2021 TURF AND AMENITY

- DISPERSING GRANULE NUTRITION
- FOLIAR NUTRITION
- HUMIC PRODUCTS
- FERTILIZERS
- SPREADERS

The Andersons®

BETTER TOGETHER

TRY THE PRODUCT COMBINATIONS BELOW FOR MAXIMUM RESULTS!

HIGH-PERFORMANCE TURF NUTRITION

The combination of Nutri DG® - Gen 3 dispersing granules and Foltec® SG soluble granules provides ideal premium nutrition for greens, tees, sports turf, and other fine turf.

NUTRI DG - GENERATION 3 *(see page 4)*

Gen 3 represents the latest evolution of the Nutri DG product range. Featured on select products, these granules are easy to spread and easy to see, saving turf managers both time and money. Gen 3 granules are completely homogeneous, allowing for a consistent spread pattern. The granules also stand out against turf, making it easy to see where product has been applied.

FOLTEC SG *(see page 8)*

Foltec SG is an innovative foliar nutrient technology utilizing a proprietary combination of dry, 100% soluble nutrient granules that quickly solubilize in the spray tank. Each Foltec SG product contains a specific N-P-K ratio along with essential micronutrients, UltraMate® SG (humate/carbon) and sea plant extract. Packaged in resealable foil-lined bags with easy-open tear strips to save time and effort, Foltec SG truly allows you to spray smarter.

SPRAYABLE FAIRWAY & SPORTSFIELD NUTRITION, REDEFINED.

Combining HCU™ and Foltec® SG Minors creates an ideal tank mix of nitrogen, humic acid, and minor elements, and delivers exceptional performance with strong economics in use.

HCU - HUMIC COATED UREA *(see page 16)*

HCU granules represent a sensible approach to nitrogen application, combining urea and humic acid in a 100% soluble granule. While providing equal or better performance than leading stabilized nitrogen products, HCU granules also offer strong economics in use.

FOLTEC SG MINORS *(see page 8)*

Foltec SG Minors is a proprietary combination of dry, 100% soluble granules that contains selected secondary and minor elements, along with sea plant extract and humate. With easy to understand coverage and application rates, Foltec SG truly allows you to spray smarter.

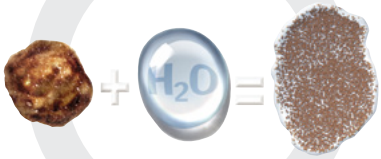
BASELINE NUTRITION

An essential component in developing an effective nutrition plan to maintain healthy turf.

MAXIMIZE
by creating a turf nutrition plan

CUSTOMIZE
nutrient applications during the growing season

DELIVER
precise and efficient turf nutrition



Baseline turf nutrition is considered to be a basic level of nutrition that helps the turf plant withstand the pressures of disease, insects, traffic, and stressful weather conditions. Granular nutrient applications ensure adequate levels of plant nutrition throughout the growing season.

Soil testing and plant tissue analysis are valuable tools that can be used to develop a turf nutrition plan.

Determining the correct amount and balance of nutrients is essential to turf health. Other factors to take into consideration are the turf type, the length of growing season, climatic conditions, and the amount of wear the turf is exposed to.

The timing and levels of turf nutrition depend on the type of turf being grown.

PRODUCT USE BASED ON SEASONAL GROWTH HABITS

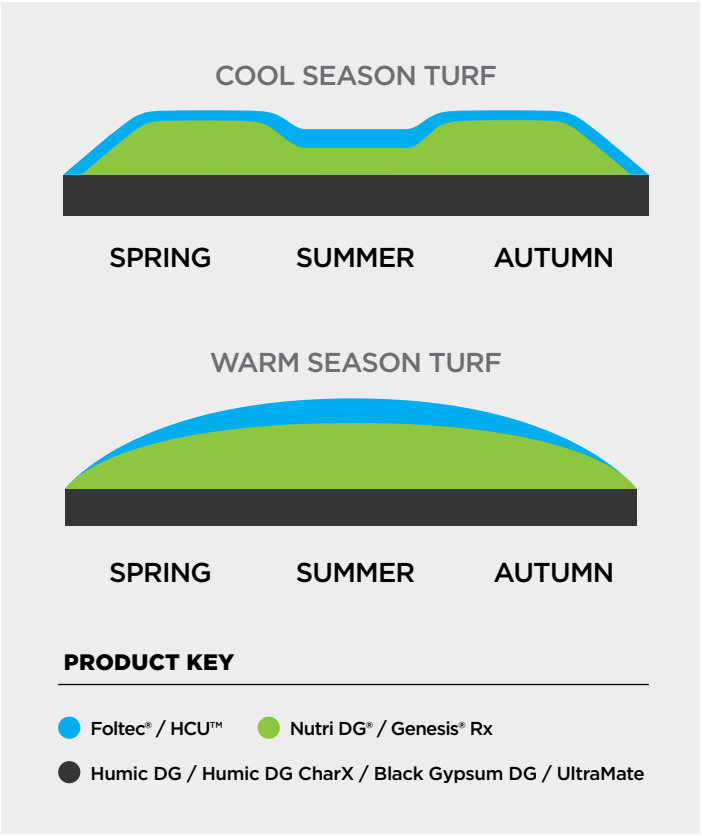
COOL SEASON TURF

Cool season turf generally requires a higher percentage of its nutrition to be delivered in the spring and autumn, with moderate needs during the summer months. A baseline turf nutrition plan includes soil-based granular applications throughout the growing seasons. Foliar nutrition is then applied to complement granular baseline nutrition, especially during the summer, when turf can be under stress.

WARM SEASON TURF

Warm season turf generally requires a higher percentage of its nutrition to be delivered during the period of late spring through early autumn. A baseline turf nutrition plan includes soil-based granular applications throughout the growing season. Foliar nutrition is then applied to complement granular baseline nutrition.

HUMIC DG™, HUMIC DG™ CHARX™, BLACK GYPSUM DG®, ULTRAMATE® LQ and **ULTRAMATE SG** can be used throughout the growing season to improve soil health and increase uptake and utilization of soil and applied nutrients.



Nutri DG®

Patented. Proven. Guaranteed.

Nutri DG combines premium turf nutrients and our patented Dispersing Granule Technology into a homogenous granule designed to optimize granular applied turf nutrition.

INTRODUCING NUTRI DG GENERATION 3

EASY TO SPREAD. EASY TO SEE.

