

2021 SILAGE GUIDE

Presented by DEKALB® Brand and Dairy Herd Management



Prepare Yourself To Prepare Your Soil



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Quality corn silage begins from the ground up. Soil fertility, nutrient loss management and hybrid selection are key in developing a strategy for success that begins long before the seed ever enters the ground.

ESTABLISH A BENCHMARK

To help prevent unnecessary losses, soil testing should be an integral part of a farmer's nutrient management plan.

According to Dr. Maninder Singh, assistant professor and extension specialist, cropping systems agronomy, Michigan State University, a quality sample that is representative of the entire field is a fundamental part of the equation.

"Not sampling too big of an area, getting enough soil in the sample — all of those are effective tools in getting a good specimen," said Singh.

"As we do that {crop rotation}, management becomes critical outside of corn silage because we are removing a lot of plant biomass with the silage harvest."

***- Dr. Maninder Singh, Michigan State University
Assistant Professor and Extension Specialist***

A nutrient fertility program is critical in silage production for both yield and quality. And fertilizer applications should be based on soil test levels.

MANAGE NUTRIENT LOSSES

Crop rotation should not be overlooked as part of the overall cropping system. Rotate multiple crops to bring a legume-based forage alongside corn silage if other species are not part of the rotation.

"As we do that, management becomes critical outside of corn silage because we are removing a lot of plant biomass with the silage harvest," Singh said.

Establish cover crops to help minimize nutrient losses, especially a winter variety that can also improve water quality.

SELECT THE RIGHT HYBRID

Is the goal for the crop dual purpose or silage-specific? Will early- or mid-maturing hybrids perform best in your environment? Selecting the right corn hybrid for your farm is essential not only for silage production but also for improved management. Be sure to select a hybrid that is adaptive and able to mature in your production environment, so yield and quality are not compromised at harvest.

Take the Time To Time It All Out

Yield and quality should be top of mind when growing corn silage. Corn silage is typically at its maximum yield and quality potential just after 50% kernel milk, according to Joe Lauer, Ph.D., extension specialist in corn agronomy, University of Wisconsin.

"For every one-day relative maturity unit change, it means two bushels per acre," Lauer explained.

For example, a 90-day hybrid versus a 100-day hybrid would yield 20 bushels more, simply based on maturity selection.

"The selection of the hybrid dictates the management style that a grower is going to be using out in the field," Lauer said. "In today's bioengineered era, it's important to know what you can and can't do just by the traits in the hybrid that you pick."

Remember, a later planting date often calls for a shorter-season hybrid in order to time harvest before a killing frost. Additionally, early planting — May 1

versus June 1 — typically results in a 20% to 30% yield swing.

TIME FERTILIZER APPLICATION

When it comes to fertilization, the source of nutrient application is not as important as the timing, rate and placement of nutrients. The true source decision lies in whether the nitrogen is needed immediately or in a delayed fashion.

Nitrification inhibitors can slow the release of nitrogen to later in the growing season when the plant needs it. This process can also be accomplished by split applying fertilizer pre-plant and later, right before the canopy begins to grow.

Be sure to consider the availability of phosphorus, potassium and other nutrients as identified in the soil test, as some interactions can occur that influence uptake.



DR. JOE LAUER
corn agronomy
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University
of Wisconsin

"Hybrid selection dictates the management style a grower uses in the field."

- Dr. Joe Lauer, University of Wisconsin Corn Agronomy Specialist



TOP DEKALB® CORN SILAGE PRODUCTS FOR 2022

DEKALB® Corn Silage Products		Value-Added Trait	Silage Yield @ 65% Moisture		% Starch	Milk Per Ton	Milk Per Acre	GDUs to Mid-Pollination	Emergence	Seedling Growth	Root Strength	Stalk Strength	Plant Height	Staygreen
	DKC26-40RIB BRAND BLEND	VT2PRIB	3	2	2	1	2	1045	3	2	2	2	Med Tall	2
	DKC31-10RIB BRAND BLEND	VT2PRIB	3	3	2	2	2	1061	1	1	3	3	Med Tall	3
	DKC39-07RIB BRAND BLEND	VT2PRIB	2	4	3	3	3	1200	2	1	4	4	Tall	4
	DKC43-75RIB BRAND BLEND	VT2PRIB	3	2	2	2	3	1215	2	3	2	2	Medium	3
	DKC44-80RIB BRAND BLEND	VT2PRIB	2	2	2	2	2	1240	2	2	4	3	Med Tall	3
	DKC45-07RIB BRAND BLEND	SSRIB	2	1	3	2	2	1195	3	3	3	3	Med Tall	2
	DKC48-56RIB BRAND BLEND	SSRIB	2	2	3	2	2	1200	2	3	3	2	Med Tall	2
	DKC50-08RIB BRAND BLEND	SSRIB	3	2	3	2	3	1283	3	2	3	3	Medium	3
	DKC51-91RIB BRAND BLEND	SSRIB	2	1	2	2	2	1275	3	3	2	4	Medium	4
	DKC53-45RIB BRAND BLEND	SSRIB	2	1	2	2	2	1265	3	3	3	5	Medium	4
	DKC54-38RIB BRAND BLEND	SSRIB	2	3	1	2	2	1300	1	2	2	2	Medium	3
	DKC55-37RIB BRAND BLEND	SSRIB	2	3	2	2	2	1300	3	3	2	3	Med Tall	3
	DKC55-53RIB BRAND BLEND	SSRIB	3	1	3	2	2	1330	3	2	3	2	Medium	2
	DKC57-97RIB BRAND BLEND	SSRIB	2	3	2	3	2	1305	3	3	2	3	Tall	2
	DKC58-34RIB BRAND BLEND	SSRIB	3	3	3	2	3	1330	4	3	2	2	Med Tall	2
	DKC59-07RIB BRAND BLEND	SSRIB	2	1	2	2	1	1320	2	2	2	2	Med Tall	2
	DKC61-80RIB BRAND BLEND	NEW SSRIB	1	3	2	2	2	1365	2	2	3	3	Tall	3
	DKC62-08RIB BRAND BLEND	SSRIB	3	3	3	3	3	1365	3	3	3	3	Medium	3
	DKC64-34RIB BRAND BLEND	SSRIB	2	2	2	2	2	1377	5	3	1	1	Med Tall	1
	DKC64-44RIB BRAND BLEND	SSRIB	1	2	2	2	1	1350	3	3	3	3	Medium	2
	DKC67-42RIB BRAND BLEND	SSRIB	2	3	3	3	2	1372	3	2	5	4	Med Tall	3
	DKC67-66RIB BRAND BLEND	NEW SSRIB	1	3	3	2	3	1370	2	2	3	2	Tall	2
	DKC69-16RIB BRAND BLEND	SSRIB	3	3	3	2	3	1380	2	2	3	2	Med Tall	2
	DKC70-64RIB BRAND BLEND	SSRIB	1	3	3	3	2	1410	3	3	5	2	Tall	2

