

EVALUATION OF SUNFLOWER HYBRIDS FOR DISEASE SUSCEPTIBILITY IN 1989

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SUMMARY

This short communication presents the results on diseases screening (*Sclerotinia sclerotiorum*, *Diaporthe helianthi*) carried out in 1989 in Hungary. The Yugoslav hybrid NSH-45 was most tolerant to *Diaporthe helianthi*. The coded hybrids S.280, S.277, S.2151 and the hybrid ANTLIA had the rates of *Sclerotinia sclerotiorum* infection under 10%.

Diseases, especially those caused by fungi, threaten to become the main limiting factor of sunflower production in Hungary. *Sclerotinia sclerotiorum* (white mould), *Diaporthe helianthi* (anamorph: *Phomopsis helianthi*) and - especially under drought conditions - *Macrophomina phaseolina* are the main pathogens.

Last year (1989), 21 hybrids (Table 1) were planted in 12 various locations (Table 2). The hybrids were each grown in 1 ha plots.

Table 1.

1. NSH 26	8. Citosol 4	21. IHNK 173	27. Emil
2. IBH 166	9. Florakis	22. IHNK 81	28. Antlia
4. HB I.	10. Blumix	23. NSH 45	30. Topflor
5. Heliapex	11. XF 4615	24. S. 277	
6. S. 281	12. SH 13	25. S. 280	
7. Viki	13. SH 55	26. S. 2151	

Table 2.

Ujpetre (Petőfi MgTSz)	Törökszentmiklós (Béke MgTSz)
Csökmő (Dózsa MgTSz)	Nagykónyi (Koppánymenti MgTSz)
Mezőkövesd (Délborsodi ÁG.)	Ikervár (Gyöngyös-Rábameti MgTSz)
Felsővadász (II. Rákóczi F. MgTSz)	Pacsa (Haladás MgTSz)
Enying (Enying ÁG)	Gelse (Március 15 MgTSz)
Dunapataj (Uj Élet MgTSz)	Pázmánd (Barátság MgTSz)

Despite the comparatively humid vegetation period of 1989, *Sclerotinia* remained negligible, while *Diaporthe* proved to be the predominant pathogen.

For the sake of easier understanding, disease incidence on 7 hybrids in 3 randomly selected experimental fields is summarized in Table 3. The results obtained from various other experimental fields were practically the same. In general, out of the 21 hybrids tested only NS-H-45 proved to be highly resistant to *Diaporthe helianthi*.

Table 3. Diaporthe infection (%) on sunflower hybrids in 1989.

Hybrid	Ujperthe	Dunapataj	Törökszent- miklós
Emil	50	34	86
S. 280	36	18	89
TopFlor	35	27	88
Antlia	27	14	84
NSH 45	1	2	8
IBH 166	13	37	74
IHNK 173	13	23	54

Table 4. Sclerotinia infection (%) on sunflower hybrids in 1989.

Hybrid	Stem base	Stem	Head
Viki	29	1	0
HB 1	27	2	0
Florakis	25	2	0
S. 280	7	0	0
Antlia	6	0	0
S. 277	8	0	1
S. 2151	9	0	0
NS-H 26	17	1	0
NS-H 45	9	0	0

Out of the 12 experimental fields *Sclerotinia sclerotiorum* was significant only at the state farm Enying, where the stem infection was as high as 25 - 30% (Table 4). Some of the hybrids proved to be tolerant to white mould (less than 10% infection), and these were the S hybrids (S.280, S.277, S.2151), Antlia, and the Diaporthe resistant NS-H-45. *Sclerotinia* stem infections on these tolerant hybrids was only 7 - 9%.

On the basis of the results obtained in 1989 we suggest for 1990 that proper agrotechnical measures are applied and resistant (NS-H-45) and tolerant (S hybrids) hybrids are planted.

EVALUATION D'HYBRIDES DE TOURNESOL POUR LA SENSIBILITE A DIVERSES MALADIES EN 1989.

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Cette communication présente les résultats concernant un screening maladies (*Sclerotinia sclerotiorum*, *Diaporthe helianthi*) effectué en 1989 en Hongrie. L'hybride yougoslave NS-H-45 s'est révélé le plus tolérant à *Diaporthe helianthi*, les hybrides codés S.280, S. 277, S.2151 et l'hybride ANTLIA ont présenté un niveau d'attaque à *Sclerotinia sclerotiorum* inférieur à 10%.

EVALUACION DE HIBRIDOS DE GIRASOL POR LA SUSCEPTIBILIDAD A DIVERSAS ENFERMEDADES EN 1989.

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Se presentan en esta comunicación los resultados de susceptibilidad frente a enfermedades (*Sclerotinia sclerotiorum*, *Diaporthe helianthi*) efectuados en 1989 en Hungría. El híbrido yugoslavo NS-H-45 se mostró como el más tolerante a *D. helianthi*. Los híbridos de códigos S.280, S. 277, S.2151 y el híbrido ANTLIA presentaron un nivel de ataque a *S. sclerotiorum* inferior al 10%.