Gen 3 represents the latest evolution of the Nutri DG product range. Gen 3 granules are easy to spread and easy to see, saving turf managers both time and money. Gen 3 granules are dust-free and completely homogeneous, allowing for a consistent spread pattern. The granules also stand out against turf, making it easy to see where product has been applied, and decreasing the possibility of over-application. Gen 3 products feature the same patented Dispersing Granule (DG) Technology found in all Nutri DG products, which allows for a firmer, residue-free playing surface with less downtime.

THE EVOLUTION

For more than a decade, Nutri DG has been the industry leader in dry-applied greens and tees nutrition. Over that same period, we have worked to continually refine the product, advancing formulations, color and physical characteristics. Gen 3 Technology represents the finest granular product we have ever produced, designed to provide the highest-quality nutrition and the most efficient user experience.

2007 (GEN 1) **2010** (GEN 2) **2018** (GEN 3)

A MORE EFFICIENT USER EXPERIENCE

- Lighter in color, Nutri DG is easy to see and spread
- Allows for a consistent spread pattern
- Makes it easy to see where product has been applied
- Decreases over-application
- Saves time and money

Gen 3 Technology is featured on select Nutri DG greens and fairways products: 17+0+17, 18+9+18, 28+0+6, 6+0+12, and 12+3+12. For product listings see page 6.

ENHANCED NUTRIENT DISTRIBUTION

PATENTED DISPERSING GRANULE TECHNOLOGY

Upon contact with water, each granule disperses into thousands of micro particles that quickly move through the turf canopy into the root zone.

IMPROVED PLAYING CONDITIONS

LESS INTERRUPTION OF PLAY

Nutri DG requires less watering to disperse the nutrient granules allowing for less downtime and a drier and firmer playing surface.

NO STICKY RESIDUE

Nutri DG melts into the turf canopy. The result is no sticky fertilizer residue which can accumulate on shoes, balls, and equipment.

OPTIMIZED NUTRITION

Nutri DG is designed to optimize granular turf nutrition by combining premium nutrients with our Dispersing Granule Technology, minimizing mower pickup and delivering more fertility for the plant.

AGRONOMIC ADVANTAGES

DISPERSIBILITY

Because Nutri DG is homogenous and disperses into thousands of micro particles, turf managers have the ability to apply Nutri DG at low rates and still get complete nutrient coverage without speckling.

FORMULATIONS

With over twenty different formulations, Nutri DG is designed to meet a wide variety of turf and soil conditions. Refer to the Product/Temperature Use Guide on page 15 for optimum temperatures for applications of Nutri DG products.

ZERO NITROGEN PRODUCTS

There are times when a turf manager may need specialty nutrient applications that do not contain nitrogen. The following Nutri DG products have been designed with this in mind: Mag-tec™ 0+0+12, Kal-tec® 0+0+13, and 0+0+25.

NUTRIENT SOURCES

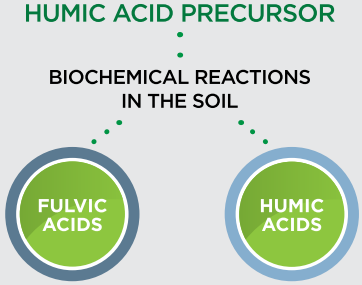
Nutri DG is formulated using the safest and highest quality nutrient sources.

- Nutri DG products have variable amounts of slow and quick release nitrogen depending on the formulation.
- Phosphorus, potassium, calcium and magnesium sources are found in the Nutri DG product list.
- Micronutrients are sulfate based for quick and efficient nutrient response.

THE CARBON COMPONENT OF NUTRI DG

HOW DOES HUMIC ACID PRECURSOR WORK?

Humic acid precursor contains a soluble form of organic carbon which releases into the soil as Nutri DG granules disperse. Through biochemical reactions in the soil, humic acid precursor is transformed into humic and fulvic acids which help chelate nutrients in the soil. The optimum rate of humic acid precursor is applied when Nutri DG is applied at label rates.



DISPERSING GRANULE NUTRITION

NPK*	Description	P Source**	K Source	Application Rates g/m²	Nitrogen g/m²	2000 SR Spreader Settings***	Cone Setting	Pkg. Wt. kg
NUTRI DG® GREENS - SGN 75 - FOR GREENS, TEES, SPORTSFIELDS & OTHER FINE TURF								
0+0+12 (0+0+10)	Mag-tec™, 24% Mg	-	Sulfate of Potash Magnesia, Potassium Sulfate	10 - 20	1.20 - 2.40 K_2O	I - K 1/2	9	25
0+0+13 (0+0+10.8)	Kal-tec®, 9.2% Ca, 2.0% Mg, 1.5% Mn	-	Sulfate of Potash Magnesia, Potassium Sulfate	25-40	3.25 - 5.2 K_2O	L 1/4 - O 3/4	9	25
0+0+25 (0+0+20.8)	3.0% Mn, 4.0% Mg, Bio-enhanced with Amvital™	-	Sulfate of Potash Magnesia, Potassium Sulfate	15 - 30	3.74 - 7.50	I - K 3/4	9	20
6+0+12 (6+0+10)	**GEN 3** 5.0% Mn, 2.0% Mg	-	Sulfate of Potash Magnesia, Potassium Sulfate	15 - 30	0.90 - 1.80	I 3/4 - M	9	20
9+0+18 (9+0+14.9)	65% MUtech®, 0.3% Fe, 6.0% Mn	-	Potassium Sulfate	15 - 30	1.35 - 2.70	J - M 1/2	9	20
10+5+20 (10+2.2+16.6)	50% MUtech®, 0.3% Fe, 0.5% Mn, 0.5% Mg	MAP	Potassium Sulfate	15 - 30	1.50 - 3.00	I 1/2 - L 1/4	9	20
12+3+12 (12+1.3+10)	**GEN 3** 0.3% Fe, 0.5% Mn, Bio-enhanced with Amvital™	MAP	Potassium Sulfate	15 - 25	1.80 - 3.00	I 3/4 - L	9	20
12+24+8 (12+10.5+6.6)	50% MUtech®, 0.3% Fe, 0.5% Mn	MAP	Potassium Sulfate	15 - 30	3.60 - 7.20 P_2O_5	I 3/4 - L 1/2	9	20
13+0+26 (13+0+21.6)	100% MUtech®	-	Potassium Sulfate	15 - 25	1.95 - 3.25	I 1/2 - K 1/2	9	20
14+7+14 (14+3.1+11.6)	60% MUtech®, 0.3% Fe, 0.14% Mn	MAP	Potassium Sulfate	15 - 30	2.10 - 4.20	I 3/4 - L 1/2	9	20
17+0+17 (17+0+14.1)	**GEN 3** 50% MUtech®, 0.5% Fe, 0.25% Mn	-	Potassium Sulfate	15 - 30	2.55 - 5.10	I 3/4 - L 1/2	9	20
18+3+18 (18+1.3+14.9)	93% MUtech®	MAP	Potassium Sulfate	15 - 30	2.70 - 5.40	I 3/4 - L 1/2	9	20
18+9+18 (18+4+14.9)	**GEN 3** 60% MUtech®, 0.3% Fe, 0.14% Mn	MAP	Potassium Sulfate	15 - 30	2.70 - 5.40	I 3/4 - L 1/2	9	20
NUTRI DG® SPORTS - SGN 150 - FOR FAIRWAYS, SPORTSFIELDS & OTHER FINE TURF								
20+0+16 (20+0+13.3)	100% MUtech®-M	-	Potassium Sulfate	15 - 30	3.00 - 6.00	K 1/2 - N 1/2	5	20
28+0+6 (28+0+5)	**GEN 3** 59% MUtech®	-	Potassium Sulfate	15 - 25	4.20 - 7.00	K 3/4 - M 3/4	5	20
DG SOIL ENHANCERS - SGN 75-100 - FOR GREENS, TEES, SPORTSFIELDS & OTHER FINE TURF								
5+7+5 Genesis Rx® (5+3+4.1)	49% MUtech®, 21.3% Humic DG™, 0.9 Fe, 3.2 Mg, 0.5 Mn, 3.7 Ca, 6.5 S, SGN 75	Struvite/ MAP	Sulfate of Potash	25 - 100	1.75 - 7.0 P_2O_5	K 1/2 - W 3/4	9	20
DG Lime™	Dispersible Limestone, 30% Ca, 4% Mg, SGN 100	-	-	10 - 20****	-	I - R	8	25
DG Gypsum™	Dispersible Gypsum, 21% Ca, SGN 100	-	-	25 - 500****	-	K 1/2 - R 1/4	9	25

