



CROP INFORMATION: CORN



CORN	Pre-Plant	Planting	VE Emergence	V3-V4 3-4 leaf Collar	V5-V6 5-6 Leaf Collar	V7-V10 7-10 Leaf Collar	VT Tasseling Stage	R1 Silking - R2 Blistering	R3 Milk - R4 Dough - R5 Dent	R6 Full Maturity	Post-Harvest
Monty's Recommended Program	MLC: 2-4 qt/ac Agri-Sweet FG: 1-2 qt/ac	Premium Blend: 2-3 gal/ac 9-24-3: 3-5 gal/ac Microhance: 1-2 qt/ac Multiplicity: 8 oz/ac MLC: 1-2 qt/ac	Nauxin+: 1-2 qt/ac Surge XD: 1 qt/ac Sulfur 15: 1-2 qt/ac Premium Blend: 1-2 qt/ac K28*: 1-2 qt/ac Agri-N: 2-4 qt/ac	Midnight*: 1-2 qt/ac	Foliar: 9-24-3: 2-3 gal/ac, 11-26-0-1S: 2-3 gal/ac, Nauxin: 2-4 qt/a, Surge XD: 2-4 qt/ac, Sulfur 15: 2-4 qt/ac, Prcmium Blend: 2-4 gal/ac, K28*: 1-2 qt/ac, Agri-N: 2-4 qt/ac Y-Drop: 9-24-3: 2-3 gal/ac, 11-26-0-1S: 2-3 gal/ac, Nauxin: 2-4 qt/ac, Surge XD: 2-4 qt/ac, Sulfur 15: 2-4 qt/ac, Premium Blend: 2-4 gal/ac, K28*: 1-2 qt/ac, Agri-N: 2-4 qt/ac	Premium Blend: 1-2 gal/ac Nauxin: 1-2 qt/ac Agri-N: 2-4 qt/ac Sulfur 15: 1-2 qt/ac K28*: 1-2 qt/ac					Humi-Till/ Breakdown: 1 gal/ ac, MLC: 2-4 qt/ac, Agri-Sweet FG: 1-2 qt/ac, Agri-N: 2 qt/ac, Nauxin: 1 qt/ac
Monty's Program Benefits	Improves soil health and stimulates soil microbial populations	Benefits early corn development and increases stand establishment	Regulates water uptake Increases tolerance to stress Increases root mass Prevents micronutrient deficiencies Maximizes plant development						Yield can be influenced during each of these following reproductive stages by applying MLC, Surge XD, Agri-Sweet FG, and Microhance	Maximizes yield	Residue management soil for next Spring Decreases soil compaction Increase soil microbial populations
Fertility Needs	P	N, P, K	N, S, B, Zn								
Maintenance Applications	Seed treatments and/or burndown	Herbicide Application Add 3 oz/ac of Nanoboost to speed up defoliation process.	Insecticides, Pesticides, Fungicides								
When To Soil Sample	Spring, when tissue sampling, or fall										
When To Tissue Sample	Weekly after 350 GDUs, or at critical growth stages										

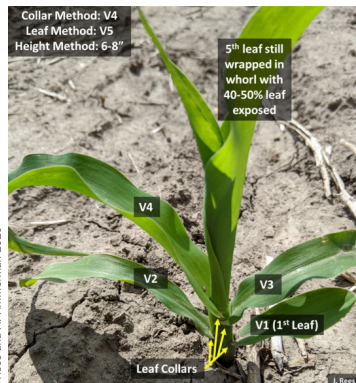
* Nauxin can be mixed with Dicamba.

K28 apply rates according to tissue sampling results during vegetative stages.

§ Midnight cannot be applied with other fertility, but can be tank mixed with fungicides/herbicides.

¶ October to December sampling for spring fertilizer applications, and March to April sampling for fall applications are preferred.

‡ Weekly tissue sampling will allow you to monitor plants fertility to achieve the highest yield. Tissue sampling should be done if deficiency symptoms appear.



Useful Information:

- For optimum corn growth, soil pH should be between 6.2 and 6.8.
- High yielding corn removes substantial nutrients from the soil.
- Refer to this table to understand the amount of nutrients removed by producing 180 bu/A corn.

Identifying Corn Growth Stages:

Identifying the correct growth stage is crucial for best fertilization applications timings.

Nutrients (lbs) removed by corn grain and stover of a 180-bu/acre crop

Nutrient	Grain	Stover	Total
	- lbs/ac -		
N	170	70	240
P ₂ O ₅	30	30	60
K ₂ O	48	192	240
Ca	15	42	57
Mg	16	34	60
S	14	16	30
Zn	0.15	0.54	0.69

David Wright et al, 2016. University of Florida IFAS Extension

* Program benefits are based upon results of field trials conducted by Monty's and third parties. Program benefits are not guaranteed and will vary based upon many factors including weather, soil type, and farming practices.



