



KUGLER KQ Fertility Handbook

A guide to superior fertility management.

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With fewer choices in agriculture, the ones you have left matter even more.

Twenty years ago you probably had a number of local dealers offering seed, chemicals and equipment. How many do you have today?

Fifteen years ago you had several choices on where to sell your grain. Are there fewer choices now?

In the past 10 years, how many times has ownership changed in the companies, businesses and banks you do business with?

The fact is that mergers, acquisitions and buy-outs have reduced the number of choices you have as a producer. And they've changed who you do business with. That means you have to pay special attention to the choices and the reliable people that are still available to you.

You make all the decisions about your fertility program. And that type of control and choice is getting harder to find nowadays. So make the most of it by doing business with your local Kugler KQ dealer.

Your local Kugler KQ dealer is someone committed to your success—and your hometown. That dealer has been a friend and neighbor for years. His business depends on your success, so he's going to work hard to make sure your fertility program performs.

Rural America is important to Kugler Company, because it's our home, too. We're a family-owned and operated company headquartered right here in the Heartland, next to the producers we serve.

We've built a network of Authorized Kugler KQ dealers who know fertility and want to use that knowledge to help producers in their hometown enjoy success. In a time of large mega-companies and everchanging ownership, that's a refreshing alternative—one that you can use to your advantage.

On behalf of all of us at Kugler Company—and our authorized Kugler KQ dealers—here's to a great growing season. We look forward to working in partnership to help you succeed.



Diane Kugler
CEO



John Kugler
Co-President



Mike Kugler
Co-President

fertility basics

The benefits of split applications of Kugler KQ fertilizer have been proven season after season. Split application makes all kinds of sense—because you’re providing your plants with the right fertilizer in the right place at the right time. “Spoon feeding” of this nature is definitely preferable to one-time broadcast applications for a number of reasons:

*Feed the plant,
not the field.*



Nutrient Demands Change As your crop grows, its need for nutrients fluctuates. Split applications allow you to help your plants at critical points in their growth cycle to help assure optimum results—and help your plants reach their genetic potential.

Season-Long Flexibility By splitting applications of Kugler KQ fertilizers, you can address specific plant deficiencies all season long. You also have more opportunities to make management decisions—instead of having to live with what you thought was going to happen earlier in the year.

Continued next page.

Feed the plant, not the field ... continued

Deep Placement Kugler KQ fertilizers are perfect for preplant deep placement application. In this method, Kugler KQ fertilizer is applied 6" to 12" into the soil—creating a storehouse of nutrients for the plants to draw on at a critical stage of growth. Deep placement with Kugler KQ fertilizers creates an expanded feeding zone for the plant—encouraging a stronger root system and increased nutrient uptake.

Spreading Out Your Cash Put all your fertilizer on at the beginning of the season, and you've just committed dollars that may not offer a return. By splitting your fertilizer application, you spread out your cash over the season.

And that can be very important if you have a crop loss due to drought or hail—and need to pull in your horns.

Getting More from Marginal Land

The right Kugler KQ fertility program can help you turn marginal fields into contenders—and it's a heck of a lot less expensive than leasing more ground. What would an additional 10 to 15 bushels per acre on that marginal ground do for your bottom line?

Conservation of Moisture On dryland acres, retaining moisture is a top priority. Dumping on large amounts of ammonia significantly reduces moisture