PRODUCT/TEMPERATURE USE GUIDE

- **Warm** > 27°C
- **Moderate** 10°C - 27°C
- **Cool** < 10°C
- **All Season**

* NPK - The first line of NPK is analysis as N + P_2O_5 + K_2O. The second line is analysis as N + P + K.

** P Source: MAP = Monoammonium phosphate DAP = Diammonium phosphate

*** Spreader settings are not intended to replace spreader calibration or bag label spreader settings. Always check the bag label for additional spreader setting information and calibrate your spreader before applying product.

**** See label for additional details

Genesis Rx®

The process of mechanical aerification is a necessary management tool to improve airflow, nutrient and water movement through the soil profile. Following this destructive process, it is vital to jumpstart turfgrass recovery to a quality level necessary to resume play. Determining the right fertility approach for your aerification program can be a difficult task. Applying fertilizer before, during, and after mechanical aerification all provide unique options for ensuring quick turf recovery.

Genesis Rx® 5-7-5

Genesis Rx 5-7-5 is an all-in-one fertility and soil amendment product for easy application in conjunction with aerification. This product is a high-quality NPK fertility blend containing secondary and minor elements and utilizing our patented Dispersing Granule (DG) Technology. This unmatched combination provides turfgrass with the nutrition needed for recovery from aerification stress, along with sustained feeding. We further value engineered this product by adding 21.5% Humic DG™ (by weight) in the bag to deliver soil microorganisms the carbon-rich food source they desire.

APPLICATION

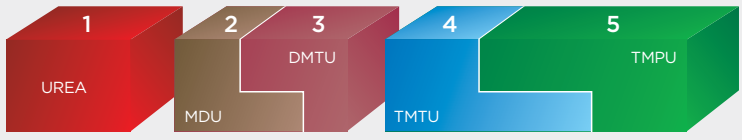
Genesis Rx is recommended for application following your normal aerification program. Typical application rates range from 25-100 g/m². Product may be broadcast applied and placed into aerification holes via drag mat or broadcast applied in conjunction with sand topdressing. For complete application instructions, consult product label.

MUtech®

MUtech methylene urea is highly engineered to deliver steady, predictable nitrogen release.

MUtech helps professionals get the most predictable and favorable results by providing them with the greatest flexibility in tailoring turf nutrition programs. MUtech is available in our Nutri DG®, Tee Time®, and MU-Sports™ products.

RELEASE PROFILE OF MUTECH



Water Soluble Nitrogen | **Slowly Available Water Soluble Nitrogen** | **Water Insoluble Nitrogen**

MDU: Methylene Diurea DMTU: Dimethylene Triurea TMTU: Trimethylene Tetraurea TMPU: Tetramethylene Pentaurea

PROVEN PRODUCT BENEFITS

- Nitrogen is released through the naturally occurring action of soil microbial activity, helping nutrient performance and soil structure.
- MUtech allows consistently predictable feeding, turf color, and growth.
- Nitrogen release rate is not altered by physical damage to particles or by dispersion.
- Low salt index equals extremely low burn potential with NO fragile coating.
- Nitrogen release slows as temperatures rise above 32° C, rather than increasing like coated nutrition.

Foltec® SG

DIFFERENT BY DESIGN

SOLUBLE. SENSIBLE. SUPERB.

SOLUBLE

Foltec SG is an innovative foliar nutrient technology from The Andersons. Designed to be different, Foltec SG will change the way superintendents and turf managers think about complex foliar nutrition programs. Unlike industry standard liquid fertilizers consisting of numerous formulations and packaged in cumbersome plastic jugs, Foltec SG is a proprietary combination of dry Soluble Granules (SG) that quickly solubilize in the spray tank. This combination of soluble granules creates a complete nutrition product that reduces the need for a complex tank mix using a wide variety of products. Each Foltec SG product contains a specific N-P-K ratio along with essential micronutrients, UltraMate® SG and sea plant extract.

Foltec SG is available in formulations which have been shown to fit the parameters of a typical foliar applied fertility program.

APPLICATION

Foltec SG can be introduced into the spray tank through an inductor, or by removing the basket strainer and pouring Foltec SG directly into the spray tank, with adequate water and agitation. In field testing with self-contained spray rigs with typical agitation, Foltec SG solubilized quickly and thoroughly. Foltec SG products have also been shown to be compatible with many commonly used control products.

SENSIBLE

WHY PAY FOR WATER?

We are changing the way turf managers think about complex foliar nutrition programs with complete soluble granule nutrition, transportation and storage benefits, and easy-to-understand coverage and application rates.

