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**HEADQUARTERS FOR SPRAYERS & PUMPS**  
**PACER PUMPS**

**Self-Priming Centrifugal Pumps**

**Features:**

- Self-priming to 20 feet
- Total heads to 120 feet
- Capabilities to 200 U.S. GPM
- Built in check valve
- Equipped with 1½" or 2" female threaded connections, NPT



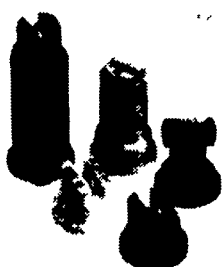
Full Line Of Hose And Couplings In Stock

<p>• <b>3 H.P. 'S' Series</b> <b>1½" Or 2" Ports</b> Reg. \$246.80 <b>SPECIAL</b> <b>\$217.70</b></p>		<p>• <b>5½ H.P. 'S' Series</b> <b>With Briggs Ineth</b> <b>2" Ports</b> Reg. \$306.40 <b>SPECIAL</b> <b>\$268.10</b></p>	
<p>• <b>5½ H.P. 'S' Series</b> <b>With Honda Engine, 2" Ports</b> Reg. \$552.00 <b>SPECIAL</b> <b>\$483.00</b> With Cage \$536.65</p>	<p>• <b>5½ H.P. 'S' Series</b> <b>With Briggs Industrial Ineth</b> <b>2" Ports</b> Reg. \$436.80 <b>SPECIAL</b> <b>\$382.20</b></p>	<p>• <b>'S' Series Pedestal Pump Only</b> <b>1½" or 2"</b> Reg. \$162.00 <b>SPECIAL</b> <b>\$141.75</b></p>	
<p><b>AG FOAM</b> Half Gallon Special #709230 <b>\$11.25</b> ¾ Gallon Special #711509 <b>\$51.00</b></p>	<p><b>SPRAY TANK CLEANER</b> #055160 2 lbs. <b>\$5.85</b></p>	<p><b>FOAM DYE</b> #009077 For Higher Visibility Foam <b>\$14.80</b> Pint</p>	

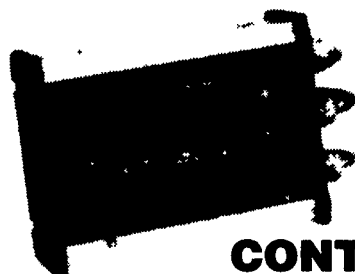
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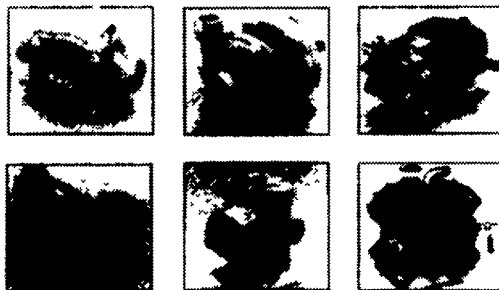
**CONTROLS**

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- 15 gal. & 25 gal. Tanks
- 1.4 GPM, 12 volt ShurFlo Pump, 60 psi Max
- Inline Filter

- Pressure Regulator
- Stainless Pressure Gauge
- 18 ft. Wiring Harness with Switch and Fuse
- 15 ft. Hose, 2 Nozzle Bodies, 4 Tips, and Clamps included
- Available with optional 115 volt Pump



