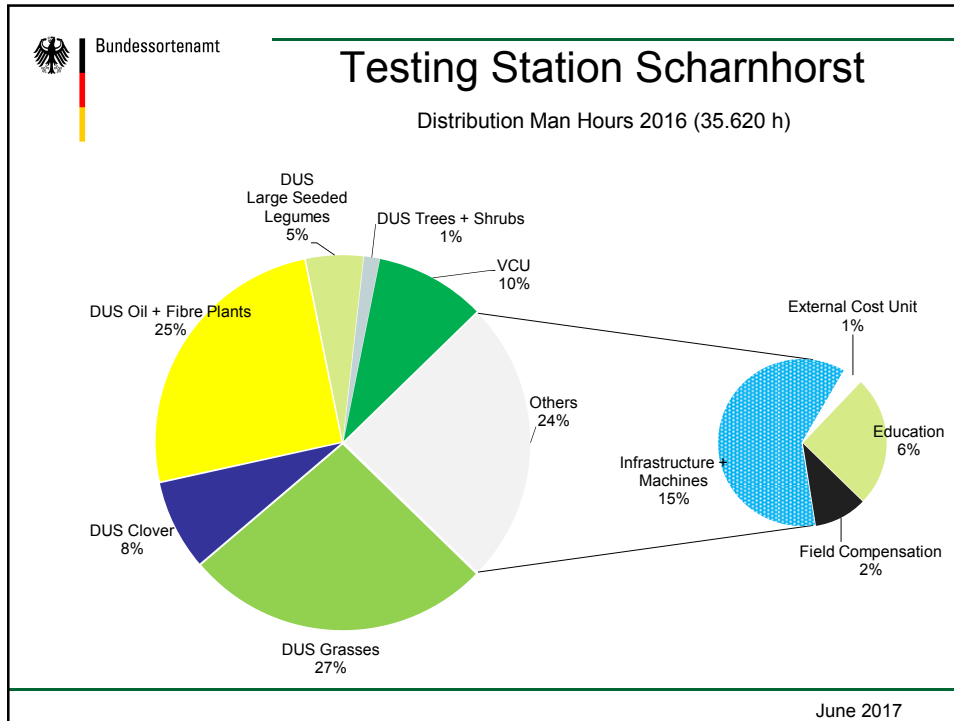
- 1 Head of Station and 2 Scientists
- 5 Technicians
- 3 Secretaries
- 30 Workers, 20 of them seasonally and part-time employed