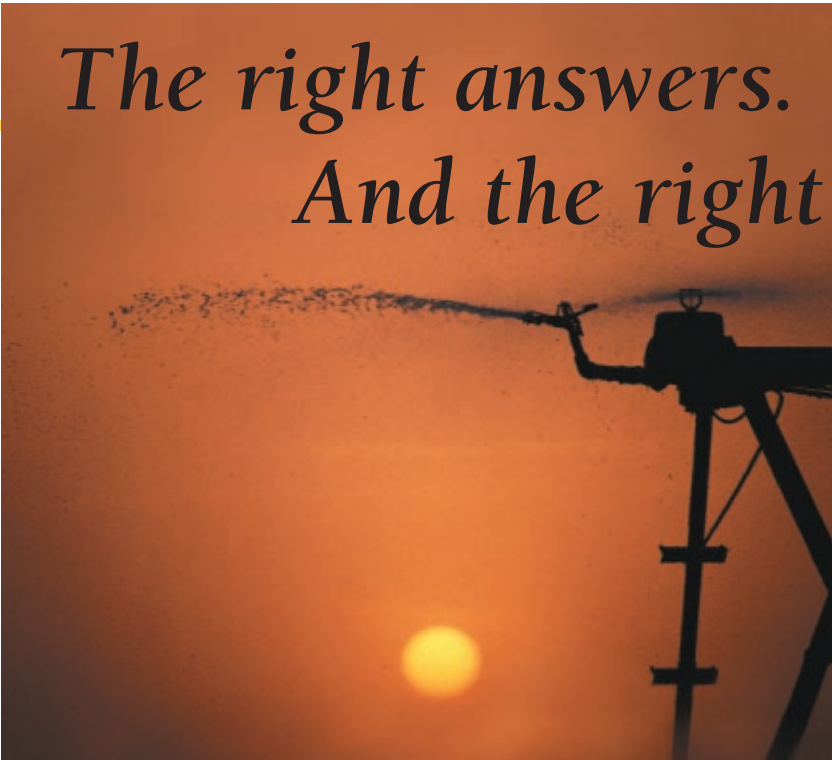
levels in soil, while split applications of Kugler KQ fertilizers can help conserve valuable moisture for dryland crops.

Matched to Your Management

A sound fertility program using split application of Kugler KQ fertilizers allows you to customize your fertilizer program to your unique management methods, tillage choice, hybrids/varieties and irrigation.

Better for the Environment

Split applications of Kugler KQ fertilizer help you deliver the nutrients your crop needs all season long—without overloading the soil with nutrients that leach into groundwater or tie up in the soil.



*The right answers.
And the right questions.*

Your authorized Kugler KQ dealer knows what to ask before you get specific recommendations on your fertility program. As you work with your Kugler KQ dealer, you will want to consider these factors in developing your fertility program:

Crop: What you're growing and the hybrid/variety you choose will affect the type of nutrients you apply—and when you apply them.

The dirt on soil tests.



The characteristics of your soil have a dramatic effect on the success and effectiveness of your fertility program. That's why a soil test is critical before you begin planning your Kugler KQ fertility program. You'll need several samples from each field,

since soil quality and texture can vary widely—and your fertility program will need to be matched accordingly.

We're talking a complete soil test here, not just an assessment of phosphorus and

zinc levels. At minimum, your soil test should include the following data:

- Soil pH
- Cation exchange capacity (see page 4)
- Soil texture
- Nitrogen level (ppm)
- Phosphorus level (ppm)
- Potassium level (ppm)
- Sulfur level (ppm)
- Zinc level (ppm)
- Levels of other secondary and trace minerals such as calcium, magnesium, sodium, manganese, copper and iron

Soil pH: The acidity or alkalinity of your soil determines how readily available the nutrients are to your plants. (See page 4)

Soil nutrients: A comprehensive soil test will tell you what's available and the capacity of your soil to store nutrients. (See above)

Water analysis: Knowing the nutrients in your water can help you improve the efficiency and effectiveness of your Kugler KQ fertility program.

Management methods: Ridge-till, no-till or ecofallow? Gravity irrigation or pivot? It all matters in your fertilizer program.

Field history: Every field is different—and it's important to know where you're starting from so you can measure the success of your Kugler KQ fertilizer program.

Other factors: Soil temperature, planting date, compaction, and other factors are also important to consider in your fertility program.

As you develop your Kugler KQ fertility program, you'll also want to take into account:

- Water test results
- The hybrid/variety you're planting
- Management practices (ridge till, no-till, etc.)
- Placement and split applications
- Availability and type of irrigation
- Other information on your operation that may affect your fertility



Cation exchange capacity:

A critical number.

Cation exchange capacity (CEC) is a tool that provides a soil texture indicator to help determine the amount of nitrogen your soil can hold without leaching.