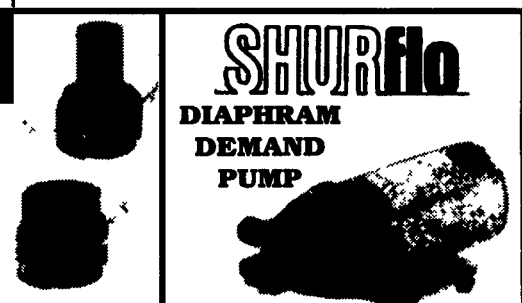
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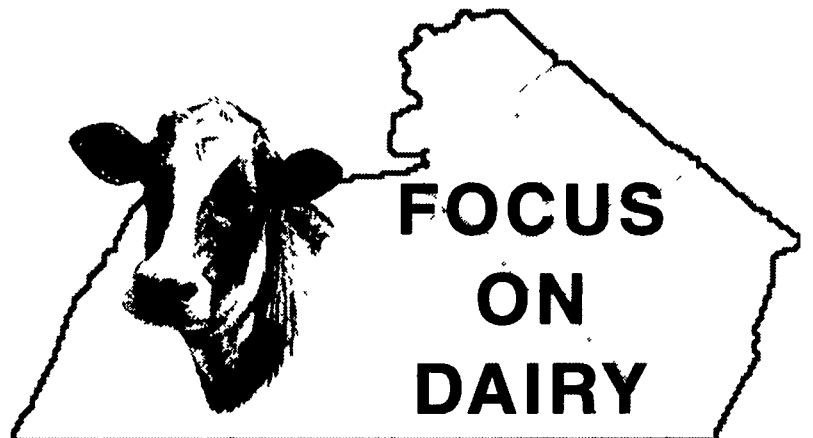
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**Penn State Cooperative Extension**  
**Capitol Region Dairy Team**

**DETERMINE WHEN CORN IS AT THE RIGHT MOISTURE CONTENT FOR ENSILING**

Glenn A. Shirk  
Extension Agent — Dairy, Lancaster County

The moisture content of silage at time of harvest is one of the most critical factors affecting silage quality, because moisture levels dictate the kind of fermentation process that will take place, how the fermentation will proceed, and what products the fermentation process will produce.

Determining when to ensile corn can be a challenge because, for example, 110-day corn does not always mature in 110 days. Hot weather speeds up the maturing process and, once the crop has matured, the plant "shuts down" — and moisture levels can drop rapidly and catch you off guard.

On the other hand, as the cooler, shorter days of fall approach, the crop matures at a much slower pace. It may not mature prior to the first frost, and once frosted, moisture levels can drop rapidly.

Don't let your eyes deceive you. When you observe corn fields turning brown, the corn may not be as dry as it appears. This is especially true with drought-stricken corn. The leaves may be brown and dry, but the stalk and ear may still contain fair amounts of moisture. Even though the bottom leaves are "fired," the top may still be pushing forth new growth. Thus, if you cut the field too quickly you could be losing some dry matter yield.

However, when the moisture and "life" leaves the stalk, look for whole-plant moisture to drop rapidly. Monitor the crop closely to get the timing right. Also remember that the bottom leaves represent only a small percentage of the plant's total weight, so the impact of firing on whole-plant moisture and yield is often less than what you might expect.

In 2001, corn drydown rates were monitored at the Penn State research farm in Landisville. Moisture levels were compared to degree of firing and to milk line regression to

evaluate how accurate they were in predicting whole-plant moisture and when to ensile the crop. All tests were run on the same 110-day hybrid, planted May 1 and May 25 in two different fields. The field planted on May 1 had a doughy section and a more normal section.

Whole-plant moisture was not as low as what plant firing might lead you to think, especially in the droughty corn. If the droughty corn were ensiled at 50 percent firing, the moisture level in the silage could have been as high as 74 percent, which could result in abnormal fermentation, excessive seepage, and poor quality silage. Harvesting the May 25 planting at 50 percent firing would have resulted in corn being ensiled at about 55 percent moisture, which could be too dry for top quality silage. When corn was in a more ideal moisture range of 60-70 percent, firing ranged from 10 percent to 60 percent!

Kernel milk line regression was a more reliable indicator of whole-plant moisture. Most of the samples were in the acceptable moisture range when the milk line progressed ½ of the way down from the tip of the kernel, and started getting too dry as it progressed beyond about the ¾ level.

The best way to determine plant moisture is to cut 6-12 stalks that are representative of the field, chop them to about ensiling length, and conduct a moisture test on them. If a chopper is not handy, a home mulching machine works well.

Once kernels are well developed and the kernel milk line begins to regress, whole-plant moisture levels drop about 0.65 percentage units per day. This drydown rate can be used to help predict harvest dates. For example, if your plan is to ensile corn at 65 percent moisture, but the moisture level is 72 percent, that means the moisture needs to drop by 7 percentage units before being ensiled. Divide these 7 percentage units by 0.65, and you'll find that the crop should be ready to ensile in about 11 days. Sudden changes in plant and weather conditions can affect this dry down rate, as discussed earlier.

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