

CORN SILAGE DRYDOWN AND QUALITY PROCESS CLINICS: TEST, DON'T GUESS! Dr. Sandy Costello **Penn State Cooperative** Extension **Dairy Agent**

Central Susquehanna Valley Our Central Susquehanna Valley Dairy Extension Team conducted four corn silage quality assessment clinics throughout the month of September 2003. The primary purpose of the clinics was to provide area dairy producers with feedback on moisture content of whole-corn plant or chopped corn plant samples to aid in timing of corn silage harvest. Research has shown that corn plants harvested

based on whole plant moistures will ferment better and provide higher quality corn silage feed for dairy cattle.

Forty-six whole corn plant or chopped samples were received from 20 dairy producers in Columbia, Montour. Northumberland, Snyder, and Union counties. Chopped samples were also tested for particle length to evaluate effective fiber quality of the future corn silage. Corn silage that is chopped too finely will provide little fiber benefit to cows and may lead to lower intake and greater chance of acidosis and other associated digestive disorders. Results comparing actual versus recommended chop length was provided back to dairy producers. The multicounty

agronomist also evaluated whole corn plant samples using traditional dry down measures, including denting, milk line, black line, and milkiness or doughiness.

An observational comparison across samples showed no clear relationship between traditional corn grain measures and moisture content of whole plant samples. In other words, traditional measures (denting, milk line, etc.) provided limited assistance in determining when to harvest corn silage. Samples were also checked for insect damage and other stress indicators on whole-corn plants and findings were provided back to producers. Stress damage to whole-corn plants may indicate increased opportunity for mold and/or mycotoxin production leading to negative affects on animal health and production.

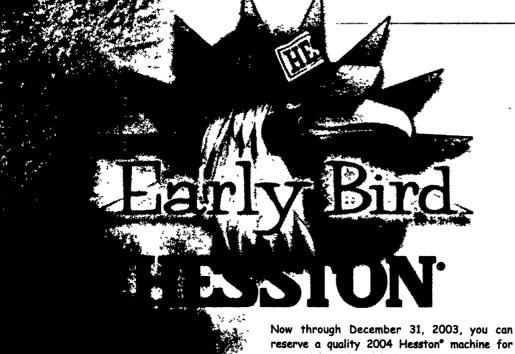
Timing of corn silage harvest for appropriate whole plant moisture based on storage method (e.g., upright silo, bag, or bunker) is critical to dairy farm profitability. When corn silage is harvested too wet or too dry, the risk increases for the following conditions: loss of feed (increased dry matter loss), poor nutri-

Sandy Costello, left, multicounty dairy agent, discusses corn variety information with Chris Wolff of PenCol Dairy at a silage testing clinic in the parking lot of the new Union County extension office. Photo by Norm Conrad.

tional value of feed (lower energy, starch and digestibility), decreased palatability of feed (lower intake), and increased opportunity for lower animal defense against disease (indirect affect of feeding poor quality silage) and a direct chance of disease associated with poor quality silage (e.g., ketosis from high butyric acid levels, listeriosis, clostridial diseases, and hemorrhagic bowel syndrome). Because corn silage is a major component of most dairy cow diets in Pennsylvania, poor quality will lead to lower dairy farm income (milk production) and higher farm expenses (higher purchased feed costs from

poor nutritional value and less feed, higher veterinary and treatment costs).

Central Susquehanna Valley Dairy Extension Team members participating with me in the project were Norm Conrad, agronomy agent and Ken Balliet, farm management agent. Special thanks also goes to Gerard Troisi from Upper Susquehanna **Crop Management Associates** for technical assistance, Ritter Feeds for logistical assistance. and area nutritionists, veterinarians, and other area agribusiness professionals for encouraging producers to attend.



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