

Top corn yields call for careful water management

NEWARK, Del. — Scheduling irrigation in the humid East — which includes Delaware — is a real challenge.

Too much irrigation followed by unpredictable rain will leach valuable plant nutrients, contaminating the groundwater while wasting pumping energy. Too little can depress yields and profits.

"Proper scheduling begins with knowing how much water is being applied, how much the soil will

hold, and how fast plants draw water out of the soil reservoir," says University of Delaware agricultural engineer Tom Williams.

Research and Extension agricultural engineers at the university have been studying water use rates on field corn for the past six years. (Corn is the major irrigated crop in Delaware and the one that requires the most water.) Williams reported some of

their findings at the recent fifth annual Delaware Irrigation Conference in Dover.

He and his colleagues studied both irrigated and non-irrigated corn water use at six locations in southern Delaware from 1976 through 1979. Data collected over this time has made it possible for them to establish relationships between yield and consumptive water use. Results show that as

water use increased, yields went up.

Seasonal water requirements for 150 bushel an acre yields are approximately 18.5 inches. Two hundred bushel yields require about 25.4 inches.

"Rainfall supplies an average of 13.9 inches over the growing season. This leaves a net irrigation requirement of 11.5 inches for 200 plus bushel yields," he said.

To supply those 11.5 inches of irrigation water to the soil, approximately 15.3 inches per acre have to be pumped with an efficiency of 75 percent. (Some of the water evaporates before it hits the ground and is unavailable for plant growth.)

Does it pay to put this much water on? Yes, indeed; "Diesel fuel and oil cost less than \$5 per net acre-inch of water applied. Each inch makes 12.5 bushels an acre of corn," he said.

Peak water use occurs in July, from silking through the blister stage. Use varies between 0.23 and 0.36 inches per day, with an

average on high-yielding fields of 0.32 inches per day.

"A properly designed irrigation system should be able to supply this amount of water continuously with no rainfall," the engineer said. This requires pumping eight gallons per minute continuously for each acre irrigated.

Center-pivot systems can operate non-stop when it doesn't rain. But traveling big gun systems can't. These can cover only about 10 to 15 acres at a time, so they have to be moved to new sets periodically. If a system can operate only 20 hours out of each 24-hour day, the irrigation water requirement goes up to 9.6 gallons per minute per acre.

"It takes a lot of water to grow a lot of corn," Williams said. "At today's costs, you can't afford to waste any. This calls for careful scheduling." He's working now on corn water use graphs and other information which will be available next spring, to help irrigators do a better job of water management.

Franklin Co. Guernsey breeders discuss stray voltage

WAYNESBORO — Franklin County has one of the most active Guernsey Breeders organization in the state and they turned out in full force for the Winter Barn Meeting held Nov. 20th at Marion Benedict's, Long Lane Farm near Waynesboro.

The Guernsey Breeders welcomed as their guest speaker, Bob Witmer, the DeLaval representative in Franklin County. Witmer discussed the uninvited, unprofitable and unpleasant stray or transient voltage. He has had extensive experience working with local farmers on this problem and suggested that each farmer invest in a good voltmeter and use it. He went on to explain what to look for in cow behavior that might be traced to stray voltage.

Witmer emphasized that there are no clear cut answers to correct it once it is detected as each case is different.

According to a random sampling taken by County Agent Phil Wagner, 80 percent of the farms checked hand stray voltage to some degree. The group appreciated Bob sharing his first hand experience with this problem and helping to make them all aware of this insidious profit robber.

Schnebly of Crown Stone Farm, Clear Spring, Md., served as official judge for the three classes of cows in the judging contest. In the adult division, Eileen Moore

turned in the top score followed by Harold Hoffeditz. Doug Layman placed 1st in the Junior Division with Clair Garber. 2nd and Curtis Knepper, 3rd. Prizes for the contest were furnished by ABS - Chambersburg Farm Service, Atlantic Breeders, Clugston Implements and Cumberland Valley Co-op.

Ken Myers, President, opened the business meeting by introducing special guests which included Don Koons, ABS representative, Tom LaCorte, Vo-Ag teacher, James Buchannon High School, Art Salisbury, Carnation Genetics representative and Walter Mills, Atlantic Breeders representative.

The host, Marion Benedict then welcomed the group and gave a brief run-down on his farming operation and mentioned that there have been Benedicts in the

immediate area since the 1700's.

Brief reports were heard from National Director Seth Schnebly, State Director Dave Layman, and Ruth Ann Benedict, State field representative. Jeff Benedict was recognized for his Outstanding Guernsey Youth Award.

The cold and windy weather made the hot chocolate and donuts very much appreciated by those attending.



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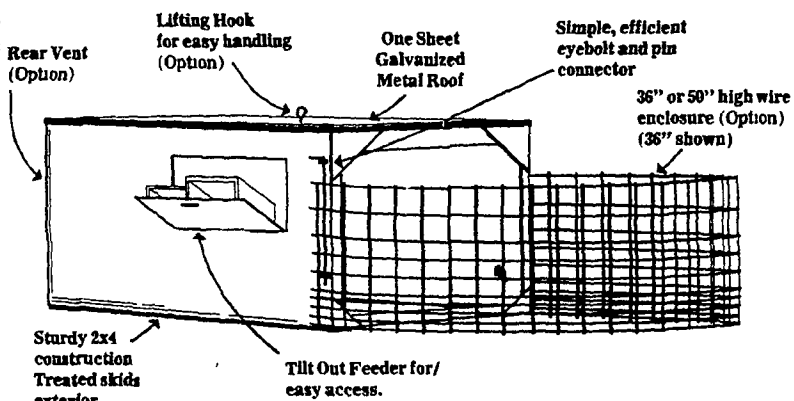
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