Forage Management

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Setting the Stage for Success: Corn Silage Harvest

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Taking the time to plan can greatly increase the odds of success in any endeavor. Planning for corn silage harvest not only increases the odds of getting through harvest season with success but will benefit your farms feeding program for the next year.

"As farmers, we must constantly keep in mind that there is no animal on the farm that possesses the power to transform coarse forage and grain into the highest order of human food like the cow. *But the lesson for us to consider is how we can best aid this wonderful animal in her transforming power*." – W.D. Hoard

The potential for short forage supplies following a challenging 2016 growing season further elevates the importance a successful harvest. Executing a proper harvest plan and managing the manageable can increase the value of the feed and reduce unnecessary losses to what may already be a short feed supply.

Dry Matter

Whole plant dry matter remains the single best way to stage corn silage harvest. Recent rains on drought stressed corn make whole plant testing all that more important. Visual assessment of plants can be very misleading, especially if the stalk and leaves are stressed from drought.

Storage Type	Dry Matter %
Bunk silos and piles	32-36
Bags	32-36
Concrete Uprights	35-38
Sealed Uprights	40-50

Kernel Processing

Since kernel processors began showing up on choppers the guidelines for an "optimum" processing score have changed several times to the point where several are actually suggesting that there is no such thing as too much kernel processing, so long as overall forage particle size isn't compromised.

A quick evaluation can be done by placing a sample of corn silage in a bucket of water. The kernels will separate from the fodder so you can easily assess kernel damage. The goal should be greater than > 90% breakage of kernels.

While it takes more management with larger choppers (running greater volumes of material through the processor), it has been shown that excellent kernel processing scores can be achieved regardless of machine size.

Laboratory Scores	
Rating	Processing Score
> 70	Good
50-70	Adequate
< 50	Poor

Work with your farms crop team, crop advisors, nutrition advisors and equipment representatives to make sure you your processor is ready to go and is being monitored throughout harvest.

Length of Cut and Particle Size

Achieving proper length of cut in balance with kernel processing takes great attention in monitoring chopper performance and making continual adjustments as harvest progresses and changes in forages (dry matter, stage of maturity, hybrid, and yield) occur.

Forage harvester settings:

- If using a processor, theoretical length of cut (TLC) should be 0.75 inches.
- Set the processor rolls with an opening of 1-3 mm.
- If not using a processor TLC should be 0.25 – 0.5 inches.

Guidelines for Penn State particle separator:

2 screens + pan

- Top screen = 10-20% of the total weight
- Middle screen = 40 – 60%
- Pan = < 40%

3 screens + pan

- Top screen = 5-15% of the total weight
- Second screen = > 50%
- Third screen = < 30%
- Pan = < 5%

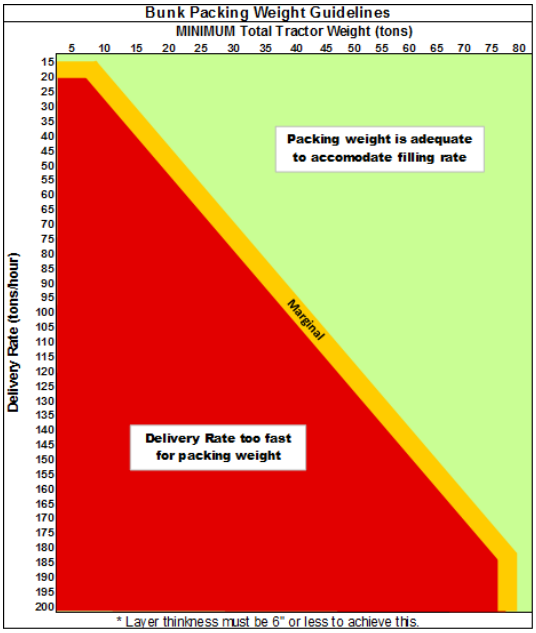
Source: http://ansci.cals.cornell.edu/sites/ansci.cals.cornell.edu/files/shared/documents/ImaturFrstedCornSilag.pdf

Corn Shredlage: Like conventional processing shredlage units require continuous monitoring and adjustment. Manufacturer guidelines for TLC are 1-1.2 inches (26-30mm); however, some farms report reducing TLC back to approximately 0.75" depending on forage parameters at harvest. Study and survey results indicate that while, with shredlage, a greater percentage of material will remain on the top sieve, increased sorting by animals was not observed.

Storage Management

Minimizing dry matter losses with your forages is always important but can make be especially beneficial when facing tight forage inventories.

- Bunk Density - Achieving proper density is essential to reducing dry matter losses in storage. See our article on packing bunk silos at http://prodairy.cals.cornell.edu/production-management/resources.
- Pack in thin layers (< 4-6")
- Inoculants – Utilize bacterial inoculants to aid in fermentation and reduce losses
- Cover with oxygen limiting plastic
- Feed out – manage feed out to maintain fresh forage.
    - Set goal to remove a minimum of 4-6" from surface/face of silage each day.



Be Safe! Make sure you and your crew go home safely each day.

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