A lower CEC indicates a sandy or coarse textured soil, while a higher number indicates a finer textured, more dense soil. The rule of thumb is to multiply the CEC by 10 to obtain a good estimate of the number of pounds of N per acre the soil

can store. For example, a CEC of 12 would indicate that the soil could hold about 120 pounds of N at a given time.

But a simple one-inch rain can change things dramatically as CEC changes. One inch of rain on a soil with a CEC of 18 will move nitrates about one to four inches down into the soil profile. But that same rain on a CEC 10 soil moves nitrogen down one foot!

It's easy to see that loading up on N in one application can be a disaster both economically and environmentally—especially if your soil is simply not capable of storing high volumes of N. By using CEC, you can make better decisions as to what type of fertilizer you should use, how much you should apply, and when you should apply it. This is clearly another strong argument for split applications of Kugler KQ fertilizers.



The effect of pH on fertility.

Soil pH is really an indicator of your soil's ability to use fertilizer. Here are a couple of examples of the importance of understanding the pH of your soil.

Low pH (high acid): The acid in the soil tends to reduce the number of microbes in the soil—and it's the microbes that convert the fertilizer into food the plants can use. Fewer microbes means you run the risk of overfeeding the soil—and having a large percentage of your fertilizer do you no good at all.

High pH (high calcium): Under high pH conditions, adequate phosphorus may be indicated on the soil test, but it probably isn't available to the plant because it's tied up in the soil. You think you have enough P, but your plants know better. You just won't find out until it's too late.



Maybe it's time you applied yourself.

Many growers are opting to apply fertilizer themselves—saving the cost of custom application and enjoying the ability to fertilize when they need to—instead of waiting their turn. It's also efficient, since you're already going over the field anyway. And that also reduces soil compaction.

The key to optimum efficiency is the fertilizer you choose to apply. Quality is a critical issue—and that's why Kugler KQ fertilizers are the choice of growers who want to make the most of their time and fertilizer investment.

Kugler KQ fertilizers are formulated to flow smoothly—without clogging or gumming up.

It really isn't that difficult or expensive to set up your own application equipment. A typical fertilizer application set-up includes a pair of saddle tanks, a pressure system (pump) and the hoses and orifices needed for each row.

You'll probably also need a fertilizer storage tank or a nurse tank. And if you decide to apply fertilizer through your pivots, you'll want to investigate an

injection system of some kind. Your Kugler KQ dealer can deliver your Kugler KQ fertilizer direct to your farm so it's on site when you're ready to hit the field. And your dealer can also provide guidance on equipment selection and set-up. If you're not interested in self application, many Kugler KQ dealers offer application services. When your Kugler KQ dealer handles your fertilizer application, you can be assured of accuracy, high quality Kugler KQ products—and best of all, outstanding service and value.



With Kugler KQ fertilizers, you won't see this!

If you've put up with this mess, you've been using poor quality starter fertilizer. Instead of working together, the nutrients fight each other—causing separation and settling that plugs up screens on your equipment. The quality of Kugler KQ fertilizers assures a constant flow of fertilizer at all times—with no plugging or settling.

It's not just about fertilizer. It's about time.

You typically have a very small window of time to get into the field—especially at planting. If you have trouble with your fertilizer gumming up and plugging screens, you spend less time putting seed in the ground and more time fixing headaches. But that's exactly what happens with low quality liquid fertilizers that don't have Kugler quality behind them.

We understand that time is money. So Kugler KQ fertilizers

are of the highest quality—formulated to flow smoothly and cleanly—keeping you on the tractor instead of on the fritz.

And there's another concern: When screens and orifices plug up, you don't always notice right away. So you end up skipping rows or entire sections of your field. You've just affected yield—and that plant you'd hoped to perform for you has suddenly become just another weed.

If self-applying is in your future, then Kugler KQ fertilizers are a wise choice. At Kugler, we've developed proprietary technology that allows us to attain a level of quality that is unmatched.