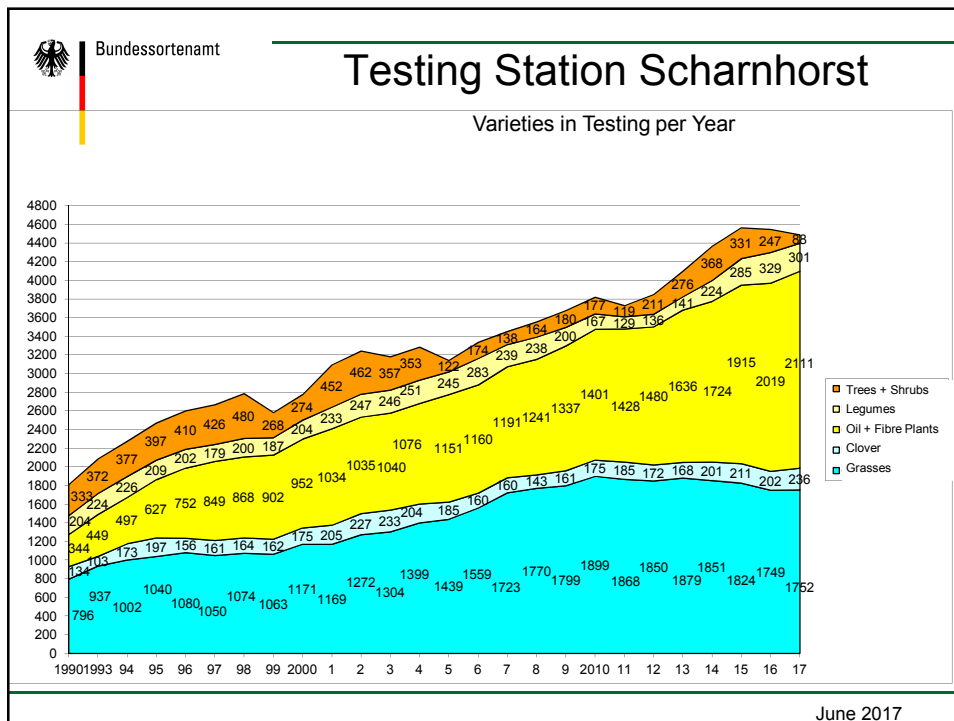
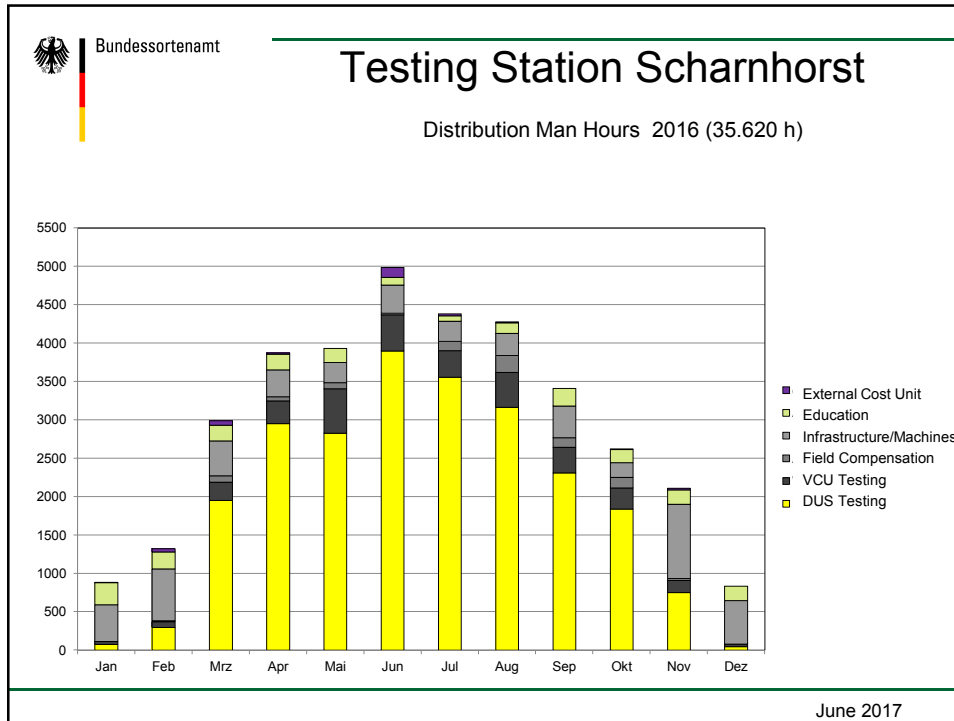
Natural Conditions

- Altitude 36m
- Rainfall (Average 1981-2010) 680mm
- Mean Temperature 9,7 °C
- Soil: Brown Soil, Gley Podsol; mainly loamy sand and sandy loam.

June 2017











[Annex IV follows]

ANNEX IV

LIST OF LEADING EXPERTS

**DRAFT TEST GUIDELINES TO BE SUBMITTED
TO THE TECHNICAL COMMITTEE IN 2018**

All requested information to be submitted to the Office of the Union

before August 4, 2017

Species	Basic Document(s)	Leading expert
*Barley (<i>Hordeum vulgare</i> L. <i>sensu lato</i>) (Revision)	TG/19/11(proj.2)	Ms. Beate Rücker (DE)
*Cotton (<i>Gossypium</i> L.) (Revision)	TG/88/7(proj.3)	Mr. Jesús Mérida (ES)
*Elytrigia (<i>Elytrigia elongata</i> (Host) Nevski), (<i>Agropyron elongatum</i> (Host) P. Beauv.)	TG/ELYTR(proj.7)	Mr. Alberto Ballesteros (AR)
*Field Bean (<i>Vicia faba</i> L. var. <i>minor</i>) (Revision)	TG/8/7(proj.3)	Ms. Cheryl Turnbull (GB)

