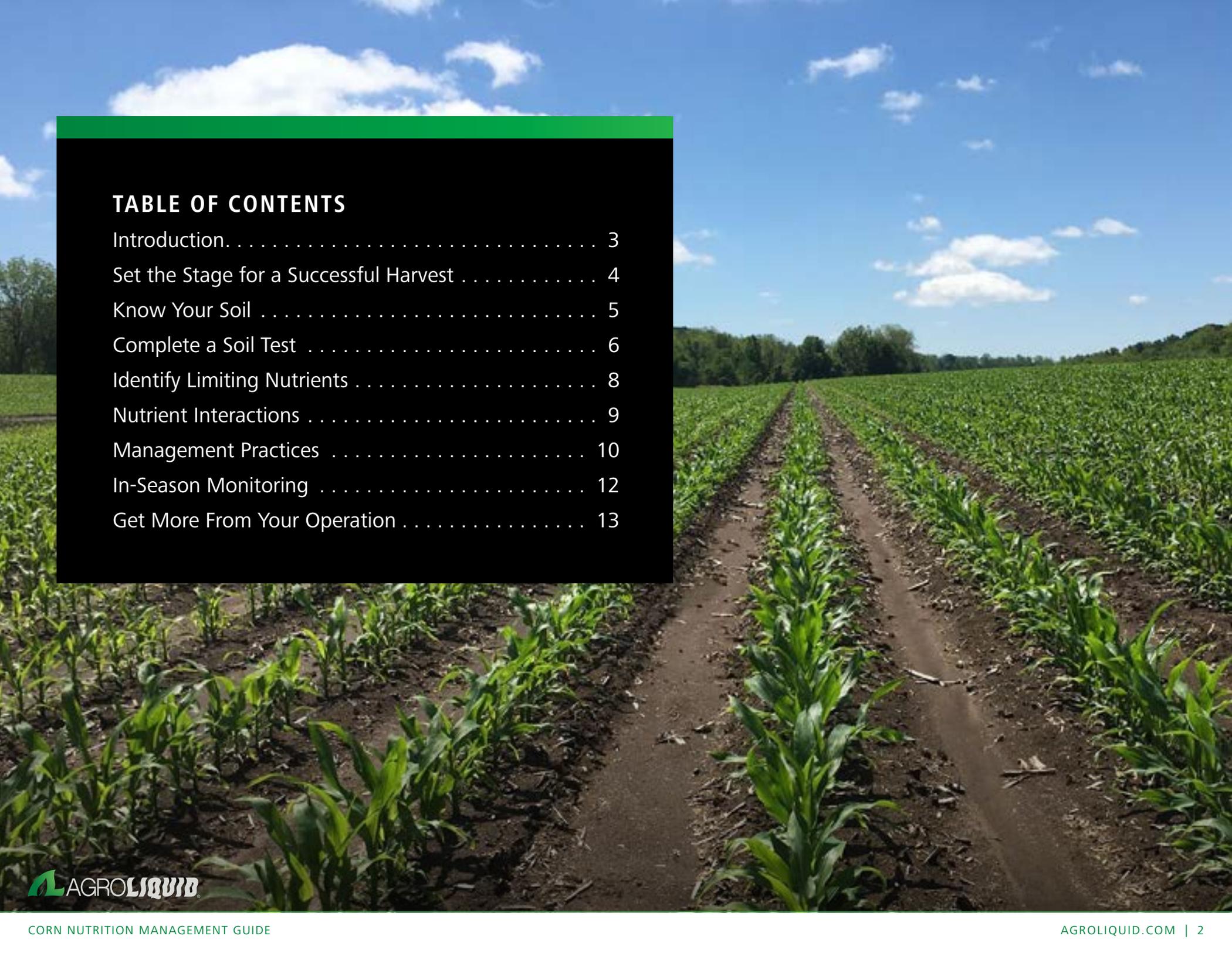


CORN NUTRITION MANAGEMENT GUIDE



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INTRODUCTION

HOW DO YOU GET A BETTER ROI?

Precision Corn Nutrition.

Yields. Inputs. Soil tests. N-P-K. Micronutrients. Climate. Economy. Setting the stage for a successful corn harvest can be difficult in an incredibly complex agricultural environment.