Shipping Foltec SG's dry, 100% soluble granules saves on transportation costs compared to heavier, liquid products.

Foltec SG's thin, lightweight packaging eliminates the need to stockpile a collection of plastic jugs slated for the landfill.

Dry product removes the potential for freezing, as Foltec SG does not become liquid until it is ready to be used.

Foltec SG's resealable, foil-lined bags eliminate the need to triple-rinse plastic jugs in preparation for disposal.

SUPERB

N-P-K

Foltec SG is formulated in three of the most widely used agronomic N-P-K ratios (24-0-8, 16-0-16, and 8-24-8). These formulas can be easily combined to create your preferred N-P-K ratio.

MICRONUTRIENTS

Foltec SG utilizes chelated micronutrients in a proven ratio that maximizes availability, efficacy and performance.

ULTRAMATE® SG

UltraMate SG is The Andersons exclusive formulation of soluble sulfonated potassium humate which provides an oxidized source of carbon. UltraMate SG contains a combination of fulvic and humic acids which allow plants to utilize applied nutrients more effectively and efficiently. UltraMate SG also provides a wide range of soil benefits which include chelation of nutrients and increased uptake of soil N and P.

SEA PLANT EXTRACT

Foltec SG contains sea plant extracts derived from the most biologically active sea plant species in the world. They contain a complex array of organic and mineral compounds which include cytokinins, vitamins, sugars, enzymes and proteins that combine together to promote improved wear and drought tolerance. Foltec SG utilizes the proven 3:1 ratio of humic acid to sea plant extract for maximum plant health benefits based on research conducted at Virginia Tech University.[1]

COMPATIBILITY

Replicated bench studies with Foltec SG formulations show excellent compatibility with the most widely used control products for finely maintained bentgrass and bermudagrass turf. For more details, please visit FoltecSG.com.

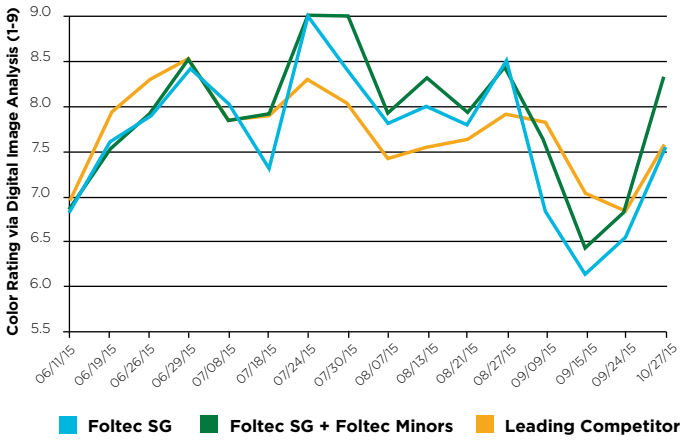
1. Zhang, Xunzhong, and E. H. Ervin. "Cytokinin-Containing Seaweed and Humic Acid Extracts Associated with Creeping Bentgrass Leaf Cytokinins and Drought Resistance." Crop Science 44.5 (2004).

REAL WORLD PERFORMANCE

Foltec SG has been developed and field tested to ensure maximum solubility and superb agronomic performance. Replicated testing at Michigan State University and the University of Arkansas confirms excellent performance on ultradwarf varieties of bentgrass and bermudagrass. When compared to a leading competitor's program, treatments that included Foltec SG had superior quality and color. Through this testing it was determined that Foltec SG provided exceptional greening of the turf canopy within a very short period of time following application. This quick green up surpassed the performance of the leading competitor and impressed the researchers at both universities. The results of the studies at Michigan State University and the University of Arkansas are shown below. For more specific information on field testing, please visit FoltecSG.com.

MICHIGAN STATE UNIVERSITY, 2015

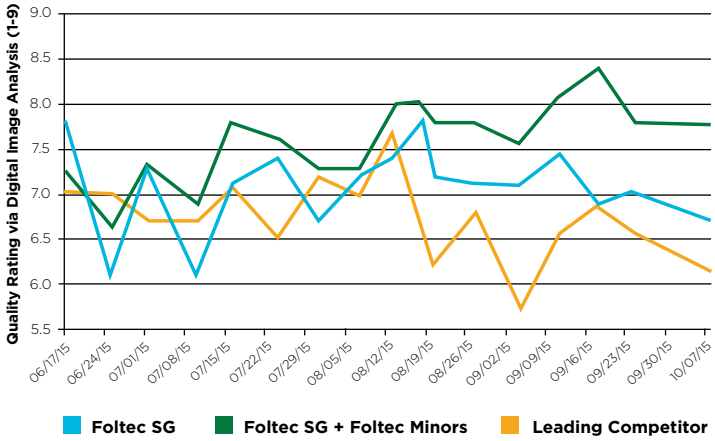
AVERAGE TURF COLOR — T1 BENTGRASS



» The decrease in color observed in late August through mid-September was due to high dollar spot pressure on all test plots.

UNIVERSITY OF ARKANSAS, 2015

AVERAGE TURF QUALITY — TIFEAGLE BERMUDAGRASS



FOLTEC® SG

Product	Package	Delivers kg of Nutrient per hectare			Other Nutrients (%)					UltraMate® SG kg/ha	Sea Plant Extract kg/ha
		N	P	K	Mg	Fe	Mn	Cu	Zn		
RATES AND COVERAGE											
Foltec® SG 24-0-8 3 x 6.16 kg case	6.16 kg	1.5	-	0.5	0.0	1.0	0.5	0.07	0.1	0.22	0.07
Foltec® SG 16-0-16 3 x 6.16 kg case	6.16 kg	1.0	-	1.0	0.5	1.0	0.5	0.07	0.07	0.22	0.07
Foltec® SG 8-24-8 3 x 6.16 kg case	6.16 kg	0.5	1.5	0.5	0.5	1.0	0.5	0.07	0.07	0.11	0.07
Foltec® SG Minors 10 x 1 kg case	1.00 kg	-	-	-	3.0	4.7	3.5	0.15	0.34	0.03	0.03

Foltec LQ ULTRA

Foltec LQ Ultra is a foliar feeding nutritional line derived from the highest quality ingredients intended for use on premium cut turgrass. Foltec LQ Ultra formulations are designed to boost turf pre-stress conditioning and improve overall nutrient efficiency. Select formulations contain value added ingredients including: amino acids, sea plant extracts and micronutrients.