DRAFT TEST GUIDELINES TO BE DISCUSSED AT TWA/47
(* indicates possible final draft Test Guidelines)

Guideline date for Subgroup draft to be circulated by Leading Expert: **February 9, 2018**

Guideline date for comments to Leading Expert by Subgroup: **March 9, 2018**

New draft to be submitted to the Office of the Union
before April 6, 2018

Species	Basic Document	Leading expert	Interested experts (countries/organizations) †
*Castor Bean (<i>Ricinus comunis</i> L.)	TG/RICIN(proj.3)	Mr. Adriaan de Villiers (ZA)	AR, AU, BG, BR, FR, IT, MX, QZ, UA, ESA, ISF, Office
Ginseng (<i>Panax ginseng</i> C.A. Mey) (Revision)	TG/224/2(proj.1)	Mr. Wonsig Lee (KR)	JP, ISF, Office
*Oats (<i>Avena sativa</i> L. & <i>Avena nuda</i> L.) (Revision)	TG/20/11(proj.3)	Mr. Antonio Escolano (ES)	AR, AT, AU, BR, CA, CN, CO, CZ, DE, DK, ES, FI, FR, GB, HU, IT, JP, KR, NL, NZ, PL, QZ, RO, SK, US, UY, ZA, ESA, ISF, Office
*Quinoa (<i>Chenopodium quinoa</i> Willd.)	TG/CHENO(proj.4)	Mr. Erik Lawaetz (DK)	AR, AU, BR, CA, CL, CO, ES, FR, IT, MX, NL, NZ, QZ, ZA, ESA, ISF, Office
Red Clover (<i>Trifolium pratense</i> L.) (Revision)	TG/5/8(proj.2)	Ms. Robyn Hierse (ZA)	AR, AU, BR, CA, CZ, DE, DK, ES, FI, FR, GB, IT, JP, NZ, PL, QZ, RO, SK, UY, ZA, CLI, ESA, ISF, Office
Rice (<i>Oryza sativa</i> L.) (Revision)	TG/16/9(proj.1)	Mr. Yoshiaki Takamatsu (JP)	AR, AU, BR, CN, ES, FR, IT, KE, KR, MX, QZ, US, CLI, ESA, ISF, Office
Soya Bean (<i>Glycine max</i> (L.) Merrill) (Revision)	TG/80/7(proj.3)	Mr. Alberto Ballesteros (AR)	AR, AT, AU, BR, CA, CN, CO, ES, FR, HU, IT, JP, KR, NL, PL, PY, QZ, SK, US, UY, VN, ZA, CLI, ESA, ISF, Office
Sunflower (<i>Helianthus annuus</i> L.) (Revision)	TG/81/6	Mr. Zoltan Csuros (HU)	AU, AR, BR, CA, CN, DE, ES, FR, , IT, QZ,RO, SK, ISF, ESA, CLI, Office
Tea (<i>Camellia sinensis</i> (L.) Kuntze) (Revision)	TG/238/1 Corr.	Mr. Simeon Kibet Kogo (KE)	AR, AU, BR, CN, KR, JP, Office
Triticale (x <i>Triticosecale</i> Witt.)	TG/121/3	Mr. Tanvir Hossain (AU)	AR, AT, CA, CZ, DE, DK, ES, FR, GB, HU, IT, KR, NL, NZ, PL, QZ, RO, SK, CLI, ESA, ISF, Office

† for name of experts, see list of participants

DRAFT TEST GUIDELINES TO POSSIBLY BE DISCUSSED IN 2019

Species	Basic Document(s)
Finger millet (<i>Eleusine coracana</i> (L.) Gaertn.)	New
Rape Seed (<i>Brasica napus</i> L. <i>oleifera</i>)	TG/36/6 Corr.
Rye (<i>Secale cereale</i> L.)	TG/58/6

[End of Annex IV and of document]