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Corn Production Guide : A Summary of Recommendations

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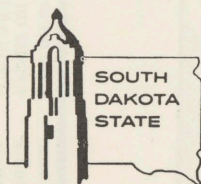
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CORN PRODUCTION GUIDE

A Summary of Recommendations



Cooperative Extension Service

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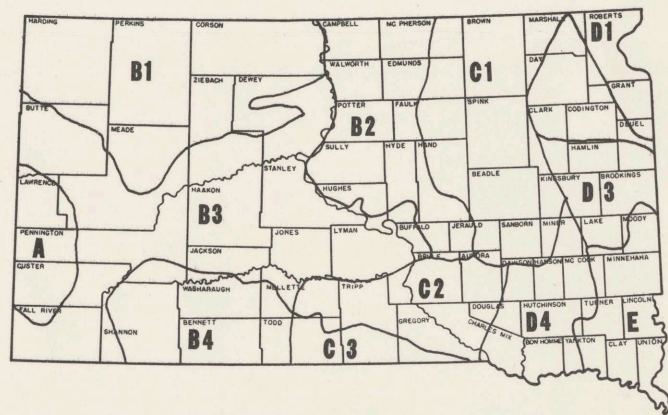
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CORN PRODUCTION GUIDE

Information for this chart comes from L. A. Derscheid, R. A. Cline, E. E. Sanderson, E. J. Langin, Earl Adams, and K. R. Frost, of the Agronomy Department; and B. H. Kantack, of the Entomology Department. All of these men are specialists with the South Dakota State University Cooperative Extension Service.

CROP ADAPTATION AREA	MATURITY RANGE OF HYBRID DAYS	DESIRABLE POPULATION 1000 PLANTS/ACRE	SEEDING DATE*
B1	85-90	4-6	Mid-May
B2	85-95	6-8	
B3	85-90	4-6	
B4		6-8	
C1	85-95	8-10	May 15-25
C2	90-100		May 10-20
C3			
D1	95-100	10-12	May 15-20
D2	85-95	8-10	
D3	95-100	10-12	May 10-20
D4	100-105		May 10-15
E	100-110	12-16	May 5-15

* Use treated seed.



Irrigation	5-15 days later than for dryland in same area	16-18	Same as for dryland corn in same area
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CORN PRODUCTION GUIDE

FERTILIZER RECOMMENDATIONS

Use fertilizer to supplement nutrients in the soil; use more on soils of low fertility or in areas of higher rainfall. The majority of soils in South Dakota contain 2.5-4% organic matter and 15-40 pounds of available phosphorus per acre. However, inherent soil differences and previous cropping causes considerable variation. Soil fertility can be estimated by crop performance, but soil tests give more accurate

PHOSPHORUS

Table 1. Recommended Rates of Phosphorus

Available P (lb/A)	Lb/A on areas 1-4 Broadcast P ₂ O ₅	P	Starter P ₂ O ₅	P
0-5	60	26	40	18
5-15	45	20	30	13
15-25	30	13	20	9
25 or over	0	0	0	0

Lb/A on areas 5-9	P	Starter P ₂ O ₅	P
0-5	45	20	30
5-15	30	13	20
15-25	0	0	0
25 or over	0	0	0