In other words, nobody else can make Kugler KQ fertilizers. Competitors may “copy” Kugler KQ products, but the difference will show up when you apply them. And by that time, it's a little late in the game

KUGLER KQ

fertility for specific crops

Following is a brief introduction to the concept of split application of Kugler KQ fertilizers on major crops grown in your region. Please keep in mind that the fertility programs outlined here are general guidelines that have proven successful for thousands of growers. However, your Kugler KQ dealer is an important resource for you in developing a Kugler KQ fertility program that matches your operation, your crop and your objectives. (See page 15 for a partial list of Kugler KQ fertilizers.)



Corn

Today's high-tech hybrids demand a different approach to fertility in order to gain optimum return on genetic potential. Understanding the nutrient needs of corn at various stages has helped Kugler develop results-oriented fertility programs for corn growers.

Preplant Corn uses about half of its phosphorus demand in the third quarter of growth—so you need to make certain that the phosphorus is there at root level as the ear is being formed. A deep placement application of Kugler KQ fertilizer (see page 15) prior to planting (after harvest in the fall or before planting in

Continued next page.

Corn ... continued

the spring) will create a storehouse of phosphorus for the plant's use later on—when it's needed to fill out the ear and make test weight.

If you're growing dryland corn under expected drought conditions, placement of nutrients becomes even more critical. Consult with your Kugler KQ dealer regarding the best fertility program for your management methods.

Starter Utilize precise fertilizer placement at planting using a Kugler KQ starter. Apply using

a 2 x 2 method—2" to the side of the seed and 2" below the seed. Typically, a high nitrogen starter is used at this time, so that the fertilizer is available to the plant at the five-leaf stage—when the seedling needs a great deal of nutrients. With the Kugler KQ fertilizer at two inches in depth, the roots of the plant will reach the motherlode at the time it needs it most.

Cultivation Another application of Kugler KQ fertilizer is made during cultivation. With just one trip across your field, you help ensure nitrogen availability at

peak demand. Without available nitrogen, the plants begin to cannibalize themselves to get it—and that obviously will have an adverse effect on yield.

Pivot Applications If you're growing corn in sandy or low texture soils, two to three applications of Kugler KQ 353 or other specially formulated Kugler KQ products through your pivot are also recommended. This "spoon feeding" helps reduce nitrogen loss through leaching by providing N in volumes that can be used up by the corn before N loss occurs.

Sorghum/Milo

Whether your sorghum/milo is dryland or irrigated, moisture conservation is important—as is the availability of nutrients at times of high growth and high stress. A fertility program using Kugler KQ fertilizers helps sorghum growers meet these challenges.

Preplant You need to make certain that phosphorus and other nutrients are there at root level as the head is being formed. A deep placement application of Kugler KQ fertilizer prior to



Continued on page 13.

Strip till application: *Precision placement that promotes profitability.*



Gene Carstens
Authorized Kugler KQ Dealer
FirstAg
Minden, Nebraska

Over-application of fertilizers and poor application methods have had an adverse effect on our environment. There is little doubt that new Federal farm programs will favor those who comply with conservation tillage—as well as nutrient management programs.

Strip tilling can help producers improve conservation while increasing the efficiency and effectiveness of their fertility program. While some producers may view strip till as fiction, the fact is that this method of fertilizer management can take farmers to a higher level of production—and profitability.

Strip tilling is an operation that clears the residue, prepares the seedbed, and places nutrients immediately under the seedbed—all in one pass over the field. By minimizing trips across the field—and using crop residue for water retention—producers can see direct benefit to their bottom line.

Strip tilling positions nutrient under the row to ensure maximum uptake and crop response. In other words, the fertilizer is waiting at root level—precisely at the time the plant needs it most.

In our own operation, strip till has helped us improve our nitrogen management program to the point where we can produce a bushel of corn with 0.8 to 0.9 pounds of N per bushel.

In our experience, applying Kugler KQ fertilizers using the Yetter Maverick system provides optimum results in strip tilling. I know because I'm not just an authorized Kugler KQ dealer—I also farm with my brother.

On the next few pages, you can discover more about this innovative fertility management program—and how producers we work with are using it to their advantage. If you want to learn more, contact the Kugler KQ dealer in your area.

The value of Kugler KQ fertilizers in strip till.

