

PRODUCTION TECHNOLOGY OF RAPESEED AND MUSTARD

- **Soil:** All types of soils are suitable except water logged and acid soils.
- **Seedbed Preparation:** For optimum seed bed preparation one mould board plough 30-40 days before planting is required to preserve moisture. At the time of planting 2-3 times ploughings followed by planking is sufficient for seed bed preparation.
- **Planting time:** The best sowing time in barani areas is from 25th September to 15th October
- **Seed Rate**
 - Line sowing = 4-5 kg/ha
 - Broadcast = 5-6 kg/ha
- **Recommended varieties and their salient features**
 - Chakwal Sarsoon (High yielding potential, wider adoptability and better tolerance to stresses)
 - Chakwal Raya (High Yielding, Drought and cold tolerance, resistant to shattering, insect pests and diseases)
- **Method of Planting**
 - Row to Row distance = 30-45 cm
 - Plant to Plant distance= 4-5 cm
 - Seed depth = 2-3 cm
- **Fertilizer:** 75:50:0 Kg/ha (NPK)
- **MAIN DISEASES OF RAPESEED**

Sclerotinia Stem and Root Rot (*Sclerotinia sclerotiorum*)

Symptoms: All parts of the plants i.e., stem, root, pod and leaves are attacked. Infected areas show cottony mycelium growth associated with large, round to irregular shaped, black sclerotia (2-15 mm in size). Sclerotia also develop within the pith. At maturity, the diseased tissue tends to shred upon handling. Releasing sclerotia into the soil or in the crop as it is harvested. Occasionally sclerotia are found in pods, side branches. Pods may also be infected and killed.

Control:

- i. Deep ploughing of soil will help to minimize the disease because burial of sclerotia at 8 cm checks the formation of apothecia and ascospores.
- ii. A long rotation with at least four years between susceptible crops to reduce the incidence and severity of disease.
- iii. Susceptible weed and volunteer plants should be destroyed to reduce the disease problem.
- iv. Routine cleaning of seed followed: spiral cleaner removes nearly all sclerotia. This, too, will reduce the inoculum in the **field**.
- v. Seed treatment (for control of seed contamination by sclerotia of the pathogen), apply Thiabendazole at the rate of 400 mg/100 kg seed.

Stem, Leaf and Pod Spots, (*Alternaria* black spots)

Symptoms: The disease first appear on the cotyledons with light brown spots which rapidly turn black due to appearance of spore masses and act as source of infection for other healthy plant. Leaf spots range from gray to black depending upon moisture conditions. Each leaf lesion may be surrounded by chlorotic area. Lesions consisting of well marked concentric zones are often seen. Defoliation is an important consequence of leaf infection. Stem and pods spots are brown to black and may become large frequently developing grayish centre.

Control Measures

- i. Early varieties of rape may reduce loss due to *Alternaria* black spot.
- ii. Weed control appears to be more critical for this disease.
- iii. Use quality seed to reduce the inoculum of the pathogen.
- iv. Seed treatment with fungicides is beneficial to control seed borne diseases.
- v. Resistant varieties provide the most economical way to control the disease.
- vi. Foliar sprays with systemic fungicide control the disease to some extent but is unpractical for large acreage.

- **Insects:**

Aphids, Flea Beetle, Seedpod Weevil

- **Harvesting:** Harvesting is a critical operation, its harvesting at optimum time is very important because early harvesting can reduce seed quality and late harvesting can enhance pod shattering. Harvesting of Rapeseed-mustard is recommended when 30-40% seeds mature and turn brown in the main stem.

Crop should be harvested early in the morning. When the plants are moist, otherwise yield losses occur due to shattering.

- **Threshing:** Sundry for 8-10 days and then thresh
- **Drying & Storage:** Dry seed up to 8-10% moisture level and store at dry places