

Development of Cultivars and Winter Rapeseed Quality in Czech Republic

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The cultivars of winter rapeseed in Czechoslovak Republic in 1918 - 1938 were mainly land races. Exceptionally different German and Hungarian cultivars were imported. The first registered cultivars was "TŘEBÍČSKÁ", licensed in 1941 and "SLAPSKÁ" - 1946. Cultivars such as LEMBKE, JANETZKI, MANSHOTS, GRONINSKA came to a close after the second world war, same as "ESTERHAZY" of Hungarian provenience, grown in warmer areas of South Moravia.

Cultivars with considerable yield effects, RAPOL, GORZANSKI, later NORDE and VICTOR came with the trend of gradual production area increase. In seventies was the cultivar assortment enriched with high yielding classical cultivars represented by "BRILLAND" [1973] and "MIRA" [1978].

In this period under the processing industry pressure were tested "0" materials in State varietal tests.

In 1977 "0" PRIMOR and in 1979 QUINTA cultivars were registered. Testing classical types of cultivars was finished in 1980.

There were no complication in finishing the classical cultivar production and the introduction of "0" material was fast and easy. Assortment of "0" type was widened in 1980. JET NEUF of French origin and Swedish cultivar BRINK started to be grown. Especially JET NEUF was the base of cultivars for a long period and contributed to the effectiveness of winter rape production in Czech Republic. Gradually "SILESIA" [1983], "BELINDA" [1985] and "SOLIDA" [1986] were introduced into the assortment.

The first material "00"- low in glucosinolates were informatively tested in State Institute for Agriculture Supervision and Testing (SIASST) experiments in 1981 [LIBRADOR, WRG 15, BNV-24]. The range of "00" tested materials was extended [1982-ELENA]. However the yield potential of cultivars tested in 1981 and 1982 was low and tests were stopped.

In 1985 -1988 were many home and foreign materials tested [OP-023, LO-78, OP-09, SL-501, SL-502, SL-506, OP-08, RUBIN, DARMOR, JANTAR, CERES, SL-509, OP- 014 and ARABELLA]. DARMOR was the first licenced cultivar in the groups "00", even if it was not quite typical material, characterized by low GSL content. In following years were licenced cultivars CERES [1990], SONATA [1990], ARABELLA [1992], AGLONA [1993], FALCON [1993], LIBRAVO [1993], LIRAJET [1994], OLYMP [1994], and ZEUS [1994].

This development of cultivar composition has been accompanied with changes in basic qualitative properties, i.e. oil content and GSL content. The main factor having influence on these characters has been the cultivar.

The oil content varied in classical cultivar according to its genotype and the maximal decrease started with the change of classical erucic to zero erucic rapeseed in 1980. These cultivars were represented by the high yielding cultivar JET NEUF, but with low oil content [Fig. 1]. By coming of the "00" cultivars with respect to the oil content during their selection should this decrease be blocked and the oil content increased.

Assortment of "00" cultivars, at first containing so called intermediate type, appeared to be negative in GSL content and in shattering of "O" as a mercantile material.

Coming of the substantial double zero cultivars and cleared fields means the contemporary harvested production realizes the limit in 30 $\mu\text{mol/g}$ of GSL in seeds. [Fig.2]

The widened introduction of "00" cultivar types in practical production was attended by distrusts of yields and overwintering and excessive fears of wild animal loss rates and also by incorrect directive decisions.

The total change-over to "00" cultivars in Czech Republic has been reached in 1992/93 sowing.

Czech list of licenced cultivars of winter rapeseed is given in attached table 1.

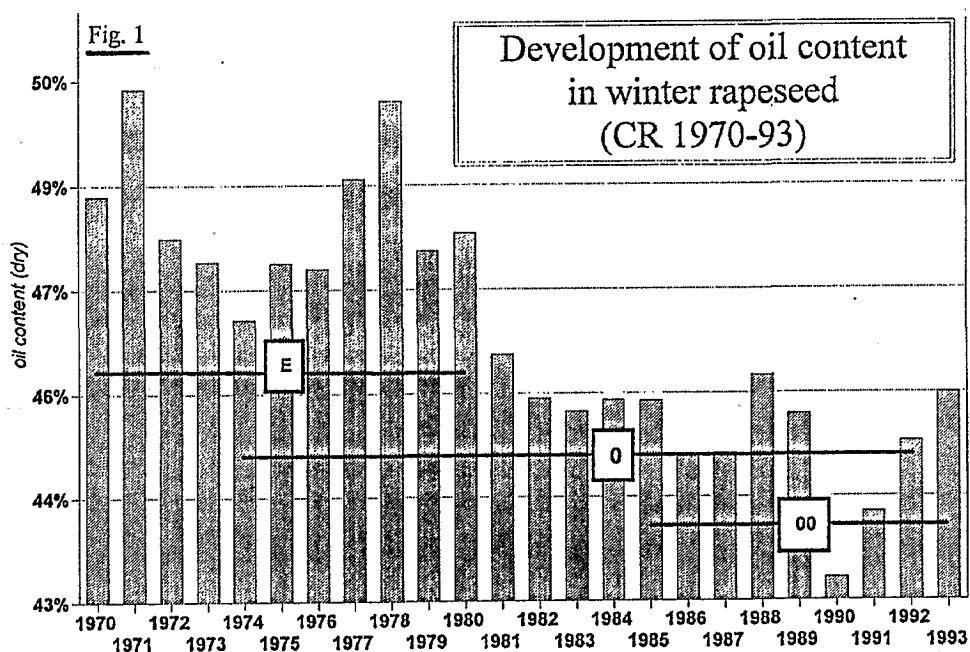
Only a few cultivars of the given ones have been exploited - mainly those registered and simultaneously high yielding in semi-run varietal experiments of System of rapeseed produce [1 plot = 1-2 ha, Fig. 3]. Cultivar sown 1994 - 95 are given in Fig. 4.

