

# Corn Silage Processing Score



The physical characteristics of corn silage contribute significantly to the value of the crop as it is fed. Properly processed kernels are well digested and contribute to milk production while poorly processed kernels pass through the cow and contribute mainly to the manure pit. The Corn Silage Processing Score provides an opportunity to quantify the physical characteristics of corn silage in order to better evaluate its value as a livestock feed.

The Corn Silage Processing Score, which was developed by Dairyland Laboratories in conjunction with the USDA Forage Research Center, utilizes oven drying, vigorous vertical shaking with a Ro-Tap Shaker and 9 sieves of various aperture sizes. While these aspects of the analysis make it inconvenient for quick in-field decisions, they do make for a robust and reliable analysis that farmers, machinery manufacturers, custom harvesters, and nutritionists can base important decisions upon.

## INTERPRETATIONS DEVELOPED BY DR. MERTENS AT THE USDAFRC

### Coarse Fraction > 4.75 mm

The fiber in particles greater than 4.75 mm will stimulate chewing activity. The starch in the particles will be poorly digested. The rate of digestion will be slow and it may escape the rumen in unchewed particles.

### Fine Fraction < 1.18 mm

Fiber in particles less than 1.18 mm may not contribute to chewing activity of physical effectiveness. Starch in the fine particles may ferment very rapidly in the rumen and cause problems when rations with low effective fiber are fed. Knowledge of starch and fiber in small particles may be a useful tool in solving some feeding problems  
Percentage of starch passing through the coarse screens (Adequately processed kernels)

Analyzing the starch in particles retained on the 4.65 sieve and larger as a percentage of the total starch provides a quantitative index of kernel processing in corn silage.

% of Starch passing through the coarse screen	Ranking
Greater than 70%	Optimum
50-70%	Average
Less than 50%	Inadequately processed