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### Flax : Growers' Guide for South Dakota

U. J. Norgaard

Elmer Sanderson

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# FLAX

## Growers' Guide for South Dakota

Follow These

### *10 Keys to Success*

- ❖ Select Choice Piece of Land
- ❖ Plant Recommended Varieties
- ❖ Test and Treat All Seed
- ❖ Adjust Seeding Rate to Conditions
- ❖ Seed Early ( About April 15)
- ❖ Drill Seed in Firm Seed Bed
- ❖ Conserve Moisture
- ❖ Control Weeds and Insects
- ❖ Harvest with Care
- ❖ Store Dry ( 11% Maximum Moisture )

AGRICULTURAL EXTENSION SERVICE  
SOUTH DAKOTA STATE COLLEGE, BROOKINGS  
U. S. DEPARTMENT OF AGRICULTURE

# Flax Production In South Dakota

By U. J. Norgaard and Elmer Sanderson,  
Extension Agronomists

## Fit Flax Into Crop Rotation

Flax should follow a clean cultivated crop or a sod crop which is in the regular rotation. The soil should be fertile, the seed bed firm, the land well-drained and free from weeds and grasshopper eggs. Flax is a good "nurse crop" for grasses and legumes in areas where moisture is fairly abundant.

## Guard Against Weeds, Insects

**WEEDS:** Sow only cleaned seed. Intertilled crop land, such as where corn was grown the year before on which weeds have been thoroughly controlled by cultivation is ideal for flax. Where Russian thistles interfere, delayed seeding, allowing germination and destruction of young thistles before seeding is advisable. Delayed seeding is not effective against foxtail since this weed germinates only when soil is warm. Early seeding is defense against the foxtails.

Caution must be taken if chemical weed killers are used for weed control in flax. Refer to South Dakota Experiment Station Circular 69 on Chemical Control of Weeds for specific information.

**INSECTS:** Look out for grasshoppers. Do not seed flax on land where grasshoppers will hatch out in large numbers. Protect crop with poison bait or spray if emergency arises.

## Prevent Diseases

**WILT:** Grow a wilt resistant variety. See description under "Seed Recommended Varieties."

**RUST:** Use rotation that avoids putting flax on same land two years in succession. Feed or plow under flax residues on which rust spores overwinter. For rust resistant varieties see description under "Seed Recommended Varieties."

**HEAT CANCER:** Caused by high temperatures at surface of soil. The stems are girdled and the plants break over. It may be controlled somewhat by early seeding and securing a full stand which will shade the ground before hot weather hits in late June or early July.

**PASMO:** Attacks foliage and seed leaves and stems. Avoid introduction of pasmo-infected seed into new territory. Some new and improved varieties carry some tolerance toward this disease. Refer to description under "Seed Recommended Varieties."



SEED TREATMENT is recommended for all seed planted to reduce damping-off and seed decay. Use new improved cerasan or cerasan "M" at the rate of one to one and a half ounces per bushel.

## Guard Against Heat, Drought

Sow on land (1) where moisture has been conserved by timely tillage practices. (2) Sow field on contour to prevent water run-off. (3) Sow on field where weeds have been controlled the previous years.

Seed early: According to long time experimental records of the South Dakota Experiment Station, flax should, for the best results, be seeded not earlier than April 1 or later than April 15. Flax will stand freezing temperatures as low as 21 to 23 degrees. Delayed seedings are more subject to damage by heat, grasshoppers and weeds like the foxtails which germinate when soil is warm.

## Seed Recommended Varieties

Variety	Maturity	Areas of Adaptation
Marine	Early	All Areas in S. D. Adapted to Flax
Sheyenne	Early	All Areas in S. D. Adapted to Flax
Redwood	Midseason	Northeast East Central
B-5128	Late	Northeast East Central

### Resistance to Diseases

**Wilt**—All above varieties resistant.

**Rust**—All above varieties are resistant; Dakota and Koto are susceptible; Redwing susceptible but has escape value.

**Pasmo**—Marine is fairly resistant; Redwod and B-5128 are tolerant; Dakota and Koto intermediate resistance; Sheyenne and Redwing have some ability to escape Pasmo.

### Remarks:

(1) Redwood and B-5128 must be seeded early. If delayed seeding becomes necessary, they may not mature.

(2) Dakota, formerly the most widely grown flax variety in South Dakota, was so severely injured by rust in 1950 that its production in areas where rust is a hazard cannot be recommended.

(3) Redwing, in the past, because of its earliness, has had some escape value to some of the flax diseases. However, since the introduction of the new early rust resistant varieties, Redwing is no longer the favorite early variety. Its use in western areas is still acceptable.

(4) Koto does not have the disease-resistant qualities of the new improved varieties but can be grown in areas where rust is less of a problem.

# Use Best Rate of Seeding

The rate of seeding per acre will vary with size of seed, rainfall, time of seeding, germination, etc.

In the eastern counties of South Dakota, where average rainfall is more abundant, the recommended rate of seeding for the medium to large seeded varieties is 42 pounds per acre.

For small seeded varieties like Sheyenne, the rate of seeding can be reduced by one-fourth.

A better general rule for rate of seeding is to regulate drill to sow four seeds per inch in the drill row.

The above rates of seeding are for seed with germination of 90% or higher. Test all seed before planting.

## Methods of Harvesting

Flax does not shatter or crinkle as easily as other grains, and, unless grasshoppers interfere, may be left standing in the fields with little danger of loss in yield or quality until the seed is ripe enough to be stored safely.

Standing flax can be straight-combined if the moisture content of the seed is below 12 percent.

If green weeds are present, crop should be cut with a windrower, otherwise moisture in weeds will cause seed to spoil.

Flax which is uniform in height, and tall enough, may be harvested with the ordinary grain binder. The bundles should be shocked immediately so that bolls be kept off the ground.

## Harvest and Store With Care

Take care not to crack or injure seed in threshing and in elevating. Injured seed is more likely to cause trouble in heating. Reduce speed of machines handling flax seed to the minimum to prevent injury to seed coat. Cylinder teeth should not be too close and should be properly aligned.

Flax seed should not be stored until moisture content is 11 percent or less.

Agricultural Extension Service

George I. Gilbertson, director

South Dakota State College and

United States Department of Agriculture Cooperating

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