



TWV/50/13 Add. Rev. ORIGINAL: English DATE: July 7, 2016

# INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

# **TECHNICAL WORKING PARTY FOR VEGETABLES**

Fiftieth Session Brno, Czech Republic, June 27 to July 1, 2016

**REVISED ADDENDUM TO** 

REVISION OF DOCUMENT TGP/10: NEW SECTION: ASSESSING UNIFORMITY BY OFF-TYPES ON THE BASIS OF MORE THAN ONE GROWING CYCLE OR ON THE BASIS OF SUB-SAMPLES

#### Document prepared by an expert from France

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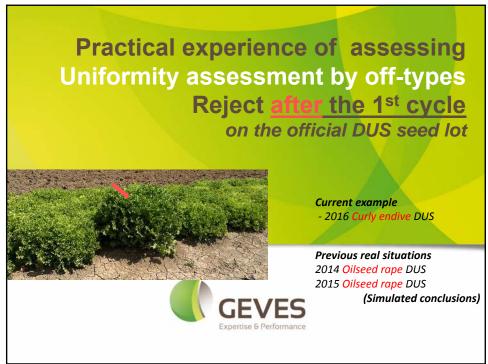
The Annex to this document contains a copy of the presentation "Practical experience of assessing Uniformity assessment by off-types Reject after the 1st cycle on the official DUS seed lot" made by an expert from France at the fiftieth session of the Technical Working Party for Vegetables (TWV).

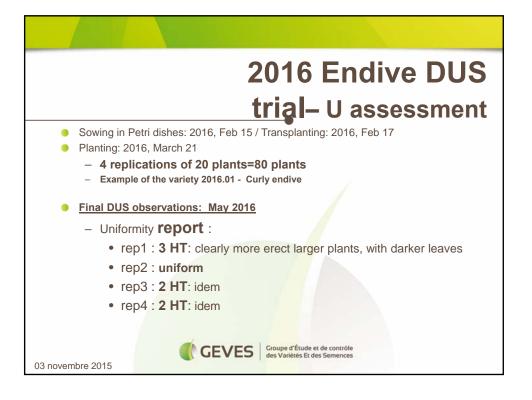
[Annex follows]

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#### ANNEX

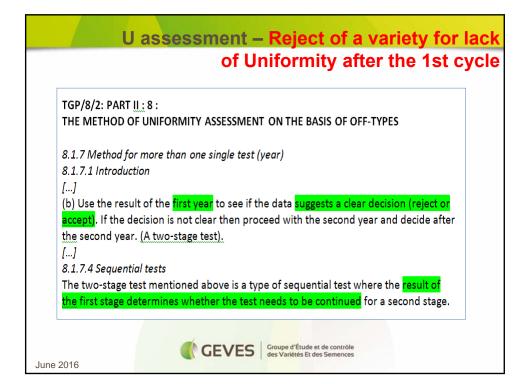
## PRACTICAL EXPERIENCE OF ASSESSING - UNIFORMITY ASSESSMENT BY OFF-TYPES REJECT AFTER THE FIRST CYCLE ON THE OFFICIAL DUS SEED LOT BY AN EXPERT FROM FRANCE

