

Optimum Corn Management Practices For Drought-Prone Soils In Southern Pennsylvania **Project Leader:** Dr. Greg Roth **Penn State Department of Agronomy University Park** Drought risk is a major issue for corn producers in southern Pennsylvania. Growers often choose lower plant populations as one method of reducing the impact of drought on corn yield.

The overall objective of these two studies is to evaluate hybrids, plant popula-

tions, and starter fertilizers under drought prone growing conditions. This study forms one component of the Mid-Atlantic Regional Interdisciplinary Cropping Systems Project.

Six commercial hybrids were grown at populations ranging from 20,000 to 32,000 plants per acre at two sites in southeastern Pennsylvania. Both sites were strongly influenced by drought in 1999, with average yields of 96 and 65 bushels per acre. In contrast to the previous year, yields generally declined as plant populations increased.

It appears that when drought reduces yield potential below 100 bushels per acre, optimum plant population decreases from 30 to 20,000 plants per acre.

The six hybrids were also

PENNSYLVANIA MASTER CORN GROWERS ASSOC., INC.

planted with and without a starter fertilizer (10-20-20 applied at 140-pounds per acre). All six hybrids responded to the starter with increased height and dry matter at V6 (leaf stage), but there were no significant responses at harvest in terms of grain yield, moisture, or lodging. The three hybrids that responded to starter in the previous year also had slight yield responses in 1999.

In a third study, seven different starter fertilizer treatments were compared, varying in amount and source of N (nitrogen) and amount of P (phosphorous) and K (potassium). These were evaluated in field-

length plots in two counties. The Lebanon county site had no significant responses to starter treatments owing to drought (average yield was 105-bushels per acre. The Centre county site had yield reductions from several starters containing P and sulfur (S), but not from starters containing N only (50-0-0) or N-P-K (10-30-10).

A combination of high soil test levels, a warm spring, ample growing degree days, and limited yields because of drought-reduced responses to the starter fertilizers. These studies are continuing.

> From News and Views Potash and **Phosphate Institute**

HAMMER **MILLS**

6" Wide x 18" Dia.

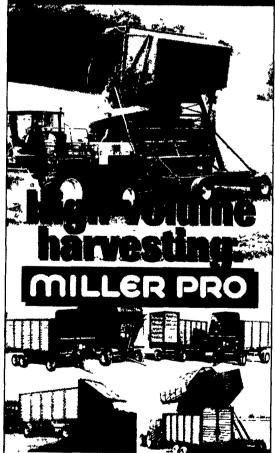


Grinds Up To 10 Tons An Hour, With 36' Long Hammermill

Buy Direct - From

F.M.I.-Feedmobile 727 Furnace Hills Pike, Lititz, PA 17543

717-626-2680 Rollermills & feed equipment also available



We build highly reliable productive equipment to help you harvest the highest quality for ige Miller Pro for ige boxes and high lift dump boxes are loaded with strength stability and long Listing terrures. See them all at vour Miller Pro de iler



Nobody builds a longer higher quality line of receiving dumping and for ige transporting equipment Forige boxes up to 20 in length. High lift dump dump up to 1212 cu. fr or 30 000 lbs up to 15

www.millerstn.com www.millerprofarm.com

CLUGSTOWN AG & TURF, INC hambersburg PA 717-263-4103

LONGENECKER S, INC Williamsburg PA 814-793-3731

MESSICK FARM EQUIPMENT 717-259-6617 Elizabethtown P. 717-367-1319

STANLEY'S FARM SERVICE (lingerstown PA **570-648-2088**

ZIMMERMAN FARM SERVICE Bethel PA 717-933-4114

RYDER SUPPLY

WaterMaste

Fresh, Clean Water-FAST!

The entire WaterMaster family of fountains feature the time proven Ritchie Cattle Valve, known for refilling faster than cattle can drink. This makes a larger capacity trough unnecessary. totally eliminating stagnant water, and reducing cleanout drain time to less than 45 seconds.

The WaterMaster is designed to easily replace existing steel and concrete waterers.



WaterMaster 144 Easy to Service A well 72" base (2 req) insulated valve cover that is easy to remove for quick access to valve compartment. No tools required. WaterMaster 72 72" hase (1 req.) The WaterMaster 144 Built for rugged is equipped with two feedlot conditions 20GPM valves for taster filling. A built-in overflow for Heavy duty constant flow use with construction no standpipe. A double drain design for draming

WaterMaster 90

WaterMaster 54

Easy to Install and Service Large access doors on each end and lift-out cover on top, stamless steel hardware

underground or onto

2 3/4" opening in the

gravity-style dairy systems.

bottom of the valve

feedlot floor

One of the drain plugs can be used in the valve compartment opening

to conserve water during cleaning compartment for use with

DEPENDABILITY



A water trainer device WM 54 and 90 feature a finger-lift (non-locking) cover for ease in servicing

> No Gasket to Freeze A uniquely designed, patented water scal that keeps cold air away from valve, eliminating the need for a rubber gasket which

cattle to drink.

will freeze, crack and tear.

539 Falling Spring Road, P.O. Box 219 Chambersburg, PA 17201-0219

Phone 717-263-9111