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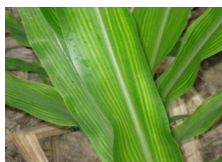
Deficiency Symptoms



Nitrogen deficient corn plants appear pale-green to yellow with, necrosis/chlorosis start at the leaf tip to the midrib. Symptoms advance from leaf tip towards base.



Iron deficiency is characterized by interveinal chlorosis of the leaves with the leaf veins remaining dark green. Symptoms appear first on younger leaves.



Sulfur deficiency is characterized by spale green/yellow color, uniform yellowing without necrosis. Symptoms begin as lesions, marginal leaf tips or broad bands of chlorotic tissue or yellowing, veins are not prominent.



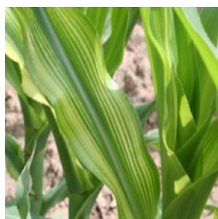
Phosphorus deficiency may cause dark green coloration of the leaves, dark yellow chlorosis and a purple color to the leaves. These symptoms occur first on older leaves.



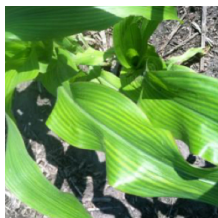
Potassium is highly mobile in the plant. Consequently, potassium deficiency symptoms occur first on the lower leaves and progress toward the top as the severity of the deficiency increases. One of the most common signs of potassium deficiency is the yellowing/chlorosis along leaf margins followed by brown stripping and necrosis.



Boron deficiency is rare in corn. Symptoms develop in older leaves and become necrotic at the leaf tip, margins, and between the leaf veins.



Zinc is necessary for the development of carbohydrates, proteins, and chlorophyll. Soils lacking Zn can reduce plant growth and yield potential. Deficiency symptoms include interveinal light colored striping, or white banding beginning at the leaf base and extending to the leaf tip. The leaf margins and tip usually remain green. Can cause plant stunting.



Manganese plays a vital role in photosynthesis through chloroplast formation, which is important for chlorophyll development, helps in the development of carbohydrates, and influences enzyme activity. Deficiency symptoms develop first on newly developed leaves, turning olive green with streaking. Leaves can become elongated with white streaks wight necrotic centers. Manganese deficiency is favored din soils with high pH.



Magnesium deficiency first shows up in older leaves turning pale green, followed by interveinal chlorosis. As magnesium deficiency progresses, reddish and purple spots appear on corn leaves.

Soil & Tissue Sampling

SOIL SAMPLING RECOMMENDATIONS:

Take one soil sample for every 20 acres. This sample should consist of a composite of 15 subsamples taken randomly at a depth of 6-7 inches from across the sample area. The sample needs to be mixed well to be representative of the soil conditions.

Soils that can be tested less often: If the soil has a high CEC, it will hold cation nutrients better and the pH will remain constant over longer periods of time. It is still suggested to test throughout the growing season and at the end of the harvest for planning.

Soil that should be frequently tested: Soil with a low CEC (less than 7), some cations such as potassium (K+), magnesium (Mg++), and ammonium (NH4+) have the ability leach through the root zone, so testing more often to find nutrient deficiencies is beneficial. When fertility levels are low, soil sampling should happen more frequently to insure best utilization of added nutrients and fertility.

The key is consistency and getting the information back in time to use it. This is why we encourage sampling at harvest to plan properly for the next growing season. While factors such as weather and crop rotation can affect soil test results, these differences are generally small enough that reliable information can still be obtained regardless of when sampling is done.

For general practices: October-December sampling for Spring fertilizer planning and applications, and March-April sampling for Fall/post harvest planning and applications. These two time periods generally have the lowest amounts of testing variability associated with them. **Give yourself adequate time to review the test results and plan the program before making fertilizer applications.**

TISSUE SAMPLING RECOMMENDATIONS:

Timing: To achieve the highest yields possible, we encourage tissue sampling throughout V4-V5, V9-V12, and R1. We encourage to achieve the highest yields possible to tissue sample throughout the growing season (early and often). Some of the high yielding growers tissue sample every week.

Plant tissue to sample: At the seedling stage, all above ground portions of the plant should be collected, collecting ~25-30 plants. Prior to tasseling, the fully developed leaf below the whorl is collected, sampling from 15-20 plants. Tasseling to silking stage, collect the leaf above and opposite the ear, sampling from 15-20 plants.

Storing and shipping: Store the sample properly and remove soil or other debris that would interfere with tissue analysis and results. Problem areas or areas of interest should be sampled separately. All samples should be stored in a paper bag and in a cool place and properly labeled. All samples should be sent to the lab immediately to prevent any decay or damage to your sample that could cause your tissue results to be inaccurate.

MONTY'S HIGH YIELD PROGRAM: Monty's high yield program can vary from a standard program by products, application rates, and application timing. If you are interested in a high yield program contact your Monty's representative or call 800.978.6342.