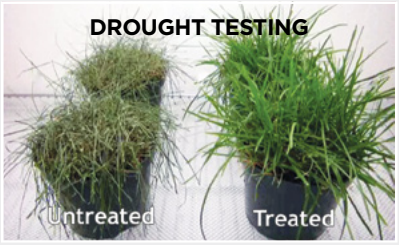
The Foltec LQ Ultra line of products includes full foliar feeding options with N-P-K, secondary and minor elements, and select formulations with field-proven bio-enhancements for pre-stress conditioning and improved nutrient efficiency.

AMINO ACIDS

Under the myriad of stressful conditions turfgrass may face it may be difficult for the plant to produce ample levels of essential amino acids. Foliar applications of L-amino acids translocate through the leaf and help the plant maintain healthy growth during stressful conditions.

SEA PLANT EXTRACTS

Sea plant extracts are derived from the most biologically active sea plant species in the world. They contain a complex array of organic and mineral compounds which include vitamins, sugars, enzymes and proteins that help promote turf health and improve drought tolerance. See the picture below comparing turfgrass treated with sea plant extracts vs untreated plants subject to abiotic stress from drought.



FOLTEC LQ ULTRA MINORS

POWERED BY KEYPLEX®

KeyPlex is more than a minor element package. KeyPlex provides a complex of essential plant nutrients and bio-enhancements and utilizes the most efficient delivery system to supply them.

FOLTEC LQ ULTRA 6-0-0

sea plant extract + amino acids + essential immobile turf nutrients

INTRODUCING!

FOLTEC LQ ULTRA 0-0-27

Foltec LQ Ultra 0-0-27 is a potassium phosphite fertilizer for use on premium turfgrass. The unique phosphite formulation makes this product an ideal selection for providing potassium which is important for cellular structure and plant energy production.

FOLTEC® LQ ULTRA 2 x 9.46 liter cases

Product	Cool Season Turf liters/ha	Warm Season Turf liters/ha	Spray Volume liters/ha	Other Nutrients (%)								pH	kg/L	Bio-Enhancements* (%)
				Ca	Mg	Fe	Mn	Zn	Cu	B	Si			
29-2-3	6 - 32	6 - 24	400 - 800	-	-	-	-	-	-	-	-	11.0	1.320	-
6-0-0	10 - 20	10 -20	400 - 800	6.0	-	0.5	0.5	-	-	-	0.3	3.0	1.300	15.5
0-0-27	4 - 16	4 - 16	400 - 800	-	-	-	-	-	-	-	-	8.0	1.480	-
Minors POWERED BY KEYPLEX®	5 - 10	5 - 10	400 - 800	-	1.5	3.5	0.75	0.75	-	0.16	-	5.0	1.340	Humic and Alpha-Keta Acids

WHY HUMIC ACID?

Humic acid is a natural soil conditioner, organic chelator and microbial stimulator that provides the following benefits to soil and turf:

- Increases soil carbon
- Increases plant health
- Improves germination and viability of seeds
- Chelated macro and micronutrients making elements available to the plant for longer periods of time
- Increases cation exchange capacity (CEC)
- Improves soil structure for better aeration and water movement
- Stimulates beneficial micro-organisms

THE THREE HUMIC FRACTIONS

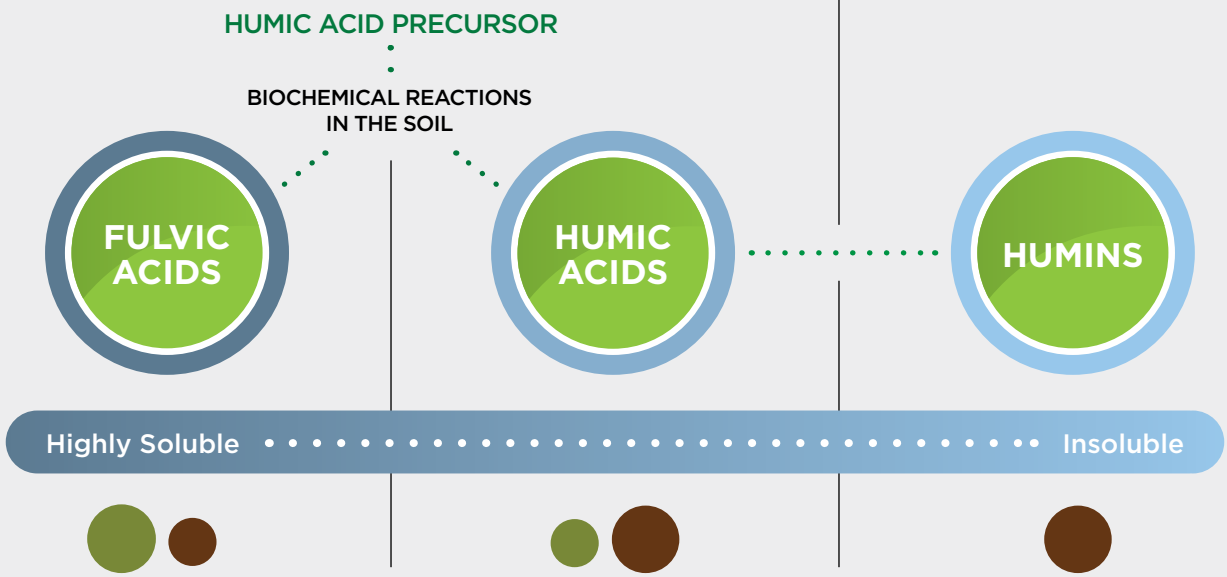
NATURALLY DERIVED BIO-ORGANIC CARBON SOURCES

Foliar Uptake Soil Uptake

FULVIC ACIDS can be absorbed by root tissue and provide hormone-like stimulation to the plant. They also aid in the efficiency of plant metabolic reactions.

HUMIC ACIDS can be soluble or insoluble. They have a high cation exchange capacity (C.E.C.) and help chelate nutrients and stimulate soil microbes.

HUMINS are large, high carbon, insoluble molecules that are long lasting in the soil and have great nutrient holding power.



In addition to the three humic fractions, humic products utilizing The Andersons Dispersing Granule (DG) Technology contain a unique and powerful ingredient we call humic acid precursor. **HUMIC ACID PRECURSOR** is the highly soluble portion of Humic DG that releases quickly into the soil upon contact with water. Through biochemical reactions in the soil, humic acid precursor is transformed into soluble fulvic and humic acids.

