

## NEBRASKA AMENDMENT

**SECTION 682.4 CLIMATE, SOIL, AND WATER REQUIREMENTS FOR CROPS.**

Crops for optimum production must have ample moisture throughout their growing season. Other crops will produce optimum yields if supplied ample moisture during critical growth and development periods. Some crops can be stressed, which in time may increase their moisture use efficiency.

For maximum production, plants must have ample moisture throughout the growing season. This is most important during critical periods of growth and development. Although plants indicate moisture stress by various symptoms, yields will usually be reduced by the time the plant shows stress. Time of

irrigation should be determined by examination of the soil for moisture content. The feel and appearance of the soil at various moisture contents are given in Section 686. Symptoms of serious moisture stress, critical water requirement periods, and other irrigation considerations are listed on Table 682-3.

Table 682-2 is a listing of common crops showing their responses to climate, soil, and water. This table can be used to develop a cropping sequence that will require lesser amounts of irrigation in some years; for example, a cropping rotation of wheat, corn, sorghum, and soybeans or sunflowers. Irrigation water can be reduced for wheat, sorghum, and sunflowers in the rotation thereby getting maximum production with a limited amount of irrigation water.

**TABLE 682-2  
RELATIONSHIP OF CROP SEEDING RATES (PLANT POPULATION)  
TO YIELDS WITH OPTIMUM AND LESS THAN OPTIMUM IRRIGATION**

Crop Irrigated	Uniform Spacing Plant Population <sup>1</sup>	Optimum Yield/Bu/Ac	Less Than Optimum Yield/Bu/Ac	Date of Planting	Remarks
Corn	26,000-30,000	160	110-120	May 1-10	
	22,000-26,000	150-160	120-140	May 1-10	
	16,000-22,000	120-150	120-140	May 1-10	
	10,000-14,000	100-120	100-120	May 1-10	
	8,000-10,000	100-120	110-120	May 1-10	
	8,000-10,000	100-110	100-110	May 20-June 5	
Soybeans	100,000-150,000 <sup>2</sup>	50-60	40-50	May 15	Yield and plant population not connected
Sunflowers	26,000	3,000 lb.			Planting dates not as important as corn.
Sunflowers	14,000		2,000		
Grain					
Sorghum	90,000-100,000	140-150	116-124	May 20	Planting dates not as important as corn
	80,000-90,000	120-140	100-116		
	70,000-80,000	100-120	100-116		
	50,000-70,000	70-100	70-100		

<sup>1</sup> Soil type, hybrid, planting date, weather, and row spacing are factors to be considered when discussing plant populations. The yield from low population is almost equal to the high populations. In general, when moisture or fertility is limiting, top yield will be obtained with lower populations.

<sup>2</sup> 20-30 inch 4ows or 2 inches apart in the row