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HIGHER CROP YIELDS FROM IMPROVED SOILS

corn

soybeans

wheat

oats

legumes

grasses

Purdue University
Agricultural Extension Service
Agronomy Department

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SUNFLOWERS UNDER INDIANA CONDITIONS

Sunflowers are rarely grown under field conditions in Indiana. Farmers who are delayed in planting corn, have occasionally turned to them for late planting for silage. Small scale seed production for bird feed is practiced by a few.

VARIETIES:

Advance, a dwarf type (4 1/2 feet), produces small well filled seed of high oil content. This is first choice as a variety to be harvested with a combine due to its high yield, good standing ability, comparative low shattering, and uniformity of height and maturity. Advance is a top-cross hybrid developed in Canada and only first generation seed should be planted each year.

Open pollinated varieties in order of maturity:

Arrowhead is an early dwarf type with large seed. Heads bend down badly and seed shatters more readily than Advance.

Sunrise is a quite uniform, small seeded dwarf type. A good combine variety but much lower in yield than Advance. It is the open pollinated parent of Advance.

Jupiter is a semi-dwarf type (5 1/2 feet) that produces black seed which shatters somewhat. It is too tall for combining when grown on soil of high fertility.

Illinois Common is a semi-dwarf type (6 feet) that is not uniform in height and maturity. Like Jupiter it grows too tall for combining on fertile soil.

Manchuria is a late, tall (7 feet) large seeded type. Normally it grows too tall for combining and is more subject to stem breakage by wind than shorter varieties.

Grey Stripe is a late tall type (10 feet) producing quite large seed. It is frequently damaged by wind due to its height.

Mammoth Russian is quite variable in height and maturity and only recommended for ensilage.

CULTURE: Sunflowers require about the same soil, seed bed preparation and cultural practices, except harvesting, as corn. The crop may be planted somewhat earlier than corn as a light frost will not injure the young plants. For best results in seed production, the crop should be planted during late April and early May, although early varieties may be planted a month later. Sunflowers for silage may be planted as late as mid-July, although earlier planting gives higher yields. Plants should stand from 8 to 12 inches apart in 36 and 42 inch rows. Small seeded varieties, such as Advance, require 4 pounds and large seeded varieties, such as Grey Stripe, require 6 to 8 pounds of seed per acre. The crop is usually drilled from 1 to 2 inches deep with a corn planter equipped with proper plates.

Sunflower heads face the east and, as the plant matures, the upper part of the stalk tends to bend in that direction. Harvesting is facilitated if the rows are planted east and west when the crop is harvested for silage or the seed combined and planted north and south when the seed heads are hand harvested.

AS A SEED CROP:

The crop should be harvested for seed as soon as the backs of heads are brown and dry. Dry heads thresh easily and threshing equipment should be adjusted as for soybeans as to cylinder speed and air blast adjusted as for oats.

Combine Adjustment: To prevent clinging of heads to reel slats, the diameter of the reel should be increased. Also, the blades should be made solid. Plywood, sheet metal and hardware cloth are used for these purposes.

Heads of tall varieties may be harvested with a knife or pruning shears and allowed to drop into a wagon box. They may be threshed with an ordinary thresher or a combine in a stationary position with the reel and sickle bar removed to facilitate hand feeding. Large corn shellers also have been used.

Considerable variation in time of maturity between plants from most of the available varieties is to be expected. The tendency is to harvest the crop before all of the seed heads are thoroughly dry. In such cases shallow storage in well ventilated bins is advisable. If the seed contains 12 percent moisture or less it is safe to store at any depth.

Yield: Sunflower seed weighs thirty pounds per bushel. Yields range from 600 to 2400 pounds per acre or about two-fifths as many pounds and about three-fourths as many bushels as that of corn per acre on the same land.

Markets: There are no established markets for sunflower seed in Indiana comparable to those for our major grain crops. The best outlet is through feed and seed dealers. Local dealers should be contacted before a seed crop is planted. In some areas outside of Indiana, oil mills pay the same price per pound for small sunflower seed of high oil content as they do for soybeans. For purposes other than oil preference is for large seed. The price of such seed fluctuates greatly depending upon the supply and has ranged from 2 to 15 cents a pound.

FOR ENSILAGE:

Tall varieties of sunflowers may be expected to yield a considerably larger tonnage but slightly less palatable ensilage than that produced from corn. The average yield of the Mammoth Russian variety cut green for ensilage was 14 tons as compared to 10 tons per acre for corn in tests conducted at this Station during the period 1934-1938.

Sunflowers should be cut for ensilage when one-third to one-half in bloom. Early harvest produces wet silage. Late harvest results in loss of leaves, woodier stems, and silage of poor keeping quality unless water is added. The silage should be cut as fine as possible so that it will pack well in the silo.

Results reported by farmers have been generally satisfactory both from the standpoint of feed value and yield of silage. However, forage sorghums, strongly compete with sunflowers as a substitute for corn for silage. Resistance to chinch bugs and somewhat more resistance to frost are the chief advantages of sunflowers as compared to forage sorghums.

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