The solution? Smarter nutrient management.

In this guide, you will find expert insights, tips and information from AgroLiquid's agronomic team aimed to get you maximum results with nutrition specific to your crops' needs.

We hope this helps you reap the rewards of your efforts in 2025 and beyond. If you have questions along the way, the experts are here to help at [AgroLiquid.com](https://www.agroliquid.com).



SET THE STAGE FOR A SUCCESSFUL HARVEST

Develop a Fertilizer Plan that Maximizes Returns

There are many elements that drive planning a profitable harvest, but honing in on your fertilizer budget is a big step in establishing a path to maximum returns.

FERTILIZER BUDGETING TIPS

01



Don't chase revenue, chase profit.

Maximum yield doesn't always equal maximum profit. Calculating ROI helps growers get the most out of their fertilizer dollars by weighing each input's impact against its cost.

02



Diminishing returns can rob you of profitability.

Aiming for maximum yield requires growers to invest more in their fertilizer budget. Pushing yields higher can require you to use more product for less overall return.

03



Let data drive your decisions.

Perform a soil test so you know what nutrients your soil has or needs before building a budget. Be sure to review data from on-farm trials and seek expert advice before making changes to your program. Short-term savings could have long-term costs.

PRO-TIP

Planting time is the best time to apply micronutrients.

Maximize Fertilizer Effectiveness with Micronutrients

During planting, many growers only focus on primary nutrients like nitrogen, phosphorus and potassium, but it's equally important to consider what micronutrients do for crop performance.

Though applied in smaller quantities, micronutrients are essential for certain plant functions. They create a synergy with primary nutrients that provides more efficient nutrition for your crops.

Ready to optimize your fertilizer spending? Download AgroLiquid's free Crop Nutrition Budgeting Tool.

DOWNLOAD

KNOW YOUR SOIL

Soil Tests: The Cornerstone of Decision Making

Soil testing is the first step in creating an optimal corn nutrition program. When you conduct soil testing, you gain essential information about the specific conditions present in your farm's soil.

Think of a soil test as creating a detailed map of your soil's characteristics – the more you understand about your soil's composition and properties, the better equipped you are to navigate your way to successful crop production.

HERE IS SOME KEY INFORMATION YOU'LL GAIN FROM A SOIL TEST

CATION EXCHANGE CAPACITY (CEC)

This serves as the first indicator of soil's productive capability, showing nutrient and water-holding capacity, with typical ranges between 10 and 30 (higher numbers indicate more clay and organic matter).

SOIL pH

Soil pH has a direct effect on nutrient availability, with most nutrients being readily available when soil pH is between 6 and 7.5, making it necessary for efficient nutrient uptake.

BASE SATURATION

Percentages provide optimal ranges for key nutrients which influence the soil's productive capacity and nutrient availability to crop: calcium (60-75%), magnesium (10-20%), potassium (3-8%), hydrogen (less than 10%) and sodium (less than 2%).

WHAT A SOIL TEST ANALYSIS SHOWS



Soil pH and effects on nutrients



Biological activity and the impact on nutrient retention



CEC, soil quality and possible improvements



Ways to increase yield



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COMPLETE A SOIL TEST

Take the Guesswork Out of Corn Nutrition

Soil testing is key to developing the optimal crop nutrition program. Collecting samples isn't complicated, but it must be done with care. This ensures your test accurately represents the area you're testing.

HOW TO GATHER A SOIL SAMPLE

01



Pull soil samples in a zig-zag pattern through the middle of the area, or use a grid pattern.

03

Place soil samples in a clean plastic bucket that is not used for any other purpose. Metal buckets and residue on the bucket will corrupt the sample.



02

Pull separate soil samples for areas that show crop damage, different soil types, or different water absorption patterns. Each composite sample should not represent an area larger than 20 acres.



04

Send the soil samples to the address provided with your test bag. Wait for results.

