

Rape Seed Production in Denmark

Svend FUGLSANG

The Danish Agricultural Advisory Centre
Udkaersvej 15, Skejby, DK-8200 Århus N

For many years the production of rape seed in Denmark was based mainly on summer rape. As from the mid-eighties the growing of winter rape progressed favourably for the following reasons:

- Winter rape has a larger yield potential.
- In recent years with mild winters and fairly early harvests of cereal crops it has been possible to sow winter rape in due time.
- According to Danish legislation all farms with an acreage of 10 ha or more have to establish "green fields". This means that 65% of the acreage have to be covered with an overwintering crop or a crop used as a catch crop. Such a catch crop must not be ploughed in until 20 October. Crops that are harvested late are also included among "green fields". Unlike summer rape, winter rape can meet this requirement.

A cut from 37,000 ha winter rape in 1987 to 27,000 ha in 1988 was brought about by a comparatively late harvest in 1987 with only few possibilities of establishing this crop in the autumn. As from 1988 the acreage has grown to 158,000 ha (estimated), partly at the expense of the acreage covered with summer rape (table 1).

After two mild winters 1988/89 and 1989/90 with good overwintering conditions, the yield level of winter rape was fairly high. The yield level of summer rape was close to being normal in 1988 and 1989 and a little above normal in 1990.

The total production of rape seed in Denmark has been estimated at 818,000 tons (with a water content of 9%) for the 1990 harvest. Both in 1989 and 1990 the seeds harvested had a low water content. In 1989 and 1990 the oil content was approx. 45% for summer rape and approx. 46% for winter rape.

Table 1: Rape Seed Production, 1987-90.

1000 ha	1987	1988	1989	1990*
Winter rape	37	27	78	158
Summer rape	<u>213</u>	<u>171</u>	<u>152</u>	<u>107</u>
Total	250	198	230	265
<u>Seed yield, kg/ha</u>				
Winter rape	26.8	30.1	36.1	34.1
Summer rape	<u>21.4</u>	<u>24.5</u>	<u>24.4</u>	<u>26.1</u>
Rape, total	22.2	25.3	28.4	31.0
Rape seed, total, 1000 tons	556	504	605	818

* Provisional statement

Since the mid-seventies the production of summer rape has been based mainly on 00-varieties. As from 1980 we have produced only 00-summer rape seed. Highly yielding winter rape 00-varieties were admitted to the Danish variety list in 1986. This brought about a nearly immediate change to the 00-varieties that were equal to the single-low varieties as regards yield, the result being that for the last 3-4 years only double-low rape has been grown.

Due to the change of production to summer rape with a low glucosinolate content and because of a rapid conversion to growing 00-varieties we have no problems meeting the present limit value set by the EC Commission for 00-varieties, i.e. max 35 m.mol/g airdried seeds. Nor would it in my view present any problems to meet future requirements for a limit value of 20 m.mol/g airdried seeds. In a personal information from Aarhus Oliefabrik the following composition of the seed lots received during the autumn of 1990, has been given.

1-10 m.mol/g seeds	17 samples
11-15 m.mol/g seeds	134 samples
16-20 m.mol/g seeds	26 samples
> 20 m.mol/g seeds	0 samples

The average content of the quantities received was measured at 13 m.mol/g airdried seeds.

The main varieties of summer rape are Topas, Global, Comet, and Drakkar. New high yielding varieties, including two Danish varieties: Bingo and Iris, have yielded good results for the last few years and are expected to take over a major share of the market. Bingo and Iris have a very low glucosinolate content. 6 and 10 m.mol/g airdried seeds (HPLC) respectively were measured during the testing in connection with the admittance to the variety list. As regards winter rape varieties the German variety Ceres has been predominant during recent years. The tests registered a glucosinolate content of 14.6 m.mol/g airdried seeds for this variety.

The most frequent rape diseases in Denmark are *Sclerotinia sclerotiorum*, *Alternaria brassicae*, and *Botrytis cinerea*. For the last two years the infestation caused by these have been insignificant. The risk of attacks by other diseases, such as *Phoma lingam* and Light leaf spot (*Cylindrosporium concentricum*), is expected to increase with the extension of the acreage covered with winter rape.

SF/kj/29.11.1990/5819H