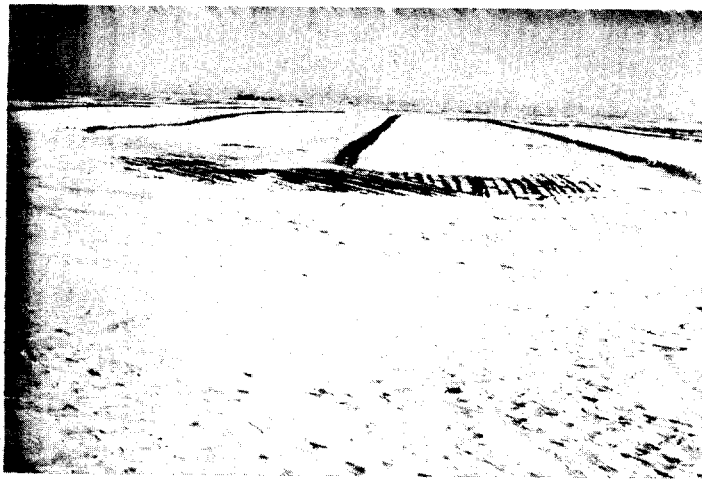


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# Two Specialty Cover Crops for Summerfallowed Land



Picture taken January 16, 1968 on the Lyle Long farm near York, North Dakota. Four drill rows of flax were seeded early in August at about 40 ft. intervals on summerfallowed fields.

Irvine T. Dietrich  
Extension Soil Conservationist

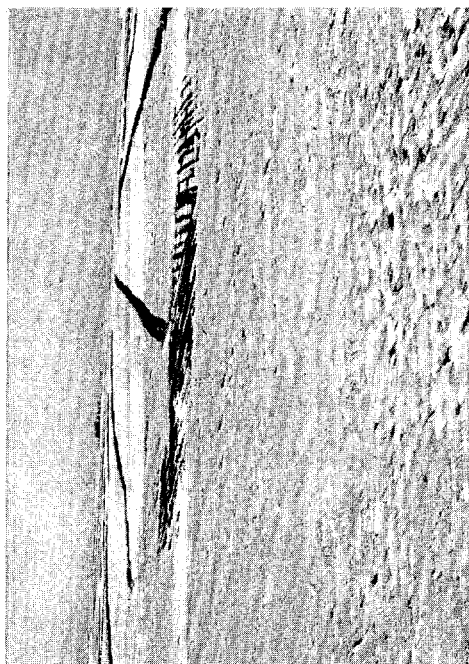
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### TWO SPECIALTY COVER CROPS FOR SUMMERFALLOWED LAND

#### Cover Crop Recommendations for Summerfallowed Land

Seed four drill rows of flax at the normal seeding rate for flax the first week in August in northern areas and the 2nd week in August in southern areas of North Dakota. Seed in a northeast-southwest direction to give best protection from prevailing northwest and southeast winds. Space the seeded strips 30 to 45 ft. apart. Make the interval the same width or double or triple the width of your cultivator.

An alternate cover crop to consider is sunflowers. Plant four drill rows the last week in July, at intervals of 30 to 45 ft., in a northeast-southwest direction. Set drill about the same as for oats. However, there is considerable variation in the size of sunflower seed---adjust for a seed spacing of 3 to 4 inches in the row.

#### The Need For Cover Crops Is Not New

Much pioneer work has been done in North Dakota with cover crops to protect summerfallow from wind erosion. Two or four rows of corn spaced at 50 to 70 feet intervals in fields of potatoes or on summerfallowed land were demonstrated in the 1930's in the Park River area and other places in the state. This practice seemed to do the job. Soil drifting was minimized and considerable snow was held by the corn. However, the practice never caught on, although a few farmers have continued it year after year.

Later other types of cover crop seedings were made. Drilled seedings of grain were made in late August or

early September on fallow. Some years the grain growth was satisfactory, at other times early frost stopped growth short of that needed for protection. Occasionally mild weather continued well into October, allowing excessive growth and resulting in the cover crop using water and nitrate-nitrogen intended for next year's crop.

Flax remains standing when killed by frost, while wheat, oats and barley fall flat, so more and more farmers have changed to flax. The occasional problem of excessive growth and over-use of nitrate-nitrogen and water led to strip seeding instead of complete coverage. It appears that two to four drill rows of flax at 30 to 45 ft. intervals gives needed protection and minimizes water and nutrient use.

Flax seeded the first week in August usually grows to 10 to 24 inches by the time it is killed by frost. Farmers who use this practice say "it's a good trade" to sacrifice a possible loss of nitrate-nitrogen and water from a 3 foot wide band for the big gain in extra water, equivalent to a 1 to 3 inch rain, from snow trapped in the 30 to 45 foot wide belt. All this is in addition to providing good protection from soil erosion for the whole field.

A few farmers plant two to four rows (six or seven inch drill spacing) of sunflowers at 30 to 45 feet intervals the last week in July. Sunflowers can be seeded deeper than flax, so are possibly a better choice in a dry season. Young sunflowers, in the range of 10" to 30" and taller, stand well when frozen so provide a good windbreak. Sunflowers should be seeded earlier than flax as the first fall frosts are more likely to kill sunflowers than flax.

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### A Farmer's Experience

An actual farm experience report from Mr. Lyle Long of York, North Dakota tells the story very well. Mr. and Mrs. Long farm 1360 acres in Benson and Towner Counties, just a few miles northeast of York. Mr. Long has been a cooperator with the North Central Soil Conservation District since 1958.

He planted many one row tree belts on field edges to help protect his land from wind erosion. He also became interested in cover crops on summerfallow.

By "trial and error" Mr. Long realized the cover crop was using quite a little moisture that had been stored in the summerfallow. This was evident in the height of the grain crop the next year where the strips of cover crop had grown. "It seemed logical", said Long, "that narrower strips would use less moisture and less plant food".

After several years of trial, Long now uses four rows of flax in a two foot strip. The flax is seeded at about the normal seeding rate. This density makes the flax rows stand taller in the winter. The width between the strips depends on the soil type. On medium textured soil, Long spaces the strips 40 to 50 feet apart. He plants them in a northeast-southwest direction to give better protection from predominant northwest winds. "I am convinced", said Long, "that seeding should be done around the first of August and no later than the 10th. The growth then develops a height of about two feet. The plants reach a maturity that they are quite rigid and stand erect during the winter. They are not so fibrous as to cause trouble at seeding time. A cultivation is made later in August or September between the flax strips for the last tillage operation. Mr. Long uses the "dipper tiller" behind the cultivator on this operation to make pockets for holding moisture. "I cultivate shallow" said Long "and the fall rains tend to seal the surface. However, I'm not worried about a smooth surface because the flax strips furnish good protection."

"We refer to this practice as the "Mini cover crop system," commented George Lee, district conservationist, Soil Conservation Service, Leeds, North Dakota. "The height and density seems to be the important item" said Lee, "and it holds a cover of snow over winter that stops wind erosion and preserves moisture by reducing evaporation."