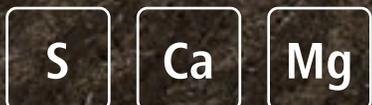


Nutrient Identifiers for Corn

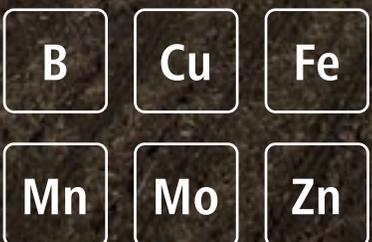
PRIMARY



SECONDARY



MICRO



Soil Testing Tips for Corn



Timing

Conduct soil tests in early fall after corn harvest or in early spring before planting. This timing allows for proper fertility planning and provides the most accurate picture of available nutrients for the upcoming corn crop.



Sampling

Sample at a consistent depth of 6-8 inches in a zig-zag pattern across uniform field areas. Pay special attention to areas where previous corn yields varied significantly, taking separate samples from different management zones.



Cost-Effectiveness

Soil testing is cost-effective in corn due to its heavy nutrient use. Regular soil testing prevents over-application of nutrients and ensures high-value corn crops receive optimal nutrition for maximum yield potential.



Key Data

The soil test reveals data important for corn, including nitrogen availability, phosphorus levels, potassium content and micronutrients like zinc that corn needs.



Fertilizer Program Development

Soil test results are essential for developing precise corn fertility programs, especially for determining pre-plant nutrient needs, starter fertilizer compositions and in-season nitrogen management strategies that match corn's growth stages and yield goals.

IDENTIFY LIMITING NUTRIENTS

Going Beyond N-P-K

While N-P-K provides the foundation for corn nutrition, focusing solely on these primary nutrients can mask underlying deficiencies that limit yield potential.

A balanced nutrition program with key micronutrients helps crops endure environmental stresses throughout the growing season, potentially making the difference between good and exceptional yields.

Zn

Zinc is a major part of corn's early development and growth hormone production. This makes it important during the first few weeks after emergence when corn is establishing yield potential.

Mn

+

B

Manganese and boron work together to support important processes in corn development. Manganese is essential for photosynthesis and nitrogen utilization, while boron is vital for pollination and kernel fill.

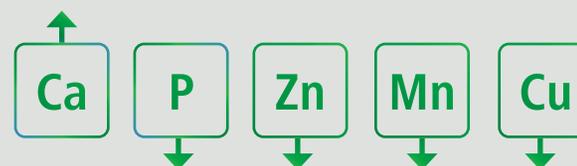
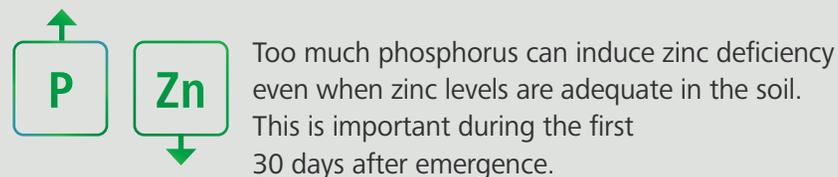
LEVERAGE NUTRIENT INTERACTIONS

Better Corn Nutrition is All About Balance

Nutrient balance in corn production is needed during early growth stages when young corn plants are establishing their yield potential. Proper nutrient ratios directly impact ear size determination and kernel count.



Corn-Specific Interactions



High calcium levels can tie up phosphorus and limit the availability of micronutrients like zinc, manganese and copper – all essential for optimal corn growth.

Maintain calcium base saturation between 60-75% to prevent it from interfering with other nutrients.

Maximizing Corn Yields

Balanced nutrition should focus on maintaining proper ratios between nutrients during critical growth stages:

V5-V8	Determines ear size
VT-R1	Affects pollination and kernel set

MANAGEMENT PRACTICES

Preparing Your Soil

Setting up your harvest for success starts with supporting your soil.

01 Erosion Protection

Maintain year-round coverage through crop residue, conservation tillage and strategic cover crop usage to give your soil a natural shield that:

- + PREVENTS EROSION
- + BUILDS ORGANIC MATTER
- + IMPROVES SOIL STRUCTURE

02 Optimal Seedbed

Create consistent tillage depth and proper soil tilth to directly impact seed-to-soil contact and ensure:

- + UNIFORM EMERGENCE
- + STRONG EARLY ROOT DEVELOPMENT
- + OPTIMAL NUTRIENT UPTAKE

03 Soil Compaction

Manage field traffic patterns based on proper soil moisture levels, combined with strategic deep tillage when necessary, to prevent:

- + YIELD-LIMITING COMPACTION LAYERS
- + RESTRICTED ROOT GROWTH
- + RESTRICTED NUTRIENT AVAILABILITY



GET EXPERT INSIGHTS ON SOIL COMPACTION

John Leif, Certified Crop Advisor and Field Agronomy Manager for AgroLiquid, explores the root causes and effective mitigation strategies for soil compaction.

