TABLE 682-3
CLIMATIC CROP REQUIREMENTS

Crop	Total Growing Period (days)	Percent Maximum Allowable Water Depletion to Optimize Yields	Critical Growth Period	Serious Moisture Stress Signals	Period of Reduced Water	Other Considerations and Constraints
Alfalfa	100 to 200	50	Seeding and immediately after cuttings	Bluish green color then wilting	Vegetative Growth	Overall production is increased by extending the area under irrigation rather than by meeting full crop water requirements over a limited area.
Corn	110 to 140+	55	Flowering period from tasselling, silking, and pollination to grain filling	leaf curl by by 10 a.m. Lower leaf drying	Vegetative & ripening	Where water is limited it is advantageous to meet full water requirements rather than to spread limited water over a larger acreage.
Field Beans	90 to 120	40 to 50	Flowering and yield formation	Leaves turn dark bluish green color	Vegetative up to first flower	Sensitive to frost, excessive rain, or hot weather. Not suited to humid climate.
Potato	100 to 150	30 to 50	Period of stolonization and tuber initiation and yield formation. Tubers 80% of final weight.	Leaves darken, then wilt	Early vegetative and ripening stage	With limited water the available supply should be directed towards maximizing yield per acre rather than watering more acres
Sorghum	110 to 130	55	Flowering and early seed set.	Leaf curl by 10 a.m.	Vegetative, late head & ripening periods, or season long	When water supply is limited it may be advantageous to spread available water over a larger acreage.

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Crop	Total Growing Period (days)	Percent Maximum Allowable Water Depletion to Optimize Yields	Critical Growth Period	Serious Moisture Stress Signals	Period of Reduced Water	Other Considerations and Constraints
Soybeans	100 to 130	50 to 60	Flowering to pod elongation stages.	Leaves turn dark bluish green.	Vegetative period, early flowering & crop maturity	One application of water at the late bloom stage produces the greatest advantage in yield.
Sugar Beets	160 to 200	50 to 60	From emergence to 16 leaves	Dark Green leaves	Ripening period. Last 40-50 days.	Beets are sensitive to water deficits at crop emergence. Shallow frequent irrigations are best. Avoid over irrigation. Where water is limited the supply should be directed toward expanding the area rather than concentrating on a smaller area.
Sunflower	90 to 130	45	Late vegetative period flowering	Leaf wilting and drying	Early vegetative and ripening periods.	Susceptible to frost. Deep root system can pick up soil water from depths greater than 6 feet. plants can withstand short periods of severe soil water deficit.
Winter wheat	180 to 250	50 to 60	Flowering and head development	Dull green color then firing of lower leaves	Early vegetative and ripening periods	A full profile of soil moisture to 6 feet will increase potential for top yield. Sensitive to frost at flowering time.
Small Grains	100 to 130	50 to 60	Bloom & early head stage	Dull green color then firing of lower leaves	Ripening period	Early spring planting will improve yield potential. Severe freezing may injure stand.

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