Kugler KQ fertilizers are uniquely suited to strip till application. Formulated for consistent quality, ease of application and ultimate “flowability”, Kugler KQ fertilizers are the perfect fertilizer product for a strip till program—as well as for managing nutrients through split applications throughout the growing season.



Contact your Kugler KQ dealer to discover more about the advantages of split applications of Kugler KQ fertilizers—and the use of Kugler KQ fertilizers in strip tilling.

Placing Kugler KQ fertilizer in the right place at the right time yields the right results.

Precision is the operative concept when it comes to fertility—precise amounts of precisely the right fertilizer—placed at precisely the right time with precision equipment.

True precision lets you hit the root zone on target to intercept emerging roots. When roots hit that zone, there is a growth explosion. As more roots develop, they encounter Kugler KQ fertilizer for an ongoing boost during critical growth stages. That means your precision-placed Kugler KQ fertilizer keeps working throughout the life of the plant.

A Representative Fertility Program

Following is a sample fertilization program utilizing split applications of Kugler KQ fertilizers—including a strip till program using Yetter equipment and Kugler KQ fertilizers. Fertility programs vary by region, crop, soil type and management practices. Your authorized Kugler KQ dealer will tailor a fertility program that matches your requirements.



Corn following Soybeans: 225 bu. Goal

METHOD	RATE	GPA	PRODUCT
Pre-plant N (Strip-till)*	100#		Nitrogen
Deep placement (Strip-till)*	100#	8.5	Kugler KQ632 or KQ652
Starter In-Furrow	60#	5.0	Kugler KQ632 or KQ652
Cultivation/Pivot	100#	9.0	Kugler KQ353
Soybean Credit			Nitrogen (45-0-0-0-0)

2 x 2 Option

METHOD	RATE	GPA	PRODUCT
Pre-plant N (Strip-till)*	100#		Nitrogen
Deep placement (Strip-till)*	100#	8.5	Kugler KQ632 or KQ652
Starter 2 x 2	170#	15.0	Kugler KQ663
Soybean Credit			Nitrogen (45-0-0-0-0)

*With the Yetter Maverick system, pre-plant nitrogen and deep-placed Kugler KQ632 or KQ652 are applied in one pass.

KUGLER KQ Fertilizer placement zone

The Yetter Generation II Maverick Opener™ (2984 Series)



- Creates a superior seedbed—building a perfect berm, or strip, right in the planting zone
- Coulter/residue manager combination works with the knife's tillage action to promote mellow soil for early warm-up
- Tillage, residue management, fertilizer placement and sealing are done in one pass, saving time and reducing operating costs
- Fertilizer is placed in the root zone where crops need it most
- Also can be used for side dressing
- Precision parallel linkage helps lower operating costs by reducing draft and allowing maximum speed and consistent placement of fertilizer
- Low horsepower requirements
- Easy to adjust
- Works on dryland or irrigated—pivot or gravity

For more information on Yetter equipment, visit www.yetterco.com or call 1-800-447-5777.

These growers have seen the benefits of strip till—all season long. Especially at harvest.



"We started strip tilling four years ago on our highly-erodible farm. Since that time, our APH's have gone up—and our erosion has been significantly reduced...The Yetter Maverick unit easily walked through all of our trashy fields..."

Dean & Gene Carstens
Minden, Nebraska



"The Yetter Maverick system makes the perfect seedbed. The placement of Kugler KQ fertilizer under the row has definitely increased my yields. I now spend less time in the field, use less fertilizer and increase my production. I wish I would have done this 15 years ago!"

Terry Ryan
Heartwell, Nebraska



"Dryland, pivot or gravity irrigation—the system works well in all cases. I am particularly impressed with the emergence of my corn following the Yetter Maverick. The system also helps me retain precious springtime moisture."

Terry Sorenson
Minden, Nebraska



"Strip till solved my residue problems. Fertilizing ecofallow is no longer a problem. Placement of the Kugler KQ fertilizer under the row has been profitable for me and my operation. Even if I maintain the same level of production, the savings in fertilizer and time is well worth it."

Greg Jorgensen
Minden, Nebraska



"This is fertilizing made easy! With the Yetter Maverick unit, I can apply my ammonia and phosphorus at 6-1/2 to 7 miles per hour. Our yields have steadily increased with the deep placement concept. Now we can place the nutrients as close as possible to the plants."