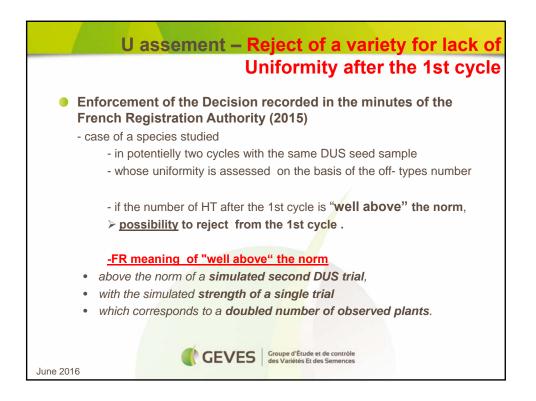


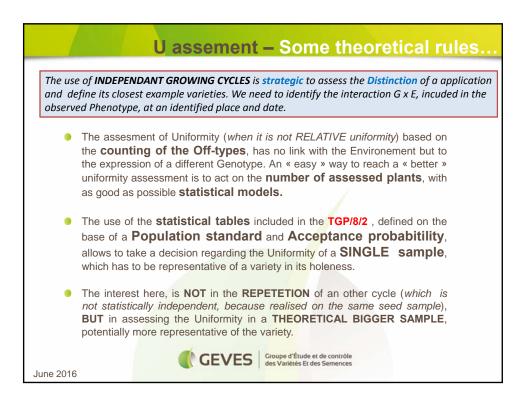


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		U assement -	Resulats
	80 observed plants 7 clear off-type plants	showing the same phentoypical type	ology
• ME		SSESSMENT ON THE BASIS OF OFF-TY d = 2%, Acceptance Probability ≥95%	'PES
	n=sample size	k=maximum number of off-types	
	1 to 2	0	
	3 to 18	1	
	19 to 41	2	
	42 to 69	3	
	70 to 99 (80 plants)	ONLY <b>4</b> off-type tolerated	
	100 to 131	5	
	132 to 165	6	
	166 to 200	7	
	201 to 236	8	
	237 to 273	9	
June 2016	C GE	Groupe d'Étude et de contrôle des Variétés Et des Semences	







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		U assement - Conclusi	ions
-	<ul> <li>Theoretical sample size = twice the</li> <li>In this case = 80 plants x 2 = 160</li> </ul>	•	
-	Number of tolerated off-type in this cas Population Standard = 2%, Acceptance		
	n=sample size	k=maximum number of off-types	
	132 to 165 (160 theoretical plants)	6	
~	Even in this theoretical circumstance higher than the tolerated threshold (6	<u>s</u> , the actual number of off-types (7 plants plants).	) <b>is</b>
>		e (even without off-types) would have no in be rejected for lack of uniformity.	npact
>	if the applicant <b>appealed this decision</b> , a 2	nd cycle could be completed possibly a third cyc	le).
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<u>Ca</u>	Indida	<u>tes</u> : par	ental li	nes (th		<b>•</b> / 95%) <b>+</b>	- hybrid	varieties	(thresold	10%/ 95% <u>)</u> i <b>form</b> ar	
					rmity pr		•	,		and an	ia ia
Туре			Thresold		Nb Off-types 2 <sup>nd</sup> cycle		$\Sigma$ plants nb	Σ off-types lst and 2nd cycle	Threshold (Σ plants nb lst and 2nd cycles)	Approach 1 FR current rules	<u>Approach 3</u> : FR former rules
HYB	300	55	39	282	55	37	582	110	70	Refusal for	
HYB	301	50	39	298	71	39	599	121	72		Refusal for lack of U on the basis
HYB	351	46	45	311	50	40	662	96	79		
LI	337	29	11	225	25	8	562	54	17		
LI	338	21	11	233	14	8	571	35	17	2 independant	
LI		Global heterogeneity			Global heterogeneity			***	***	cycles	of 2
HYB	263	43	35	171	18	24	434	61	54		combined cycles
HYB	330	37	42	286	50	37	616	87	74		cycles
LI	315	10	11	252	13	9	567	23	17	3rd cycle	
LI	356	12	12	276		10	632	23	19		
LI	298	5	10	237	11	9	535				Uniform
LI	287	3	10	183	9	7	470	12	15		
С	ne oth									varieties	after 2 <sup>nd</sup> )

