

Technical Working Party for Agricultural Crops**TWA/53/5 Add. Rev.****Fifty-Third Session****Original:** English**Virtual meeting, May 27 to 30, 2024****Date:** May 28, 2024

**REVISED ADDENDUM TO:
DEVELOPING NEW CHARACTERISTICS FOR BARLEY VARIETY EXAMINATION***Document prepared by an expert from France**Disclaimer: this document does not represent UPOV policies or guidance*

The annex to this document contains a copy of a presentation “Possible new characteristics for Spring Barley variety examination”, made by an expert from France, at the fifty-third session of the Technical Working Party for Agricultural Crops (TWA).

[Annex follows]



Possible new characteristics for Spring Barley variety examination TWA 2024

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Summary

- 🌾 Reminder of distinctness issues of spring barley varieties
→ 3 proposals for new characteristics
- 🌾 1st : Leaf : width
- 🌾 2nd : Awn : length of smooth part of median nerve
- 🌾 3rd : Grain : spiculation of outer lateral nerves of dorsal side of lemma
- 🌾 Conclusion

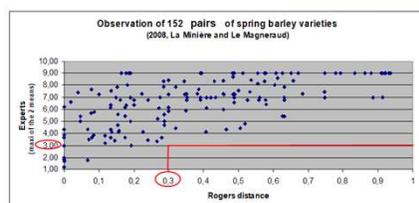
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Distinctness issues of spring barley varieties

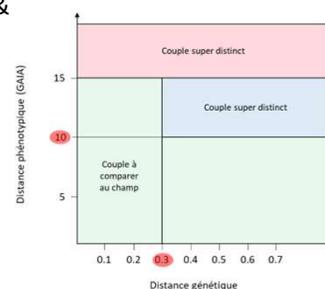
Breeding programs based on crosses within similar range of Western European germplasm
Mainly 1 type is applied: 2-rows varieties with anthocyanin coloration and glaucosity, without sterile spikelets (rudimentary) & very narrow time of ear emergence and plant length

→ All varieties are quite close with the current TG (range of characteristics on TG may not exploit the full range of variability within spring barley varieties)

→ Look for other characteristics which could help with distinguishing varieties, traditional observation of national characteristics in GEVES for spring barley & use of SSR markers to manage the variety collection since 2010 (model 2).



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Proposals

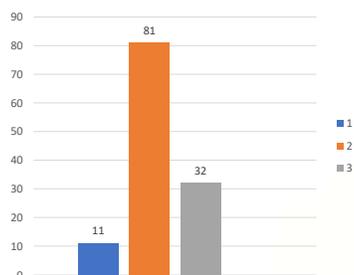
1st proposal : Leaf : width, 3-notes scale, stage : 25-29, VG

Differences are observed in comparison plots

Characteristic observed in 2023

- ✓ Easy to observe
- ✓ No added workload (scored together with Plant: growth habit & Plant : intensity of green colour)

Distribution of notes for 124 varieties of spring barley in 2023:



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Fandaga, Gangway

3



Laser, NOS Dueholm

Promising characteristic with discriminating power between varieties, could help for distinctness of spring barley varieties → will be observed again in 2024

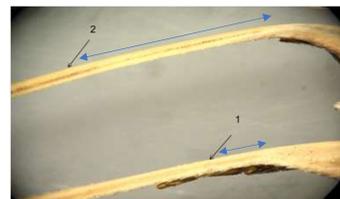
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Proposals

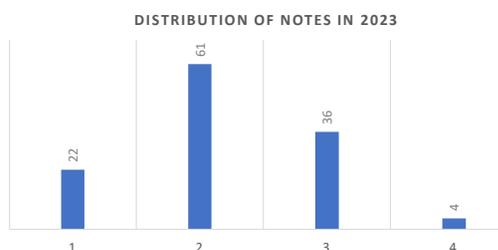
2nd proposal : Awn : length of smooth part of median nerve

Traditional scale in GEVES : 4-notes. 5 notes would be more appropriate

Qn	80-92	Awn : length of smooth part of median nerve		
	MS	short (fully rough)	KWS VERMONT CB CITUS	1
		short to medium (1 to 3 cm smooth at the basis)	DIVINER EIFEL	2
		medium (3 to 5 cm smooth at the basis)	TOLSTEFIX, CB CIRCUS	3
		medium to long (5 to 7 cm smooth at the basis)	LG AURUS ANNELI	4
		long (more than 7 cm to fully smooth)	ISMENA LEENKE	5



←→ Smooth part



→ Good discrimination power and uniformity within the varieties

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Proposals

3rd proposal : Grain : spiculation of outer lateral nerves of dorsal side of lemma

Existing characteristic in the TG : Grain: spiculation of inner lateral nerves of dorsal side of lemma

→ To be observed together, no increase of the workload

Qn	80-92	Grain : spiculation of outer lateral nerves of dorsal side of lemma		
	VG	weak	KWS Vermont	3
		medium	Tolstefix	5
		strong	Ackermanns Isaria	7

Inner lateral nerves of dorsal side

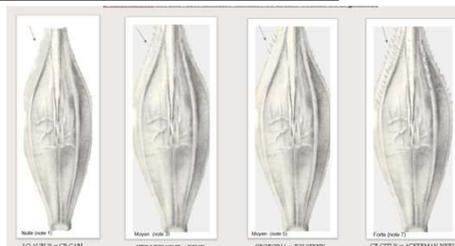
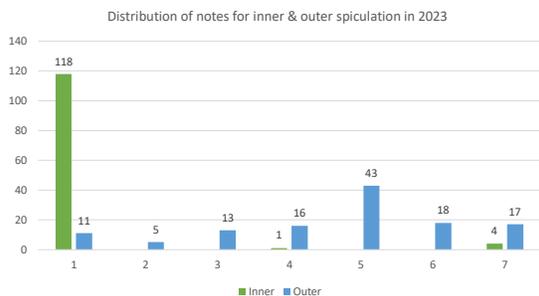


Outer lateral nerve of dorsal side

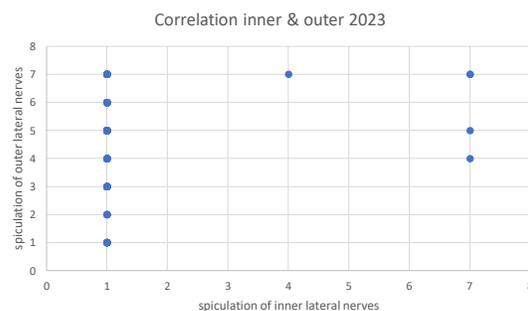
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Proposals

3rd proposal : Grain : spiculation of outer lateral nerves of dorsal side of lemma



- No correlation between spiculation of inner lateral nerves and of outer lateral nerves
- More variability of outer lateral nerves



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To conclude...

- ✓ Several characteristics with discrimination power for spring barley varieties and which can facilitate the establishment of distinctness
- ✓ No heavy additional workload – scored together with existing characteristics
- ✓ Better exploitation of the range of variability within spring barley varieties
→ don't aim at distinguishing too close varieties



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Thank you for your attention