NITROGEN

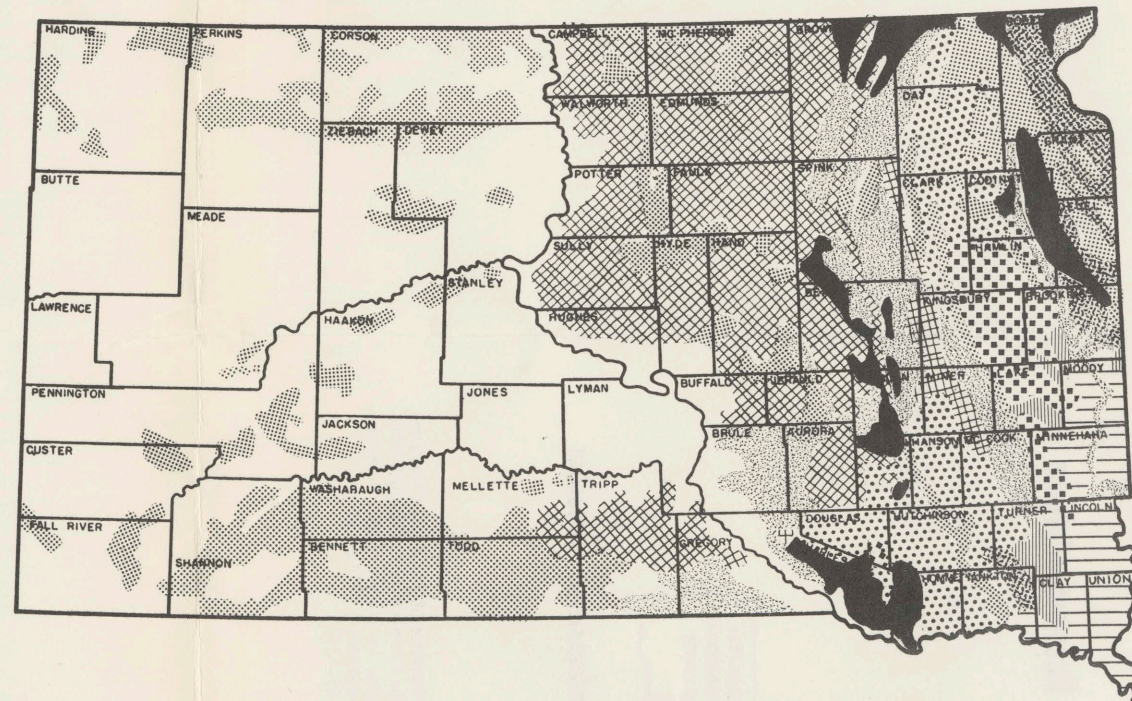
Table 2. Nitrogen Management Class

Class	Previous Management
High	Corn following two or more years of legume; More than 10 tons of manure; Corn following summer fallow.
Medium	Corn following soybeans; 5-10 tons of manure; 2nd year after alfalfa; Sweetclover less than 2 T/A.
Low	Continuous corn; Corn following any non-legume crop; Corn following soybeans.

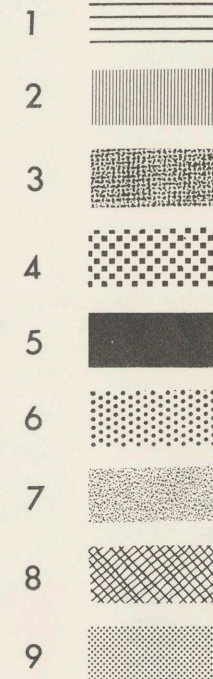
determination. Adjust rates of nitrogen according to amount of organic matter in soil and rates of phosphorus according to amount of available phosphorus in the soil. Previous cropping is used to group soils into nitrogen management classes (table 2) for aid in determining the amount of nitrogen fertilizer to apply (table 3).

Table 3. Recommended Rates of Nitrogen Fertilizer

Area on Map	Percent Organic Matter	Nitrogen High (lb/A)	Management Medium (lb/A)	Class Low (lb/A)
1	0-2.5	0	40-55	75-85
	2.5-4	0	0-40	55-65
	4 and over	0	0	0-50
2	0-2.5	0	35-45	65-75
	2.5-4	0	0-30	45-55
	4 and over	0	0	0-40
3	0-2.5	0	30-40	60-70
	2.5-4	0	0-30	45-55
	4 and over	0	0	0-40
4	0-2.5	0	25-35	50-60
	2.5-4	0	0-25	40-50
	4 and over	0	0	0-40
5	0-2.5	0	0-30	45-55
	2.5-4	0	0	35-45
	4 and over	0	0	0-30
6	0-2.5	0	0-30	40-50
	2.5-4	0	0	30-40
	4 and over	0	0	0-30
7	0-2.5	0	0-30	35-45
	2.5-4	0	0	25-35
	4 and over	0	0	0-30
8	0-2.5	0	0	30-40
	2.5-4	0	0	0-30
	4 and over	0	0	0
9	0-2.5	0	0	25-35
	2.5-4	0	0	0-25
	4 and over	0	0	0



AREA



CHEMICAL WEED CONTROL		TIME OF APPLICATION
HERBICIDE	RATE (lb/A)	
BROAD-LEAVED WEEDS		
2,4-D ester	1-1.5	2-leaf to silking
2,4-D amine	1.5-2	
2,4-D	1	after tasseling
Stalks often become brittle and may break.		
ANNUAL WEEDS		
Atrazine	2-3	Pre-emergence or postemergence before weeds are 1 inch high. Must have 1/2 to 1 inch of rain within 2 1/2-3 weeks. Carry-over will damage grain next year.
CDA-T (Randex-T)	3.1	Pre-emergence; must have 1/2 inch of rain within 1 week. Granules easier to apply than sprays.
CDA (Randex) for annual grassy weeds		
2,4-D and dalapon mix	2	Direct at base of corn plant when whorl of corn plant is 15 inches
Linuron and surfactant	4 high. 0.5%	

See fact sheets "Fertilizing Corn," "Corn Rootworm Control," and "Weed Control in Corn" for more information.

Insecticides and herbicides can be poisonous; handle and store them with care. Be sure to read the label and follow the directions. Keep children and pets out of the area where chemicals are stored, mixed, or used. Do not contaminate feed, feed containers, or water troughs. Carefully clean all contaminated planting equipment. Destroy all emptied containers so they cannot be used for any purpose.

