

WHY NOT SUNFLOWER

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Introduction

Sunflower is an important agricultural crop. Sunflower oil commands a premium price due to its high quality. Sunflower seed has an oil content of 43%. High levels of linoleic and very little linolenic acid make Sunflower oil highly suited as an edible oil. This oil is used for cooking and margarine production. After extracting oil from the seed the remaining part (being a good protein source) is a nutritious feed for dairy cows. Roasted seeds can be eaten. In Russia Sunflower seed is a main food item. It is also a very good poultry and bird feed. The whole plant can be used for silage production. Sunflower provides raw materials for the production of printing inks, varnishes and synthetic resins.

Russia, Argentina, Rumania, Bulgaria, Yugoslavia and Turkey are among large scale Sunflower growing countries. Sunflower adapts to a wide range of environmental conditions.

Botany of the crop

Sunflower (*Helianthus annuus* L) is a composite. It is a coarse, annual plant, grows quickly and reaches heights of from 5 to 10 ft. (1.50 to 3 m.) or more depending on variety. Inflorescence is a prominent yellow head which can attain enormous sizes upto 15 inches (37.5 cm) or more in diameter. Flowers of the capitulum are of two types - outer bright yellow ligulate, sterile flowers and inner disc flowers. Flowers are cross pollinated by insects. To get high seed yields the provision of bee colonies nearby may be useful.

Spain, Turkey - 170430, HS-53, USSR-265107 and Turkey 251993 appear promising varieties in Sri Lanka.

Cultivation

This crop can be cultivated under a wide range of climatic conditions. Sunflowers are drought resistant because of their deep root system. It requires a levelled, well-drained, uniform loam to sandy loam soil with good organic matter

to get best results. Acid or water-logged soils must be avoided. One deep ploughing followed by 3-4 harrowings brings the field in good condition for seeding Sunflower.

Fertilizer requirements

The response of Sunflower to nutrient applications is generally very low except on deficient soils. However, applications of P combined with small quantities of N at planting may hasten maturity and increase the quality of seeds. Very heavy doses of N increase the vegetative growth and protein quality while it reduces oil content of the seed. Sunflower is highly susceptible to boron deficiency.

Planting

Seed should be sown in rows about 3 ft. (90 cm.) apart with plants spaced from - 12 - 24 inches (30-60 cm). Sow seed less than 5 cm. deep. Where dry spells are experienced irrigation is very beneficial during the early growth period. Seed rate is 15 lbs/acre.

Pest Control

A number of insects infest Sunflower crop - Cutworm, Wireworm, *Heliothis armigera* and *Heliothis punctiger*. Green vegetable bug (*Nezara viridula*), Ruthergim bug (*Nysius Vinitor*) attack Sunflower. If insecticides are used, care should be taken that no bee colonies are in the vicinity - or bees are at least confined to their hives. Spraying in the late afternoon could minimize the damage to bee population.

Disease control

Rust (*Puccinia helianthi*) and downer mildew diseases can be controlled by repeated applications of fungicides based on copper or, Captan, Folped Manib Metiram, TMD or combinations of these fungicides. Prevent disease by planting resistant varieties.

Weed Control

Control weeds by application of weedicides. Sunflower is very sensitive to hormone type herbicides. The crop should be maintained weed-free at least in the first 60 days

of the crop growth.

As Sunflower is a widely spaced crop intercropping with annual grain legumes (like cowpea and green gram) appears to be a distinct possibility. For crop rotation Sunflower is a good crop, it can follow pulses or cereals.

The crop matures in about 4 months from sowing. Time ly harvesting should be done when the back of the heads turn yellow brown. After harvesting and processing, seed should be sun-dried to a moisture content of less than 10% for safe storage.

Though Sunflower is considered an inefficient plant because of its low harvest index (weight of seed produced is a low proportion of the total plant-weight). it deserves a place in our agriculture for the high quality oil it produces. Varietal improvement and quality seeds will make Sunflower a financially attractive crop. Important breeding objectives are, high yield, high percentage of oil, oil quality and disease resistance.

Sunflower is an agro-industrial crop. It needs more detailed local research to screen or evolve suitable varieties and identify management practices to achieve economically beneficial results in Sri Lanka.

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ඕර වගුරා මාස 4 ක් අස්වැන්න තෙලිය හැක. අක්කරයකින් ඕර