Jamie Madsen
Minden, Nebraska

Sorghum/Milo ... continued from page 8

planting (after harvest in the fall or before planting in the spring) will create a storehouse of phosphorus for the plant's use later on—when it's needed to fill out the head and improve test weight.

Starter Utilize precise fertilizer placement at planting using a Kugler KQ starter. Apply using a

2 x 2 method—2" to the side of the seed and 2" below the seed. It's important to have nutrients at the proper root level when the seedling needs to draw a great deal of nutrients. With the Kugler KQ fertilizer at two inches in depth, the roots of the plant should reach this fertilizer reservoir at the time it needs it most.

Cultivation Another application of Kugler KQ fertilizer is made during cultivation. With just one trip across your field, you help ensure nitrogen availability at peak demand. Without this available nitrogen, the plants begin to cannibalize themselves to get it—and that obviously will have an adverse effect on yield.

Soybeans

Soybeans use a great deal of phosphorus, potassium and trace minerals. Even though soybeans produce their own nitrogen, research has found that additional nitrogen in a fertility program is beneficial. Additionally, soybeans do not tolerate salt well—and that affects the formulation of your Kugler KQ fertility program as well.

Preplant A deep placement application of Kugler KQ fertilizer—in the fall after harvest or in the spring—provides a reservoir of nutrients in the soil that the roots will reach at a high demand period. This supply of quality nutrients will help fill the pods with big, heavy beans—and will help improve drydown as harvest nears.



Starter Precise fertilizer placement at planting using a prescribed Kugler KQ starter. Apply using a 2 x 2 method — 2" to the side of the seed and 2" below the seed. It's important to have nutrients at the proper root

level when the seedling needs to draw a great deal of nutrients. With the Kugler KQ fertilizer at two inches in depth, the roots of the plant should reach this fertilizer supply at the time it needs it most.



The benefits of sound fertility on wheat are unquestioned. And it's clear that multi-nutrient grades on wheat are superior to the use of straight nitrogen—especially when phosphate and chlorides are included. Add the use of split applications, and suddenly wheat yields can increase dramatically—even under stressful dry conditions.

Preplant Since most wheat is grown on dryland acres, preservation of moisture is foremost. Unlike anhydrous ammonia that reduces soil moisture, proper placement of Kugler KQ fertilizer after harvest (or just prior to planting) provides the nutrients your wheat will need later in the growing cycle—while helping retain precious soil moisture.

Planting The advantages of applying Kugler KQ wheat starter with the seed at planting are very well documented. Your wheat plants will have the nutrients they need right at hand—so they can build a strong root system from the get-go. Getting a good start is fundamental to your plants' ability to withstand stress, drought and disease.

Topdress In the early spring, your wheat is starting to grow again, usually in cold soils with few available nutrients and possibly little moisture. A topdress application of Kugler KQ342 fertilizer provides a source of quality nutrients—and helps your wheat overcome the effects of a tough, dry winter. Research indicates that a wheat plant uses

Other Crops

The authorized Kugler KQ dealer in your area has experience in developing sound fertility programs for all types of crops typically grown in your area. And our network of Kugler KQ dealers—along with the expertise at Kugler headquarters—provides your local dealer with a host of valuable resources to help you meet special challenges.

In addition to the crops outlined in this guide, Kugler KQ fertilizers are being applied with great results on:

- Sugar beets
- Dry edible beans
- Sunflowers
- Alfalfa
- Onions
- Potatoes
- Carrots
- Sod farms
- And many other crops!

the majority of its nutrients between the spring tillering and the boot stage. Topdressing with Kugler KQ fertilizer puts essential nutrients in the right place at the right time.

how to fill the holes in your



wheat topdress program

The analysis for straight nitrogen is 28-0-0. Those two zeros provide no plant food for your crops. The truth is they represent holes in your fertility program.

The fact is that straight nitrogen can't perform for your wheat like a top-dress application of Kugler KQ342 because straight nitrogen only brings one nutrient to the party—and Kugler KQ342 brings four.