Silage Proven: Products classified as Silage Proven meet a high standard of nutritional value of milk per ton and milk per acre and percentage starch.

Rating scale: 1 = Excellent, 9 = Poor

Value Added Traits: VT2PRIB = VT Double PRO® RIB Complete® corn blend; SSRIB = SmartStax® RIB Complete® corn blend

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Don't Cut Corners on Cutting



JOE LAWRENCE
dairy forage
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Harvesting quality silage takes careful planning as weather, chopping height and storage can impact forage nutrients.

MONITOR WEATHER PATTERNS

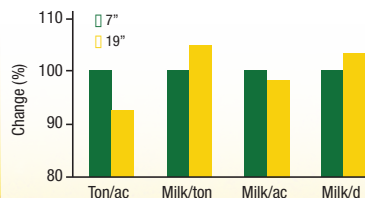
Above average rainfall during the growing season lowers the fiber digestibility of corn silage, especially around the tasseling stage of the plant. Monitoring weather patterns is key as harvest nears, so alternative feed ingredients can be included in the feeding plan to help rebalance the animal's diet if corn silage digestibility is low.

SURVEY INVENTORY BEFORE CHOPPING

Chopping height considerations should be determined by first taking inventory.

"For every 6 inches you raise the cutting height, you reduce yield by approximately one ton per acre," said Joe Lawrence, dairy forage systems specialist and PRO-DAIRY team member

CORN SILAGE CUTTING HEIGHT TRADE-OFF



at Cornell University. "Fiber digestibility and starch content can both be improved by a higher cutting height."

In general, starting with a cutting height of 6 to 8 inches, raising the height of cut by about 12 inches to 18-20 total inches, results in the loss of approximately two tons per acres of yield (at 35% dry matter), but will gain five to six percentage points of NDF digestibility. Thus, because less stalk and the same number of kernels is harvested, the percentage of starch in the resulting silage will also increase.

3 TIPS TO HARVESTING QUALITY SILAGE

1 UNDERSTAND INVENTORY NEEDS.

Knowing your available forage and the number of animals you need to feed makes other harvest decisions easier to make.

2 DON'T RUSH.

Waiting when the crop is at proper maturity — typically defined at 35% whole plant dry matter — will deliver the best quality silage product. Timely harvested silage yields proper fermentation and reduces spoilage.

3 MAKE STORAGE PLANS.

The better storage is planned, the more flexibility you have to match forage quality to animal needs at feed out.

Spoilage Can Spoil All Your Hard Work

Instability can cause silage to heat and spoil, affecting dry matter intake and ultimately leading to an undesirable feed.

Silage additives are tools that can be used to help improve the fermentation process once basic harvest management and silage packing techniques are in place.

CHOOSE THE BEST ADDITIVE

CHEMICAL ADDITIVES are designed to improve aerobic stability by inhibiting undesirable yeasts during fermentation.

Managing the stability of silage is critical because a large portion of dry matter lost in a silo is caused by aerobic spoilage.

BIOLOGICAL ADDITIVES are derived from bacteria that are homolactic or heterolactic in nature. Homolactic bacteria are used at the beginning of fermentation and speed the process. Heterolactic bacteria improve the aerobic stability of the silage.

Silage additives or inoculants are effective when added at a high enough rate to compete against detrimental organisms and dominate the ensiling process.

"If there are no issues with aerobic stability, choose a homolactic acid

Dry matter and energy recoveries in a silo are the highest when using homolactic fermentation.



DR. LIMIN KUNG
dairy nutritionist,
University of
Delaware

bacteria-based inoculant," said Dr. Limin Kung, University of Delaware dairy nutritionist. "If stability is an issue, then use a heterolactic acid-based inoculant or chemical-based antifungal additive."

A sudden drop in pH might reduce protein degradation and prevent the growth of undesirable silage microbes and occasional improvements in animal production due to more efficient fermentation. But homolactic acid bacteria might not always be effective in improving the aerobic stability or shelf life of silage.

Good management should come before the use of silage inoculants. However, choosing the best additive to fit your needs can be helpful in improving fermentation and/or shelf life of silage. A research-proven inoculant should be considered based on the crop, silo and other management challenges.

YIELD. FEED. SUCCEED.

A history of success starts with the strong fundamentals of DEKALB® brand silage. Featuring outstanding digestibility, nutritional quality and high tonnage potential to help maximize your herd's productivity and realize a future of performance.



DEKALB.COM/SILAGE

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