Product	Form	Application Method	% Humic Acid	Fulvic Acid	Humic Acid	Humin	Humic Acid Precursor
Humic DG™	Dispersing Granule	Dry Applied	70%	X	X	X	X
Humic DG™ CharX™	Dispersing Granule	Dry Applied	30%	X	X	X	X
Black Gypsum DG®	Dispersing Granule	Dry Applied	21%	X	X	X	X
Black Gypsum DG®	Dispersing Granule	Dry Applied	10%	X	X	X	X
UltraMate® LQ	Liquid (sulfonated)	Liquid Applied	12%	X	X		
UltraMate® SG	Soluble Granule	Liquid Applied	70%	X	X		

NEW!

HumicDG™ CharX™

Humic DG CharX harnesses the power of humic acid and biochar in a 50/50 blend, providing the benefits of the more quickly-available humic acid and the long-term soil building qualities of biochar. Powered by Dispersing Granule (DG) Technology, Humic DG CharX takes soil health to the next level.

WHY BIOCHAR?

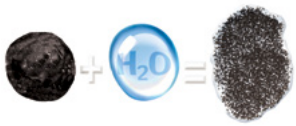
Having a soil that is high in organic matter has a wide range of benefits for a turfgrass manager. Soil organic matter provides nutrient holding capacity, water holding capacity, and stable aggregates to the soil. Some of the most fertile soils in the world are located in the Amazon region. In this region, these fertile soils, known as 'Terra Preta', were created by Amazonian inhabitants via the addition of a variety of organic soil amendments including biochar.

Biochar is the result of burning wood byproducts (feedstock) at high temperatures with little to no oxygen present. The resulting byproducts (biochar) are high in carbon and provide excellent physical structures for microbial development. Biochar works to build soil profiles, lasting for hundreds of years. Biochar also contains karrikins, a family of bioactive compounds that stimulate roots to boost new seedlings.

WHAT SETS HUMIC DG CHARX APART?

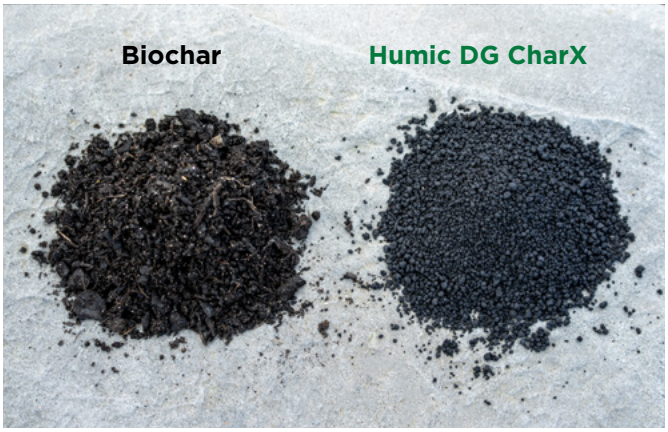
For peak effectiveness, biochar needs to migrate through the turf and down into the root system. This can be tricky with many products, which bring application difficulties and poor efficacy. While crumbled or micronized biochar products move well through the turf canopy, they do present challenges in allowing the product to properly flow through a standard broadcast spreader. Other biochar products contain larger chunks, which causes the product to remain in the thatch layer on top of the soil for long periods of time.

Humic DG CharX features DG Technology, which allows each spherical, low-dust granule to disperse into smaller microparticles when watered. This helps both the humic acid and biochar to move quickly through the turf canopy and down to the root zone, where they can begin to go to work.



PRODUCT SPECIFICATIONS

Product Type:	Dispersing granule humic acid + biochar
Humic Acid Content:	30% (A&L method)
Humic Acid Precursor Content:	10%
Particle Size:	200 SGN
Moisture Content:	3-6%
Bulk Density:	593 kg/m^3
Package Size:	20 kg poly bag
Typical Rate:	50-225 kg/ha
Uses:	Seeding, aerification, improving physical and chemical properties of soil



Humic DG™

Humic DG granules contain 70% humic acid and 10% humic acid precursor. DG Technology creates a dust free, spherical, ultra dry particle that rapidly disperses into thousands of microparticles upon contact with moisture. Humic DG granules' increased surface area, when compared to screened humate, creates greater availability to the plant. It performs in a wide range of conditions and soil types, independent of application method.

FEATURES & BENEFITS

- Flexible application allows for use as a stand alone product or in blends with granular fertilizers
- 4X more efficient than screened humate
- Enhances nitrogen and phosphorus efficiency
- Promotes good soil structure and increases water holding capacity
- Enhances root system development
- Easy to handle and spread through all types of application equipment
- Economical application cost per hectare compared to liquid and screened humates

PRODUCT SPECIFICATIONS

Product Type:	Dispersing granule humic acid
Humic Acid Content:	70% (A&L method)
Humic Acid Precursor Content:	10%
Particle Size:	75 SGN, 240 SGN
Moisture Content:	7-9%
Bulk Density:	640 kg/m³
Package Size:	20 kg poly bag 1,000 kg bulk bag
Typical Rate:	50-225 kg/ha

Black Gypsum DG®

Black Gypsum DG granules are homogenous and combine natural gypsum and humic substances to form a unique bio-amendment. DG Technology creates a dust-free, spherical, ultra-dry granule that rapidly disperses into thousands of microparticles upon contact with moisture. These microparticles deliver calcium, sulfur, and carbon directly into the soil.

FEATURES & BENEFITS

- Contains calcium sulfate dihydrate ($CaSO_4 \cdot 2H_2O$)
  - » Water soluble
  - » Increases calcium and sulfur without changing soil pH
- Humic acid from oxidized lignite (leonardite)
- Improves root development, nutrient uptake, and phosphorus stability
- Provides secondary nutrients (calcium and sulfur)
- Enhances soil health by stimulating soil microbial populations and relieving compaction and salinity
- Blends with fertilizer or can be used alone

PRODUCT SPECIFICATIONS

Product Type:	Dispersing granule humic acid + gypsum
Humic Acid Content:	75 SGN = 21% (A&L method) 240 SGN = 10% (A&L method)
Humic Acid Precursor Content:	75 SGN = 10% 240 SGN = 3%
Gypsum Content:	75 SGN = 60% 240 SGN = 80%
Particle Size:	75 SGN, 240 SGN
Moisture Content:	3-7%
Bulk Density:	75 SGN = 785 kg/m³ 240 SGN = 897 kg/m³
Package Size:	20 kg poly bag
Typical Rate:	150-600 kg/ha

UltraMate®

UltraMate is a potassium humate available in two forms—a highly-concentrated (70% humic acid) soluble granule and a liquid (12% humic acid). It forms a complete solution when added directly to liquid fertilizer, micronutrient, or pesticide formulations over a wide range of pH values. UltraMate is highly compatible, allowing application methods which are unacceptable for conventional humic products, including tank mixing. It allows turf to utilize applied N, P, and micronutrients more efficiently, reducing leaching and improving soil structure.