Kugler KQ342 is a superior liquid grade of nitrogen, potassium, sulfur and zinc—four essential nutrients working together to help your wheat build strong roots and grow in cold soils.

What happens to your wheat now will help determine your success at harvest. A topdress application of Kugler KQ342 can help maximize your yield potential—and fill the holes in your wheat fertility program.

Spring applications improve nitrogen efficiency.

Research indicates that spring applied nitrogen is superior to fall applied nitrogen for increasing yield and protein content. Chances are you'll be applying a herbicide in the spring, so why not incorporate Kugler KQ342 into that application? After all, you're already traveling across the field. A topdress application of Kugler KQ342 combined with your herbicide application will increase your efficiency—as well as the efficiency of your fertilizer program.

Studies show that 20 lbs. of topdress nitrogen in the spring is as efficient as 40 lbs. of nitrogen applied in the fall. So leave some room in your fertility program for a spring application. These findings make a strong case for topdressing with Kugler KQ342 this spring—especially since the five nutrients in Kugler KQ342 have been shown to outperform traditional one- or two-nutrient fertility programs.

Put the Power of Synergism to work on your wheat this spring with a topdress application of Kugler KQ342. If you don't, you'll probably never know what you're missing.

But your wheat will.

KQ342: The preferred topdress alternative.

After a winter of dormancy, your wheat needs nutrients to get going again, including a complete diet in order to grow in cold soils and thrive in low moisture conditions and essential food it needs to build a strong root system and survive stress.

A topdress application of Kugler KQ342 puts nitrogen, potassium, sulfur and zinc to work for your wheat—helping young plants establish an efficient root system for rapid early growth and stress tolerance.

Kugler KQ342 is especially formulated to work well in cold soils—an important consideration in your topdress program. You also won't have "salt out" or plugging problems thanks to the quality assurance program in our manufacturing process.

No question: Kugler KQ342 beats alternative fertility programs in every way—especially at harvest.

KUGLER KQ

fertilizers

Following is a partial list of the major Kugler KQ fertilizer brands. Your Kugler KQ dealer can provide these brands—as well as many others formulated to meet your management methods and your yield objectives. Contact your authorized Kugler KQ dealer for more information—or for a custom formulation that will help you meet your yield objectives.

Starters/Preplant

Kugler KQ555™

The Original

The high quality liquid starter that changed the rules forever—making 10-34-0 a dinosaur. Five quality nutrients in an easy-to-apply liquid grade that simply cannot be imitated.

Nutrients: N-P-K-S-Zn

Kugler KQ652

High Phosphorus Starter

Eliminates the need to apply more fertilizer just to achieve higher phosphorus levels. Reduces fill-ups and storage requirements while helping plants establish themselves more quickly to compete with weeds and insects.

Nutrients: N-P-K-S-Zn

Kugler KQ663

High Nitrogen Starter

Nitrogen and phosphate in a 1:1 ratio—plus other essential nutrients. Designed to match the demands of today's hybrids

as well as management methods that result in the need for more nitrogen at planting.

Nutrients N-P-K-S-Zn

Kugler KQ555 for Wheat

Superior Wheat Starter

Specially formulated starter grade for wheat. Provides five important nutrients critical to early plant development to prepare wheat for winter stress and early spring growth.

Nutrients N-P-K-S-Zn

Wheat

Topdress

Kugler KQ342

Topdress Champion

A multi-nutrient grade designed to help wheat get a running start after a long winter. Especially formulated for use in cold temperatures and cold soils to help plants develop an efficient root system. Helps wheat put energy into growing instead of fighting to find food.

Nutrients N-K-S-Zn

Cultivation/Pivot Application

Kugler KQ353

More Growing Power

Any place you've been using straight nitrogen, Kugler KQ353 packs more fertility punch.

Four nutrients perfectly suited for application at preplant, cultivation, through pivots—throughout the growing season. **Nutrients:** N-K-S-Zn.

the power of **Synergism**

*How Kugler KQ fertilizers make
the most of nutrients.*



The nutrients in each Kugler KQ fertilizer are specifically formulated to deliver better results than if you applied them separately. It's a concept called synergism—and it's basic to all Kugler KQ fertilizers.

Synergism is important because the relationship between nutrients is complex. For example, sulfur and potassium work together to help your crop better utilize nitrogen. Zinc aids in grain formation and helps the plant absorb water, which carries all nutrients throughout the plant system. Without these additional nutrients, your crop simply cannot reach its yield potential.

Kugler KQ fertilizers use the “Power of Synergism” to get the most out of the nutrients in your fertility program. And, when you add split applications throughout the growing season, you put that power right where your plants need it—when they need it most.



The role of major nutrients in Kugler KQ fertilizers.

Apply just one or two nutrients in your fertilizer program, and you'll be missing out on the "Power of Synergism" that occurs in Kugler KQ fertilizers. Each nutrient not only does its own job, but helps other nutrients do theirs as well. Here's a look at the role of nutrients in Kugler KQ fertilizers:

NITROGEN: The Superstar

Nitrogen is the basic building block of the plant. It controls the uptake of all other nutrients and is essential for carbohydrate production. Different hybrids use nitrogen in different amounts at different stages of growth. This fact, combined with the

concern of increased nitrate levels in groundwater, makes a strong argument for split applications of smaller amounts of fertilizer—a program that perfectly fits Kugler KQ fertilizers.

PHOSPHORUS: The Energizer

Phosphorus in Kugler KQ fertilizers is in the form of high quality polyphosphate. Phosphorus is used to form sugars and starches in the plant. It is critical to rapid seedling, root and shoot growth and is necessary for energy storage and transfer. Phosphorus helps build disease resistance and helps overcome the effects of soil compaction.

POTASSIUM: The Regulator

Potassium (potash) helps keep water and food moving through the plant. It is involved in more than 60 enzyme systems, regulates the opening and closing of plant pores, and is required in every major step in building

protein. Potassium interacts with almost all other essential plant nutrients. It aids in photosynthesis and regulates nitrogen uptake.

SULFUR: The Synthesizer

In Kugler KQ fertilizers, sulfur is in the form of ammonium thiosulfate (ATS). Sulfur helps make more efficient use of nitrogen and helps increase the availability of other nutrients. Sulfur is essential in developing plant protein, developing enzymes and forming chlorophyll.

Zinc: The Activator

Zinc helps the plant form chlorophyll and enzymes. Zinc also helps the plant absorb water—and water carries all the nutrients throughout the plant. Zinc helps in grain formation, root formation and protein synthesis—and is particularly important during early plant growth.

See back cover for more on Zinc!

Your Authorized Kugler KQ Dealer

Your hometown resource
for fertility expertise

Your Kugler KQ dealer is not an ordinary fertilizer dealer. Your Kugler KQ dealer has made the commitment to the self-education and training we require of all dealers who represent Kugler KQ fertilizers.

When you do business with an authorized Kugler KQ dealer, you're dealing with a professional who understands proper application and fertilizer agronomics.

Your Kugler KQ dealer is on the leading edge of fertilizer management and technology—someone you can rely on to help you put Kugler KQ innovation to work on your farm.

Contact your dealer to discover more about the benefits of split applications using high quality Kugler KQ fertilizers.

Kugler Company
P.O. Box 1748
McCook, Nebraska 69001



For more information on Kugler KQ fertilizers and your nearest dealer, contact us at:

1-800-445-9116
www.kuglercompany.com



Don't play the zinc ratio game.

A zinc deficiency dramatically affects plant growth. Low zinc results in stunted plants and delayed maturity.

So, don't get caught up in the ratio game when it comes to zinc.

The fact is that, if the plant needs a pound of zinc, it needs a pound of zinc. How is the plant to function on a 10:1 or 5:1 ratio?

If you apply zinc at a 10:1 ratio, the plant can't make zinc more efficient. It just knows it will be zinc deficient and end up as an underachiever.

All Kugler KQ grades are sold as zinc metal, not ratios or some "super" form of Zn. It's an honest, realistic approach to zinc that makes agronomic sense for your crop.

For yield's sake, do the right thing: Apply zinc at a 1:1 ratio using Kugler KQ fertilizers.

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