[WATCH VIDEO](#)



Fertilizer Selection and Application

When it comes to choosing the right fertilizer, you need products that don't get tied up in the soil, effectively becoming unusable to your corn crop. **AgroLiquid helps you maximize yield without increasing input expenses by improving fertilizer availability and efficiency.**

THE AGROLIQUID ADVANTAGE

High-Quality Raw Materials

We emphasize using premium-grade liquid fertilizers designed specifically for corn, as they will break down slowly at the root base.

ADVANTAGE: This provides consistent nutrition that supports both germination and early growth while maximizing nutrient efficiency.

Product Compatibility

Proper product compatibility in tank mixes and application timing is crucial for corn.

ADVANTAGE: Our fertilizers are specifically formulated to work together in various combinations while maintaining stability and preventing adverse interactions that could damage young corn plants.

Application Timing

We offer flexible application methods starting with planter-time applications, followed by sidedress applications at V5-V6 for sustained nutrient release. Our products also support foliar applications at growth stages V6 and V10, with optimal results using 10 gallons per acre total spray volume.

ADVANTAGE: We provide growers multiple options to meet corn's changing nutritional needs throughout the season.

Efficiency and Plant Safety

Our corn fertility program focuses on increasing fertilizer efficiency and availability, with properly timed applications and compatible product combinations.

ADVANTAGE: Growers produce more bushels per acre with less fertilizer while ensuring plant safety.

ANALYZE CROPS IN-SEASON

Get the Full Picture with Tissue Sampling

While soil testing reveals the health and nutrient profile of the soil, it won't show how plants actually absorb these nutrients. A tissue test combined with a soil test is the best way to see what's going on in your fields.

Benefits of Tissue Sampling

- Shows how effectively your crop is using nutrients
- Reveals hidden nutrient deficiencies
- Indicates the presence of disease damaging your plants
- Indicates whether roots are stunted and insufficient for nutrient absorption
- Enables quick, targeted nutrient applications that positively impact yield
- Confirms whether nutrient levels align with expectations at critical growth stages

Tissue sampling your corn crop is a small investment that leads to a bigger return on your fertilizer dollar.

Field Pattern Recognition

Monitoring drainage patterns is crucial as excess water or poorly drained areas can limit nutrient availability and root development in corn, while also affecting fertilizer efficiency and distribution consistency across fields.

Watch for visual deficiency symptoms with key nutrients like nitrogen, zinc and manganese. This allows for timely corrective applications before corn yield potential is significantly impacted.

Understanding soil composition variations across fields is equally important because these differences affect nutrient availability and water-holding capacity.

KEY AREAS TO MONITOR

- Drainage patterns
- Fertilizer application consistency
- Deficiency symptoms
- Soil composition variations

GET MORE FROM YOUR OPERATION

Turn Data Into Profit

Simply put – gathering data is the most effective way to make corn nutrition decisions that benefit your ROI. From analyzing last year’s harvest to testing and analyzing weather impact, knowing your operation from the inside out is essential to getting the most out of your corn.

PUT YOUR DATA TO WORK

Increase yield efficiency

Optimize costs

Boost profitability

Identify areas for improvement

Apply fertilizers more precisely

Understand strengths and weaknesses

Increase crop protection effectiveness

Optimize inputs



WORK WITH THE EXPERTS

You’ve got the data. Now is the time to make a corn nutrition plan tailored to your unique situation. **AgroLiquid’s team of local, qualified agronomists is here for you.** Our experts will take your data, input your goals and analyze your operation to develop a customized corn nutrition plan. From there we’ll make regular evaluations and adjust strategies as needed. We’re ready to help you gain insights and increase your success.

**SCHEDULE A CONSULTATION WITH AN
AGROLIQUID AGRONOMIST TODAY.**

[CONTACT US](#)



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