INSECT CONTROL

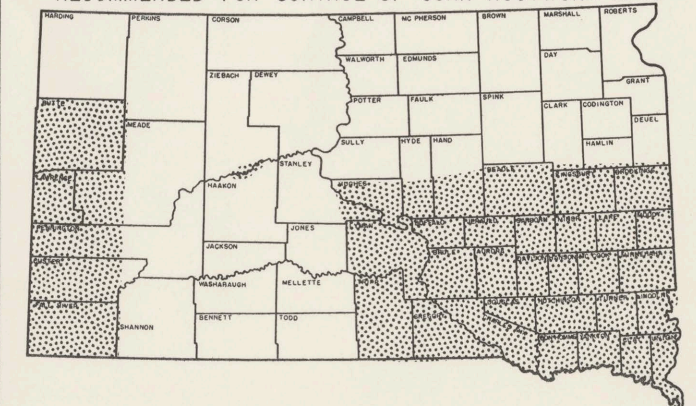
CORN ROOTWORMS

Use organic phosphate insecticides such as Diazinon, Thimet, or Niran (stabilized parathion) to control western rootworm in areas shaded in the map below. For best results apply granular forms in 4- to 7-inch bands over the rows (not with seed or fertilizer) at planting time and incorporate into the upper 1/2 inch of soil. Use at least 1 pound of active ingredient (10 lbs. of 10% granules or 7 lbs. of 14% granules) per acre of field—equivalent to 1 pound active ingredient on each 13,080 linear feet of row (10 pounds on each acre treated in 4-inch bands or 5.7 pounds in 7-inch bands.) Do not till (harrow, rotary hoe, etc.) diagonally or crosswise or it will reduce concentration of insecticide.

Applications may be made during first or second cultivation using attachments that allow the cultivator to incorporate insecticide, but it may be less effective.

Use chlorinated hydrocarbons in unshaded areas of the map to control northern rootworms. Apply broadcast while preparing the seedbed or in bands over the rows while planting. Use 1 pound active ingredient (5 lbs. of 20% granules or 1/2 gal. of 2 lbs./gal. emulsifiable concentrate) per acre on each acre in the field if applied in bands. Apply band applications behind planter shoe, ahead of packer wheels. Do not apply in mixtures with fertilizer or herbicide.

AREAS WHERE ORGANIC PHOSPHATE INSECTIDES ARE RECOMMENDED FOR CONTROL OF CORN ROOTWORM IN '65



CORN BORER

Treatment of field corn for first brood will be profitable if 50-75% of the plants show leaf feeding in the whorl. This feeding injury will appear sometime after mid-June in South Dakota. Second brood treatments will be profitable when an average of one egg mass per plant can be found.

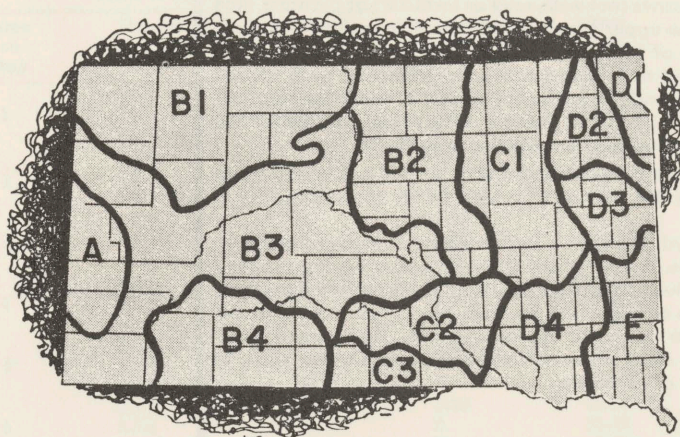
Insecticides can be applied either as granules or sprays. The following recommended insecticides can be applied either as granules or sprays:

Carbaryl (Sevin) wettable powder spray applied at the rate of 1.5 lbs. active ingredient per acre, or 30 lbs. of 5% granules per acre.

Commercial applicators may use endrin at the rate of 0.2 lbs. active ingredient per acre as a spray or 5 lbs. of 1% granules per acre. This treatment is restricted to one application per season. Do not treat within 45 days of harvest or ensiling. Do not feed the treated forage to dairy animals or to beef animals destined for slaughter. Check for the latest recommendations with your county agent.

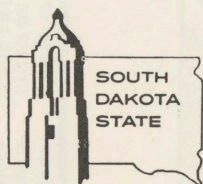
For information on corn diseases see fact sheets "Stalk Rots of Corn," "Ear Rots of Corn," "Corn Leaf Blight," "Corn Smut," and "Seed Treatment."

CROP ADAPTATION AREAS
OF SOUTH DAKOTA



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