

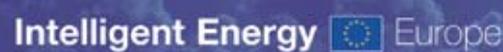
# Oilseed plants

# Guide of best practices

Valuable information to help you plan, grow and market your crop successfully



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# Oilseed rape



Oilseed rape must be grown in cereal rotation that offers an effective take-all break as an entry to higher-yielding first cereal crops. Oilseed rape will grow on a wide range of soils. However, it is susceptible to poor drainage and soil compaction. Nutrient deficiencies may be exacerbated outside the range pH 6-7.5.

Ideally the crop is sown between end of August and second half of September. The highest yields have been maintained at populations as low as 9 plants/m<sup>2</sup> with seed rates for winter crops ranging from 3kg/ha (60 seeds/m<sup>2</sup>) to 6kg/ha (120 seeds/m<sup>2</sup>). Early drilling also increases the risk of frost damage to early-flowering crops. Poor soil conditions, frost and slugs may considerably reduce establishment. It is wise to increase seed rate to allow for poor establishment.

Seeds are sown 2-3 cm deep. Good seedbed quality is vital. The most important factors are adequate soil moisture and good soil seed contact from a fine tilth and rolling. For crop nutrition the most important are seedbed nitrogen, phosphate (P<sub>2</sub>O<sub>5</sub>) and potash (K<sub>2</sub>O). If required, phosphate and potash are usually applied before or during drilling of winter oilseed rape.

Before harvest, stores should be thoroughly cleaned and disinfested. The small size of rapeseed means it can easily leak from bins or into ducts. Therefore, thorough store inspection pre-harvest and maintenance throughout the storage period is essential.

Rapeseed should be cooled rapidly to maintain oil quality and minimise the threat from moulds and mites. Cooling can be achieved using ambient air. Cooling is best achieved in stores designed for rapeseed. In stores designed for cereals, adequate airflows are maintained by reducing bed depth. Storage at low temperatures helps protect against increased free fatty acid (rancidity) levels due to broken seed and the build-up of mites and moulds.

The air temperature should not exceed 70°C if rapeseed has over 12.5% mc, 80°C if under 12.5% mc and the temperatures should be reduced by 10°C where rapeseed is not mixed during drying. When the grain is intended to be used for seed the temperature of 65°C below 17% mc should not be exceeded. The safe moisture content (mc) for storing oilseeds is about 7.5% to 8%.

# Soya beans



Soya beans are an important global crop, providing oil and protein. The bulk of the crop is solvent-extracted for vegetable oil and then defatted soy meal is used for animal feed.

Typically, soya beans planted during early May have the best yield potential. Growing conditions at planting time will influence the success of seed germination and seedling vigour. Soya beans need a minimum soil temperature of 12 to 15 °C to germinate. Germination rates increase at warmer temperatures.

Soya bean is a hardy plant and well adapted to a variety of soils and soil conditions. Producing the best quality crop and maximum yields will require top quality soil. A healthy, fertile, workable soil will actually provide seedlings and growing plants with protection from adverse weather including cold, frost, drought, excess water, and protection from pests and diseases.

Seeds should be planted at 25-36 mm deep to meet the moisture and temperature requirements for germination. A final plant population may range from 70,000 to 180,000. Typically, 150,000 is a good target for wide rows and 175,000 for narrow rows. At lower populations, plants branch more and lodge less, while at high populations the opposite is true.

The plant produces pods starting at about 7 to 10 cm above the soil surface and continuing to the top of the plant. A large portion of the pods are on the lower one-half of the plant. The soil surface should be flat and fairly smooth at the time of planting so that at harvest the cutter bar on the combine can be run as close to the soil surface as possible. Plants in these populations will set pods lower than plants in thicker populations.

Approximately 90 percent of the harvests losses occur before the soybeans enter the combine. Soybeans are easy to thresh and clean. The combine reel should be operated about 1.25 times the ground speed, otherwise it will cause excessive shattering and seed loss.



# Sunflower



Sunflower is one of the leading oil seeds crops of the world. It requires a minimum soil temperature of 8 to 12°C during germination and seedling growth. Seedlings tolerate frosts moderately well until they reach the four to six leaf stage of development. It requires warm weather from the seedling stage up to flowering stage and warm and sunny days during flowering to maturity.

Sunflower can be grown on a wide range of soils and tolerates a moderate pH range and some salinity. It grows best on deep loam soils with good drainage and irrigation facilities. The optimum range of soil pH for this crop is 6.5 to 8.5. They grow best in fertile, moist, well-drained soil with a lot of mulch.

Sunflower requires well drilled weed free land with adequate moisture supply. The soil preparation with ploughing should be done by the mould-board plough followed by secondary tillage. There should be sufficient moisture at the time of sowing for proper germination. Under irrigated conditions where sunflower is to be taken sowing should be done after pre-irrigation.

The optimum time of sowing of sunflower is first decade of March, whereby sowing it earlier or later than these periods is disadvantageous to this crop. A seed rate of 8-10 kg per hectare is sufficient to ensure good crop stand. To grow well, sunflowers need full sun. Sunflower should be sown 45 centimeters apart in lines with a plant to plant spacing of 20 centimeters. The seed should be sown at 3-4 centimeters depth for better stand.

The sunflower crop is ready for harvest when moisture in seed reached 20 %. The commercial crop is threshed with combine harvesters by adding a special sunflower header. The sunflower can produce enormous quantities of oil per hectare sown, since oilseed sunflower varieties are approximately 40 - 50% oil by weight. Sunflower seed yields can exceed 3000 kg/ha, but more commonly, crops tend to average between 1200-2000 kg/ha.