

Oilseed Crops

1. Rapeseed Crops (Sarson, canola, Toria) and Mustard (Taramira and Raya)

Botany and importance

Rapeseed and Mustard crops are the main oilseed crop for the Rabi season which is planted on more than 80% area covered under oilseeds.

These belong to family Crucifera and locally known as canola, sarson, raya and toria. These are second most important oilseed crops after cotton. Young leaves are used as vegetables and also as fodder. Oil of these crops is used in cooking and in making pickles, and also in industry as a lubricant. Export of this oil may increase in country economy.

Climate

These crops are well adapted to temperate regions of country and do well in average daily temperatures of 30 degrees. s

Varieties

Zaid-kharif (Toria-A, Raya Anmol, AARI Canola)

Rabi (Sarson-DGL, Chakwal raya, Kanpur raya, Super raya, Chakwal sarson, Roohi sarson, Punjab Canola, Faisal Canola, PARC canola hybrid)

Soil and seedbed preparation

Heavy loam soils with good water drainage are more suitable for these crops cultivation. However, more salt-affected and water-logging soils are not suitable for cultivation. Soil is ploughed with a mouldboard plough to a depth of about 30 cm, followed by cold-crushing and levelling. One or two ploughings are then carried out, followed by planking.

Sowing time

Zaid-kharif Varieties		
Variety	Area	Sowing Time
Toria-A	All Punjab	15 Aug- 30 Sep
Raya anmol	All Punjab	25 Aug- 15 Sep
AARI canola	All Punjab	25 Aug- 15 Sep
Rabi Varieties		
Variety	Area	Sowing Time
Punjab canola, Faisal canola, PARC canola hybrid and other hybrid varieties	All Punjab	20 Aug- 31 Oct
Kanpur raya, super raya	All Punjab	1 st Oct- 31 Oct
Chakwal raya	All Punjab	20 Sep- 31 Oct
Chakwal sarson	All Punjab	20 Sep- 15 Oct
Sarson DGL, Roohi sarson	All Punjab	1 st Oct- 31 Oct

Seed rate

Use 1^{1/2}-2 kg/acre with more than 80% germination percentage. In case of low soil moisture, use more seed than recommended. In rainfed areas, use 2-2^{1/2} kg seed.

Sowing method

- Cultivation of Punjab canola, Faisal canola, Toria and Raya anmol is done with drill in rows 30-45 cm apart with 2-4 cm depth.

- Cultivation of Kanpur raya, super raya, Chakwal raya, Chakwal sarson, Sarson DGL and Roohi sarson is done with drill in rows 45 cm apart.

Fertilizer application

Crop	N	P	K	Fertilizer
Kanpur raya, super raya, Chakwal raya, AARI canola, Raya anmol, Sarson DGL, Roohi sarson	25	30	12	1 ^{1/4} bag DAP+1 bag urea+1/2 bag SOP
Toria	23	23	12	1 bag DAP+3/4 bag urea +1/2 bag SOP
Punjab canola, Faisal canola, PARC canola hybrid	25	35	35	1 ^{1/2} bag DAP+1 bag urea+1 bag SOP
Chakwal raya, Chakwal sarson	35	23	12	1 ^{1/4} bag DAP+1 bag urea+1/2 bag SOP

- In rainfed areas, all nitrogen and phosphors fertilizers are used at sowing time.
- In irrigated areas, all nitrogenous fertilizers are divided in two splits, one is used at sowing time and other before flowering stage.
- Phosphors and potash base fertilizers are used at sowing time.

Irrigation

Normally, 3 irrigations are applied.

- 1st irrigation is applied after one month of sowing.
- 2nd irrigation is applied at flowering.
- 3rd irrigation is applied at seed formation stage.

Thinning

- Uproot weak and damaged plants at four leaf stage and maintain PxP distance 10-15 cm apart.
- Thinning is done before 1st irrigation.

Weeds

Itsit, jawai, dumbi Sitti, lashkni booti, bathu, krund and shahtra.

- Daab method and hoeing are traditional methods to control weeds.
- Use Pendimethaline @ 800ml/L to control by chemical method.

Diseases

Alternaria blight, white rust, downy mildew, stem rot and bacterial black rot are most serious disease which can be controlled by seed treatment with fungicide.

- Concern to extension workers and use recommended chemicals.

Insects

Termite, grass hopper, aphid, mustard sawfly, cabbage butterfly and painted bug.

- Use recommended insecticides to control these insects.

Time of harvesting

These crops are ready for harvest when their stems and pods become yellow. Raya and canola are harvested when about 75% and 50% of the pods turn yellowish, respectively.

2. Taramira (*Eruca sativa*)

Botany and importance

These belong to family Crucifera and locally known as taramira. Its seed has about 30-35% oil contents. Young leaves are used as vegetables(Saag) and also as fodder. Its oil is best for stomach problems, acidity and joints.

Climate

This crop is fairly adapted to Thal and Cholistan regions.

Soil and seedbed preparation

Light loam soils with good water drainage are more suitable for these crops cultivation. However, it can be grown in salt-affected and water-logging soils. Soil is ploughed with a mouldboard plough to a depth of about 30 cm, followed by cold-crushing and levelling. One or two ploughings are then carried out, followed by planking.

Sowing time

Variety	Area	Sowing Time
Taramira	Bakhar, Khushab, R. Y.Khan, Mianwali, Bahawalnagar, and Bahawalpur	Mid-Aug – End-Oct (rainfed areas) Start-Oct - Mid-Nov (irrigated areas)
Taramira	Rawalpindi Division	Mid-Aug - Mid-Sep

Seed rate

Use 1^{1/2}-2 kg/acre with more than 80% germination percentage. In case of low soil moisture, use more seed than recommended. In rainfed areas, use 2-2^{1/2} kg seed.

Sowing method

Cultivation of Taramira is done with drill in rows 30-45 cm apart with 2-4 cm depth. However, some farmers are using still broadcast method.

Fertilizer application

Crop	N	P	K	Fertilizer
Taramira	12	12	12	1/2 bag DAP+1/4 bag urea+1/2 bag SOP/MOP

- In rainfed areas, all nitrogen and phosphors fertilizers are used at sowing time.
- In irrigated areas, all nitrogenous fertilizers are divided in two splits, one is used at sowing time and other before flowering stage.
- Phosphors and potash base fertilizers are used at sowing time.

Irrigation

Normally, 3 irrigations are applied.

- Ist irrigation is applied after one month of sowing.
- 2nd irrigation is applied at flowering.
- 3rd irrigation is applied at seed formation stage.

Weeds

Itsit, jawai, dumbi Sitti, lashkni booti, bathu, krund and shahtra.

- Daab method and hoeing are traditional methods to control weeds.
- Use Pendimethaline @ 800ml/L to control by chemical method.

Diseases

Alternaria blight, white rust, downy mildew, stem rot and bacterial black rot are most serious disease which can be controlled by seed treatment with fungicide.

- Concern to extension workers and use recommended chemicals.

Insects

Termite, grass hopper, aphid, mustard sawfly, cabbage butterfly and painted bug.

- Use recommended insecticides to control these insects.

Time of harvesting

These crops are ready for harvest when their stems and pods become yellow. It is harvested when about 75% of the pods turn yellowish.