	Plants	Theoretical	Nb observed	Thresold for			Approach 3:
	nb	Plants nb	Off-types	(Plants nb	Conclusion	Approach 1	FR former
Туре	(cycle1)	(cycle1 x 2)	1 <sup>st</sup> cycle	cycle1 x 2)	AFTER 1st cycle	FR current rules	rules
HYB	300	600	55	72	2nd cycle		
HYB	301	602	50	73	2nd cycle	Refusal for	Refusal for lack of U on the basis of 2 combined cycles
HYB	351	702	46	83	2nd cycle	lack of U	
					Refusal for lack	on the basis	
LI	337	674	29	20	of U	of	
					Refusal for lack	2 independant	
LI	338	676		20	of U	cycles	
u	330	660	Global heterogeneity	19	2nd cycle		
НҮВ	263	526	43	64	2nd cycle		
НҮВ	330	660	37	79	2nd cycle		
LI	315	630	10	19	2nd cycle	2 nd avala	
LI	356	712	12	21	2nd cycle	3rd cycle	
LI	298	596	5	18	2nd cycle		11
LI	287	574	3	17	2nd cycle		Uniform
		ible refusals	- ft fl d				

1	95 <b>GX</b>	<b>le?</b> w	ere in	1 <sup>st</sup> yea		ly, amc	ong them			: after	
Туре			Thresold		Nb Off-types 2 <sup>nd</sup> cycle		Σ plants nb 1st and 2nd cycles	Σ off-types lst and 2nd cycle	Threshold (Σ plants nb 1st and 2nd	Approach 1 FR current rules	Approach 3: FR former rules
HYB	228	45	30	144	30	21	372	75	47		
HYB	273	48	36	195	29	27	468	77	58	1	
u	234	10	8	171	10	7	405	20	13	lack of U	
u	247	12	9	201	9	8	448	21	14	on the basis of	
LI	244	13	9	175	8	7	419	21	13	2	Refusal for lack of U on the basis
u		Global heterogeneity			Global heterogeneity			•••	***	independant	
LI	272	39	9	202	25	8	474	64	15	cycles	
LI	213	14	8	176	10	7	389	24	13		of 2
HYB	301	33	39	143	24	20	444	57	55		combined
HYB	283	39	37	186	22	26	469	61	58	1	cycles
LI	230	19	8	165	1	6	395	20	13		
LI	319	12	11	208	6	8	527	18	16	3rd cycle	
LI	257	7	9	212	10	8	469	17	15	Stucycle	
HYB	275	34	36	160	23	22	435	57	54		
HYB	289	14		138	21	20	427	35	53		Uniform
HYB	259	26	34	217	30	29	476	56	59		
- F		others (			erent an 95) : sam	ne deci		non unife		oroach. 9 uniform	

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	Plants	Theoretical Plants nb (cycle1	Nb observed Off-types	Thresold for (Plants nb	Conclusion	Approach 1	Approach 3: FF
Туре	(cycle1)	x 2)	1 <sup>st</sup> cycle	cycle1 x 2)	AFTER 1st cycle	FR current rules	former rules
НҮВ	228		45	56	2nd cycle		
HYB	273	546	48	66	2nd cycle		
LI	234	468	10	15	2nd cycle	Refusal for	Refusal for lack of U on the basis of 2 combined
LI	247	494	12	15	2nd cycle	lack of U	
LI	244	488	13	15	2nd cycle	on the basis	
LI	275	550	Global heterogeneity	17	2nd cycle	of 2 independant	
LI	272	544	39	16	Refusal for lack of U	cycles	
LI	213	426	14	14	2nd cycle		
HYB	301	602	33	73	2nd cycle		cycles
HYB	283	566	39	69	2nd cycle		
u	230	460	19	14	Refusal for lack of U		
LI	319	638	12	19	2nd cycle	3rd cycle	
LI	257	514	7	16	2nd cycle		
HYB	275	550	34	67	2nd cycle		
HYB	289	578	14	70	2nd cycle		Uniform
HYB	259	518	26	63	2nd cycle		UIIIUIII
•	2 nossil	ble refusals af	er the 1st o	rvcle			