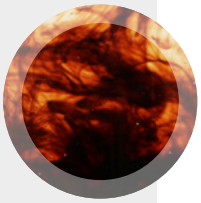
FEATURES & BENEFITS

- Stabilizes nitrogen, reducing volatility while increasing utilization
- Increases seed germination and nutrient availability
- Promotes phosphorus utilization and decreases leaching
- Contains fulvic and humic acid components
- Compatible with liquid fertilizer, micronutrient or pesticide formulations
- Wide range of pH compatibility (2-12)
- Wide range of application methods including foliar spray, soil application, drip irrigation, or hydroponically

ULTRAMATE LQ

PRODUCT SPECIFICATIONS

Product Type:	Liquid humic acid
Humic Acid Content:	12% (A&L method)
pH:	8.0-10.0
Specific Gravity:	1.08 @ 20°C
Density:	1.08 g/mL
Equilibrium Temp:	0°C
Package Size:	2 x 9.46 liters
Typical Rate:	9.4-14.0 liters/ha



ULTRAMATE SG

PRODUCT SPECIFICATIONS

Product Type:	Soluble granule humic acid
Humic Acid Content:	70% (A&L method)
Particle Size:	75 SGN
Moisture Content:	4%
Bulk Density:	657 kg/m^3
Package Size:	13.6 kg
Typical Rate:	0.6-3.4 kg/ha

DISPERSING GRANULES

Product	SGN	Package Weight kg	Application Rates (Refer to label for complete use instructions)
Humic DG™ Greens	75	20	**TURF:** 50-225 kg/ha **TREES & SHRUBS:** (per tree or shrub) 60-230 g **ORNAMENTAL & BEDDING PLANTS:** 5-10 g/m^2 **POTTING SOILS:** (potting mix) 1.5-6.0 kg/m^3
Humic DG™	240	20	
Humic DG™ CharX™	200	20	
Black Gypsum DG® Greens	75	20	**ESTABLISHED TURF:** 150-600 kg/ha **NEWLY SEEDED TURF:** 300-600 kg/ha **HYDROSEEDING:** 300-600 kg/ha **DAMAGED SALT AREAS:** 600-1000 kg/ha **GARDENS & CROPS:** 225-600 kg/ha
Black Gypsum DG®	240	20	

FERTILIZER + HUMIC DG™

10+18+10 / 30% NS-54, 23% Humic DG™	150	20	**TURF:** 150-300 kg/ha
16+0+8 / 50% MUtech, 2% Fe, 19% Humic DG™	150	20	
18+0+7 / 50% NS-54, 20% Humic DG™	240	20	

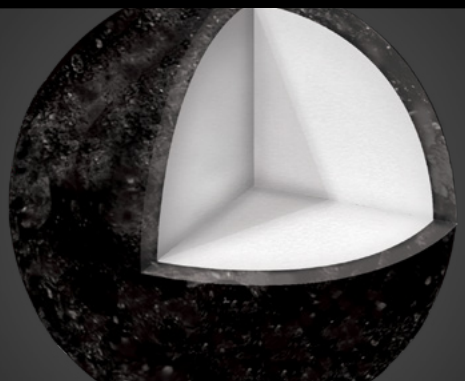
LIQUID & SOLUBLE GRANULES

UltraMate® LQ	-	2 x 9.46 liters	**TURF:** 9.4-14.0 liters/ha
UltraMate® SG	75	13.6	**TURF:** 0.6-3.4 kg/ha

HUMIC COATED UREA

HCU™

HUMIC COATED UREA



HCU (Humic Coated Urea) granules are an innovative nitrogen source featuring urea-humate fusion. This proprietary technology from The Andersons produces a cost effective 44-0-0 nitrogen granule that is bonded with potassium humate. Clean, spherical, free flowing granules are 100% soluble for use in both liquid and dry applications. Each HCU granule contains beneficial fulvic and humic acids that provide a rich carbon source for maintaining and improving soil and plant health.

HCU granules offer a practical, sensible and sustainable approach to applying nitrogen with important soil and plant health benefits that traditional nitrogen sources cannot provide.

SPRAYABLE & SPREADABLE

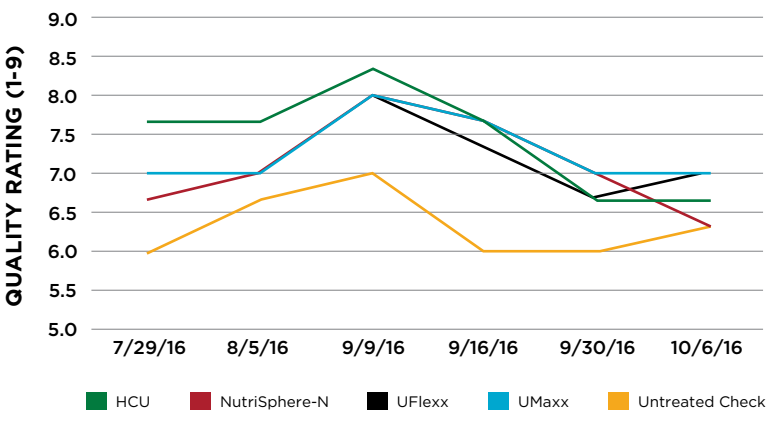
HCU granules are multipurpose soluble granules that can be solubilized for spray application or dry applied through typical dry spreading equipment. HCU 44-0-0 granules are well suited for use on large turf applications such as golf course tees, aprons, fairways and roughs, sports fields, commercial and residential lawns, ornamentals, and specialty crops.

PROVEN PERFORMANCE

HCU granules provide turf quality and color that is comparable to current industry leading products. In a study conducted on Bermudagrass at the University of Arkansas, HCU granules were applied at a rate of 49 kg N/ha and compared to NutriSphere-N®, UMaxx®, and UFlexx® applied at the same rate. The Bermudagrass plots treated with HCU granules had turf quality and color statistically similar or greater than industry leading products for the 11 week duration of the study. Similar results were observed on Kentucky bluegrass at Penn State University.

