

SHARP BROS. SEED CO.



DROUGHT-TOLERANT CROPS TO CONSIDER

THE FRONT PAGE

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Soil moisture and irrigation water both are likely going to be reduced this coming growing season. Crop selection could be especially critical to profit margins. Some drought-tolerant crops to consider are sunflowers and sorghums. Management techniques such as irrigating at critical growth periods and field observation for plant stress can assist in making the water that is available go farther.

Sunflower is a crop that is establishing both an oil and confectioners market locally. When reviewing the water needs of this crop its rooting depth also should be examined. The sunflower has a rooting depth of up to 9 feet if the soil is deep enough and not too compacted. It uses the water that is deeper in the soil profile during the hotter and drier periods. Crop critical growth stages for water are at establishment (May) and at flowering and grain-filling stages (August - September). According to CSU Extension, twelve inches of irrigation water produced an average of 3,126 lbs/acre of sunflowers in eastern Colorado last year. Sunflowers do not do well in heavily compacted soils and residues from atrazine used the previous year in a corn crop

can affect them. In dryland situations, fallow is often recommended after sunflowers due to the high amount of soil moisture extracted by sunflowers. Under limited irrigation, residual soil moisture will be marginal. Standing sunflower residue can catch snow, reduce wind erosion and provide a no-till seed bed for small grains.

Sorghums are a very adaptable crop. They can be grown for forage, hay, and silage and for cattle grazing. They can be grown under irrigation or in a dryland field. Some of the new varieties have improved digestibility making better feed and forage value. Sorghum is especially well suited for this year because it grows with moisture and without moisture it just stops growing, waits for moisture and then starts growing again. It also leaves high residue on fields over winter to reduce soil blowing and help retain soil moisture and can provide a zero or reduced tillage seedbed for small grains.

Hay or grain millets are other low water use crops. They are warm season grasses, which can be grown under limited irrigation, or dry land systems. Grain millet

Estimated seasonal consumptive water use for selected crops - Longmont, Colorado

<u>Crop</u>	<u>Inches of Water</u>
Alfalfa	30.9
Sugar Beets	25.5
Pasture Grass	26.2
Corn	21.7
Sunflowers	23.0
Grain Sorghum	18.5
Winter Wheat	18.5
Dry Beans	15.8

Maximum root depths - furrow irrigation

<u>Crop</u>	<u>Rooting depth at maturity (ft)</u>
Corn	3-5
Small Grains	3-5
Onions	1-2
Sugar Beets	5-8
Alfalfa	5-15
Dry Beans	2-3
Sunflowers	6-9

(Above table information source CSU Extension Service Brochure # 4.715)

market prices are volatile so a marketing strategy is important. Hay millets can produce high quality feed with limited water. Millets also provide good residue on fields over winter to reduce soil blowing, catch snow and help retain soil moisture. They can also provide a zero or reduced tillage seedbed for small grains.