Winter rapeseed cultivars registered in the List of licenced cultivars of the Czech Republic

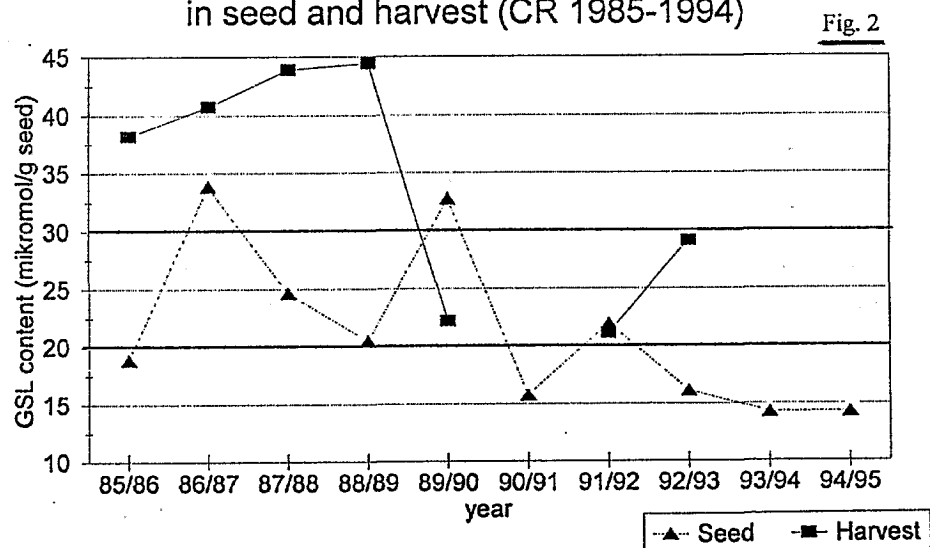
Table 1

<i>Cultivar</i>	<i>Firm</i>	<i>Origin</i>	<i>Type</i>	<i>Reg. since</i>
Aglona	VÚO Opava	ČR	OO	1993
Arabella	Semundo	SRN	OO	1992
Ceres	NPZ Hohenlieth	SRN	OO	1990
Darmor	Ringot	Francie	OO	1989
Falcon	NPZ Hohenlieth	SRN	OO	1993
Libravo	DSV Lippstadt	SRN	OO	1993
Lirajet	DSV Lippstadt	SRN	OO	1994
Olymp	NPZ Hohenlieth	SRN	OO	1994
Solida	ŠS Slapy	ČR	O	1986
Sonáta	VÚO Opava	ČR	OO	1990
Zeus	NPZ Hohenlieth	SRN	OO	1994

Rem.: Position in December 1994, in spring 1995 further licenced cultivars are being expected

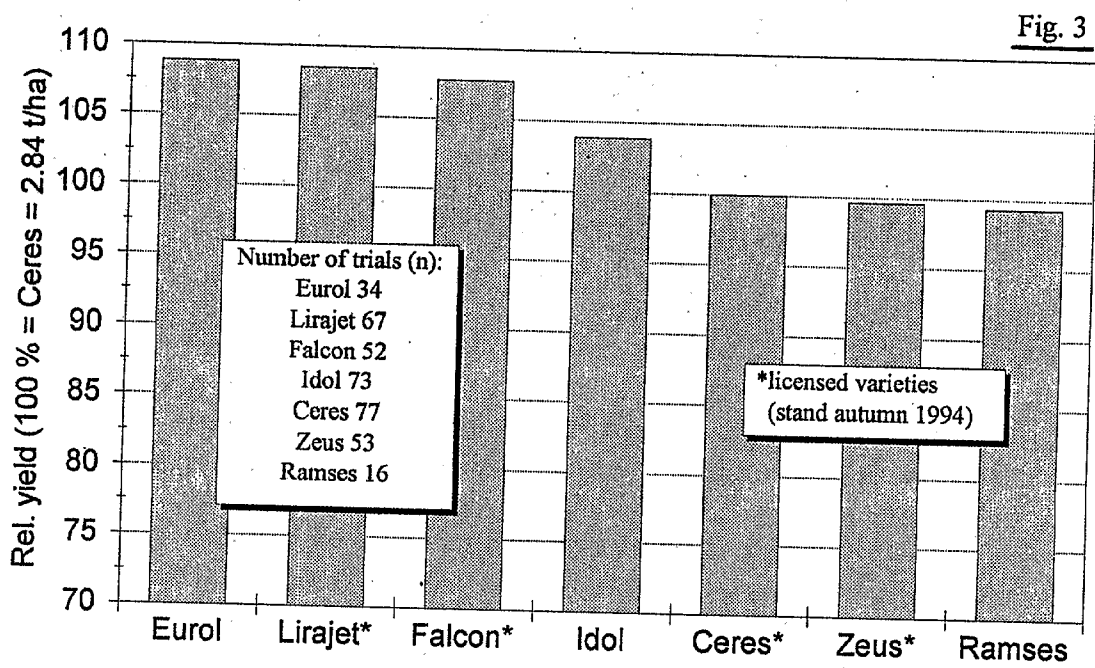


Glucosinolate content (GSL) in seed and harvest (CR 1985-1994)



Semioperational varietal trials

Yield of seed 1992-1994



Relation of winter rapeseed varieties

in CR in 1994/95