UNIVERSITY OF ARKANSAS, 2016

TURF QUALITY & COLOR



SPRAY APPLICATION RATES

NITROGEN RATE		PRODUCT RATE	HUMIC ACID*	SUGGESTED MIN. SPRAY VOLUME	BAG RATE (22.68 kg)
g/m²	kg/ha	kg/ha	kg/ha	liters/ha	bags/ha
0.50	5.00	11.50	0.23	280.00	0.50
1.00	10.00	23.00	0.46	375.00	1.00
2.00	20.00	46.00	0.92	375.00	2.00
3.00	30.00	69.00	1.38	560.00	3.00
4.00	40.00	92.00	1.84	560.00	4.00
5.00	50.00	115.00	2.30	750.00	5.00

DRY APPLICATION RATES

NITROGEN RATE		PRODUCT RATE	HUMIC ACID*	BAG RATE (22.68 kg)
g/m²	kg/ha	kg/ha	kg/ha	bags/ha
3.75	37.50	85.00	1.70	3.75
5.00	50.00	114.00	2.30	5.00
6.25	62.50	142.00	2.84	6.25
7.50	75.00	170.00	3.40	7.50

Equivalent to liters/hectare rate of 12% liquid humic acid.

PRODUCT SPECIFICATIONS

Analysis:	44-0-0
Coating:	2% potassium humate
Particle Size:	215 SGN
UI:	40
Bulk Density:	737 kg/m³
RTA:	90%+
Package Size:	22.68 kg bag

TEE TIME®

Tee Time® products are high quality SGN 100 & 125 blended fertilizers for greens, tees & fairways. Key ingredients include MUtech® slow release nitrogen and potassium sulfate.

NPK*	Description	P Source**	K Source	Application Rates g/m²	Nitrogen g/m²	2000 SR Spreader Settings***	Cone Setting	Pkg. Wt. kg
TEE TIME® - BLENDED SGN 100 - FERTILIZERS FOR GREENS & TEES								
8+0+16 (8+0+13.3)	100% AS, 2% Fe, 3% Mg, 5% Mn	-	Potassium Sulfate	15 - 30	1.20 - 2.40	I 3/4 - M	9	20
10+0+24 (10+0+19.9)	65% MUtech®, 35% AS, 2% Fe, 5% Mn	-	Potassium Sulfate	15 - 30	1.50 - 3.00	I 3/4 - M	9	20
10+5+25 (10+2.2+20.8)	50% MUtech®, 1% Fe, 0.1% Mn, 0.1% Zn, 0.1% Cu	MAP	Potassium Sulfate	15 - 30	1.50 - 3.00	J 1/4 - L 1/2	9	20
13+2+13 (13+0.9+10.8)	100% AS, 2% Fe, 0.1% Mn. 0.1% Zn, 0.1% Cu	MAP	Potassium Sulfate	15 - 25	1.95 - 3.25	J - L 1/4	9	20
14+0+9 (14+0+7.5)	100% Ammonium Sulfate	-	Potassium Sulfate	15 - 30	2.10 - 4.20	J - M 1/4	9	20
14+28+10 (14+12.2+8.3)	50% MUtech®, 1% Fe, 0.1% Mn, 0.1% Zn, 0.1% Cu	MAP	Potassium Sulfate	15 - 25	4.20 - 7.00 P_2O_5	J - L 1/4	9	20
15+0+29 (15+0+24.1)	100% MUtech®, 1% Fe, 0.1% Mn, 0.1% Zn, 0.1% Cu	-	Potassium Sulfate	15 - 25	2.25 - 3.75	I 3/4 - L	9	20
18+6+15 (18+2.6+12.5)	65% MUtech®, 2% Fe, 0.1% Mn, 0.1% Zn, 0.1% Cu	MAP	Potassium Sulfate	15 - 30	2.70 - 5.40	I 1/2 - L 1/4	9	20
19+5+19 (19+2.2+15.8)	25% MUtech®, 2% Fe, 0.1% Mn, 0.1% Zn, 0.1% Cu	MAP	Potassium Sulfate	15 - 25	2.85 - 4.75	I 3/4 - L	9	20
21+3+16 (21+1.3+13.3)	97% MUtech®, 1% Fe, 0.1% Mn, 0.1% Zn, 0.1% Cu	MAP	Potassium Sulfate	15 - 25	3.15 - 5.25	I 3/4 - L	9	20
TEE TIME® - BLENDED SGN 125-135 - FERTILIZERS FOR GREENS, TEES, FAIRWAYS & SPORTSFIELDS								
16+4+8 (16+1.7+6.6)	100% AS	DAP	Potassium Sulfate	15 - 30	2.40 - 4.80	J 1/4 - M 1/4	7	20
19+26+5 (19+11.3+4.2)	18% MUtech®, 1% Fe, 0.1% Mn, 0.1% Zn, 0.1% Cu	DAP	Potassium Sulfate	15 - 25	3.90 - 6.50 P_2O_5	J 1/2 - L 1/2	7	20
20+5+20 (20+2.2+16.6)	50% MUtech®, 2% Fe, 0.1% Mn, 0.1% Zn, 0.1% Cu	DAP	Potassium Sulfate	15 - 25	3.00 - 5.00	J 1/2 - L 1/2	7	20
25+5+15 (25+2.2+12.5)	50% MUtech®, 1% Fe, 0.1% Mn, 0.1% Zn, 0.1% Cu	DAP	Potassium Sulfate	15 - 25	3.75 - 6.25	J 1/2 - L 1/2	7	20
SPECIALTY NUTRIENTS - PRODUCTS THAT SUPPLY HIGH LEVELS OF K AND MICRONUTRIENTS								
A-TEP	12% Mg, 8% Fe, 3% Mn, 0.1% Zn, 0.1% Cu, SGN 100	-	-	7 - 11	N/A	H 1/2 - I 1/4	9	20
0+0+30 (0+0+24.9)	KSO_4, 3% Fe, 0.1% Mn, 0.1% Zn, 0.1% Cu, SGN 100	-	Potassium Sulfate	15 - 25	4.50 - 7.50 K_2O	I 3/4 - L	9	20
0+0+50 (0+0+41.5)	Sulfate of Potash, SGN 100	-	Potassium Sulfate	10 - 15	5.00 - 7.50 K_2O	I 1/2 - J 1/4	8	22.68
Innova® 7+1+2 (7+0.4+1.7)	Plant-based organic fertilizer with amino acids, SGN 240	-	-	20-50	1.40-3.50	M 1/2 - R 1/2	3	18.14

* NPK - The first line of NPK is analysis as N + P_2O_5 + K_2O. The second line is analysis as N + P + K.

** P Source: MAP = Monoammonium phosphate DAP = