



QLF AGRONOMY
Product Guide



QLF AGRONOMY OVERVIEW

QLF Agronomy is a division of Quality Liquid Feeds, Inc. (QLF), an agriculture company specializing in liquid feed supplements for livestock and liquid fertilizer for crops. It is QLF's mission to innovate a comprehensive plan for farmers and ranchers across the country to improve their livestock performance as well as their crop yield and profitability. With over 45 years of livestock product experience and over a decade fertilizer experience, QLF feed supplements and fertilizers are proven to have a positive impact at your operation.

QLF Agronomy L-CBF (liquid-carbon based fertilizer) products are a combination of balanced crop nutrients with complex carbon sources. QLF's soil nutrition solutions feed soil biology and enhance plant nutrient availability.

L-CBF products provide a balanced nutritional package specific to crop needs. L-CBF products are formulated to supply available carbon as an energy source, boost microbial communities in soil and ensure crop nutrients are available. These factors and technologies combined lead to improved plant health, improved performance, higher yields and improved soil health.

QLF MOLASSES

QLF Agronomy products are composed of high-quality ingredients formulated into a balanced nutritional liquid. Sugar cane molasses is a major component of QLF Agronomy products. As the largest purchaser of sugar cane molasses in the U.S., QLF Agronomy maintains an advantage in consistency and supply.

Sugar cane molasses is an excellent media for not only promoting biology but also improving fertilizer performance. Molasses is rich in both micro and macro nutrients. It contains minerals such as major cations, like Ca, Mg, and Potassium, along with natural forms of Nitrogen and Sulfur, and contain higher concentrations of trace elements such as Iron and Manganese. This nutrient dense carbon source is the life blood or immune system of a plant. Plant protective compounds or phytochemicals such as antioxidants, bioflavonoids, phenols, and fats, lipids, and oils, along with free amino acids, oligo peptide chains, B Vitamins, enzymes, and many more nutrient growth factors provide value to your fertilizer program.

QLF knows how to work with sugar cane molasses in fertilizer blends. L-CBF branded formulations make this process easier; introducing more unique chemistry and biological enhancements that make our final products more reliable and effective.

BETTER STARTS

Better Starts

QLF L-CBF products promote early plant growth development for uniform emergence and higher yield potential. With more roots and biological activity around the rhizosphere, L-CBF products stimulate soil microbes to ensure more delivery of nutrients to the plant. Unique balance of nutrients and a rich source of carbon, fosters the relationship between plants and beneficial organisms such as mycorrhizae fungi and rhizobia bacteria.



L-CBF 7-21-3 MKP™ STARTER

L-CBF 7-21-3 MKP promotes early plant and root growth for stronger starts and higher yields.

- L-CBF 7-21-3 MKP contains a unique orthophosphate source formulated in a lower pH blend. MKP (monopotassium phosphate) is a very concentrated technical grade fertilizer that effectively delivers plant available nutrients.
- L-CBF 7-21-3 MKP contains 7% sugars derived from QLF cane molasses packaged with our fermentation yeast extract to help assist soil microbes and support plant growth. Increased microbial activity helps make nutrients more plant available, cycling more nutrients and improving soil structure.

CORN IN-FURROW STUDY

2 STATE AVERAGE
+12.74 BU YIELD ADVANTAGE

RETURN ON INVESTMENT

\$30.30

SGS RESEARCH NORTH AMERICA | MN & IL

WHEAT IN-FURROW STUDY

+15 BU YIELD ADVANTAGE

RETURN ON INVESTMENT

\$55.80

MIDDLE RIVER, MN

CORN IN-FURROW STUDY

+8.1 BU YIELD ADVANTAGE

RETURN ON INVESTMENT

\$11.30

MITCHELL, SD

NITROGEN USE EFFICIENCY

Nitrogen Use Efficiency

QLF L-CBF products extend the life cycle of your applied nitrogen, working with your nitrogen cycles to retain and recover more of each unit and dollar invested. L-CBF products deliver an energy BOOST and improves environmental stability, formulating with properties that enhance biological functions and utilizing lower pH. QLF L-CBF both buffers salts and reduces ammonia loss from volatility, encouraging consumption by biology to reduce upward and downward movement of liquid nitrogen.



L-CBF BOOST® 4-0-3-2S

L-CBF BOOST 4-0-3-2S enhances soil biology creating more plant available nutrients.

- L-CBF BOOST 4-0-3-2S is a concentrated source of available carbon in a low pH chemistry package.
- L-CBF BOOST 4-0-3-2S contains 30% sugars derived from QLF Cane Molasses packaged with our Fermentation Yeast Extract to help assist soil microbes and promote plant health benefits. BOOST can compliments other fertilizer products and programs, improving nutrient use efficiencies and also aiding in recovery of nutrients from residue recycling.
- L-CBF BOOST 4-0-3-2S is a cost effective tank partner compatible with most other liquid fertilizers and utilized in multiple pesticide applications. Adding BOOST to other liquids and sprays can limit losses to drift and improve performance.

SOYBEAN FOLIAR STUDY

3 YEAR AVERAGE
+5.7 BU YIELD ADVANTAGE

RETURN ON INVESTMENT
\$39.48

PRECISION AG RESEARCH | CLARION, IA

CORN NITROGEN STUDY

+20 BU YIELD ADVANTAGE

RETURN ON INVESTMENT
\$71.00

ARISE RESEARCH | MARTINSVILLE, IL

CORN STARTER 2X2 STUDY

2 YEAR AVERAGE
+13.9 BU YIELD ADVANTAGE

RETURN ON INVESTMENT
\$52.72

PRECISION AG RESEARCH | CLARION, IA
REAL FARM RESEARCH | AURORA, NE

FOLIAR FEEDING

Foliar Feeding

QLF L-CBF products work as an excellent tank partner for feeding crop nutrients in a foliar application and is compatible with most pesticide applications. Farmer tested and wind-tunnel validated, QLF L-CBF products have demonstrated ability to stay on target and reduce drift. Feeding the plant QLF L-CBF products through foliar application reduces stress and physical injuries by softening chemistry and buffering out harsh salts while improving intake of nutrients and chemistry.



L-CBF AMINO™ 15-0-1

L-CBF AMINO 15-0-1 provides plant available nitrogen to promote higher yields and overall plant health.

- L-CBF AMINO 15-0-1 delivers efficient foliar nitrogen from top tier sources, Urea and Amino Acid. Plant nitrogen uptake with L-form Amino Acids are energetically advantageous, utilizing and assimilating with no additional energy consumption.
- L-CBF AMINO 15-0-1 compliments better performance of slightly acidic foliar solutions for increased cuticle penetration and maximum leaf absorption.
- For every gallon applied this foliar fertilizer delivers one pound of plant sugar, utilizing our base formula of QLF cane molasses and fermentation yeast extract to further promote plant health benefits.

CORN FOLIAR STUDY

+10.3 BU YIELD ADVANTAGE

RETURN ON INVESTMENT

\$17.23

PRECISION TECHNOLOGY INSTITUTE | PONTIAC, IL

WHEAT FOLIAR STUDY

+13.17 BU YIELD ADVANTAGE

RETURN ON INVESTMENT

\$53.34

GREENBUSH, MN

SOYBEAN FOLIAR STUDY

+3.2 BU YIELD ADVANTAGE

RETURN ON INVESTMENT

\$22.50

REAL FARM RESEARCH | AURORA, NE

MORE YIELD POTENTIAL

More Yield Potential

QLF L-CBF products get more out of your fertilizer chemistry by working with biology. L-CBF products are versatile, convenient, cost effective and have shown a proven return-on-investment for growers. L-CBF uses a safer approach to driving yields and improving fertilizer performance while benefiting soil health.



L-CBF 5-5-5-1S MKP FOLIAR™

L-CBF 5-5-5-1S MKP Foliar blend is a balanced nutrient package that works as a great base option and good tank partner with other fertility products.

- L-CBF 5-5-5-1S MKP Foliar is manufactured using a domestic grown, sugar sourced from QLF sugar cane molasses, providing a consistent based product directly from the origin to our manufacturing plant.
- L-CBF 5-5-5-1S MKP Foliar is a source of complex carbon and unique chemistry to aid in utilization of nutrients essential for plant growth development and health.
- L-CBF 5-5-5-1S MKP Foliar provides and utilizes a unique source of Phosphorus and Potassium promoting continued root growth, enhanced reproduction, and movement of sugars within the increase quality and yield.



SOYBEAN IN FURROW & FOLIAR STUDY

+4.5 BU YIELD ADVANTAGE

RETURN ON INVESTMENT

\$27.98

PRECISION TECHNOLOGY INSTITUTE | PONTIAC, IL

QUALITY FORAGE

Quality Forage

QLF L-CBF products raises the bar on plant health and performance. While pushing for quantity you can also achieve forage quality. Studies show significant differences in yield and digestibility tests, creating bigger spreads on NDFd and uNDF more consistently between fields and crops. QLF L-CBF from start to finish can be implemented to improve quality forage for corn silage and alfalfa crops.



L-CBF TERRAFED® 1-0-3

L-CBF TerraFed 1-0-3 is an organic option to enhancing soil biology and creating plant available nutrients.

- L-CBF TerraFed 1-0-3 contains natural forms of Nitrogen, Potassium, Micronutrients, and Sugar (35%) from QLF cane molasses. L-CBF TerraFed 1-0-3 paired with biological enhancement from fermentation yeast extract and formulated with an organic acid to improve stability and performance
- L-CBF TerraFed 1-0-3 partners well in enhancing organic programs. It works well with other fertility products and it is QLF Agronomy's base biological formula. Utilizing this food source for soil microbes as a tool in triggering mineralization timing makes nutrients more plant available and promotes crop performance.



CORN SIDE DRESS STUDY

+13 BU YIELD ADVANTAGE

RETURN ON INVESTMENT

\$56.00

REAL FARM RESEARCH | AURORA, NE

CORN IN-FURROW STUDY

+30.40 BU YIELD ADVANTAGE

RETURN ON INVESTMENT

\$163.50

AGRI-TECH CONSULTING | WHITEWATER, WI

ALFALFA FOLIAR STUDY

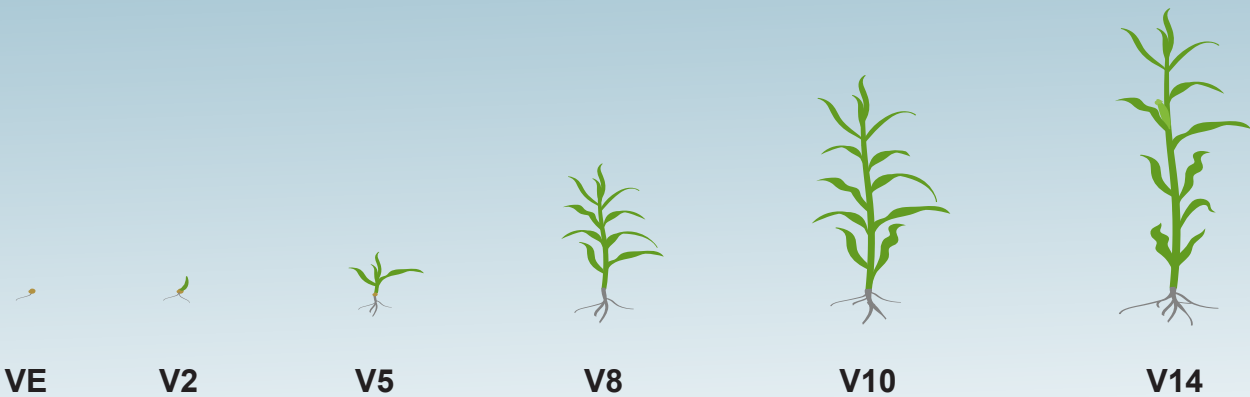
+700LBS PER ACRE

RETURN ON INVESTMENT

\$93.80

LA FARGE, WI

L-CBF APPLICATION ON CORN



SOIL & PLANTING
PREP

PLANT ESTABLISHMENT

VEGETATIVE

L-CBF APPLICATION ON CORN

L-CBF BOOST

2-3 GAL

L-CBF AMINO 15

3-6 GAL

POWERAID

1 QUART

L-CBF BOOST

2-3 GAL

L-CBF BOOST

2-3 GAL



VT



R1



R4



R6

REPRODUCTIVE

HARVEST

POST-HARVEST

L-CBF APPLICATION ON SOYBEANS

L-CBF BOOST

2-3 GAL

L-CBF 7-21-3 MKP STARTER

1-2 GAL

KELPAK

1-2 PINTS

L-CBF BOOST

2-3 GAL

POWERAID

1 QUART

KELPAK

1-2 PINTS



VC

V3

V5

Vn

R1

SOIL & PLANTING
PREP

PLANT
ESTABLISHMENT

VEGETATIVE

L-CBF APPLICATION ON SOYBEANS

L-CBF BOOST

2-3 GAL

L-CBF AMINO 15

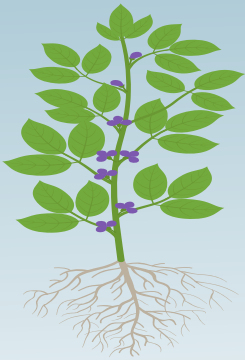
3-6 GAL

POWERAID

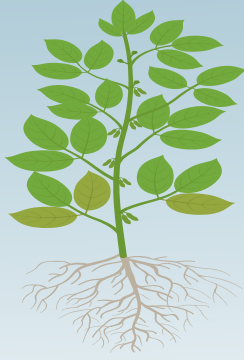
1 QUART

KELPAK

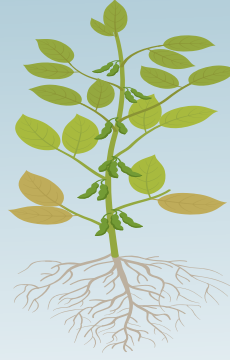
1-2 PINTS



R2



R4



R6



R8

REPRODUCTIVE

HARVEST

POST-
HARVEST

L-CBF APPLICATION ON WHEAT

L-CBF 7-21-3 MKP STARTER

4-7 GAL

CORNSPIKE

1-2 PINTS

KELPAK

1-2 PINTS

L-CBF BOOST

2-3 GAL

L-CBF AMINO 15

3-6 GAL

POWERAID

1 QUART

KELPAK

1-2 PINTS



Feekes



1 & 2



3



4 & 5



6



7

SOIL & PLANTING
PREP

TILLERING

STEM EXTENSION

L-CBF APPLICATION ON WHEAT

L-CBF BOOST

2-3 GAL

L-CBF AMINO 15

3-6 GAL

POWERAID

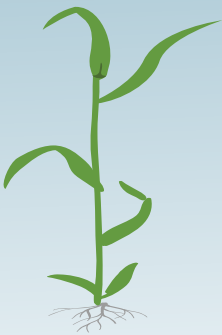
1 QUART

L-CBF BOOST

2-3 GAL



8 & 9



10



10.1



10.5



11



HEADING

RIPENING

HARVEST

L-CBF MICRONUTRIENTS

CornSpike - Zn 5%, Mn 1%, Cu 0.5%, Fe 0.25%, B 0.1%

CornSpike is a balanced micronutrient blend utilizing patented dual chelation technology (IDS/EDTA) to deliver results in a wider range of pH and soil conditions. Zinc is needed by plants in small amounts, but is crucial to plant development. Zinc is a key to utilizing enzymes and proteins. It plays an important role in growth hormone production and internode elongation.

PowerAid - B 3%, Zn 1%, Mn 1%, Cu 0.5%, Fe 0.25%, Co 0.002%, Mo 0.008%

PowerAid is a synergistic micronutrient blend utilizing patented dual chelation technology (IDS/EDTA) as a safe effective tank partner that utilizes lower molecular weights to gently accelerate foliar uptake. The prime function of Boron is cell wall strength and development. Boron also assists in cell division, fruit and seed development, sugar transport, and hormone development.

Kelpak

Kelpak is natural biostimulant extracted from freshly harvested Ecklonia Maxima kelp, a seaweed high in natural growth promoting compounds.

L-CBF DELIVERY & STORAGE

Delivery

QLF Agronomy offers a direct to farm delivery service from manufacturing plants across the country. Because of this, customers have the ability to customize orders in 6, 12, 18 and 24 ton drops with mix and match products of your choosing.

Storage

L-CBF products can be stored year-round in any tank set-up. QLF Agronomy recommends regular recirculation of product in addition to thorough recirculation just before use.

Application

Before applying L-CBF products, customers should complete the L-CBF checklist to ensure easy application of product. QLF Agronomy has video resources available at www.qlf.com/agronomy for your convenience.

*Results may vary. Always perform a jar test before application.



AGRONOMY RESEARCH CENTER



Quality Liquid Feeds is dedicated to research and development of their agriculture products and has invested in an in-house lab for testing and evaluating products, conference room for meetings and seminars, growth chamber to test seed safety and germination, and also added a 42 by 60 greenhouse to test products and formulas on wide array of plant species, application methods, rates, and timing.

MANUFACTURING

Quality Liquid Feeds, Inc. operates sixteen manufacturing plants. Each plant manufactures a range of QLF products.

QLF PLANTS

Auburndale, FL **
Billings, MT
Casa Grande, AZ**
Clovis, NM
Comstock Park, MI
Dodgeville, WI
Dunlap, IA**
Granger, WA**
Johnstown, CO
LaSalle, IL**
Menomonie, WI
Muskogee, OK
Port Barre, LA
Twin Falls, ID
Wellsville, OH
Whitesboro, TX



** Plants that have dedicated and segregated specialized equipment for manufacturing QLF Agronomy L-CBF products.



800.236.2345 | www.qlf.com/agronomy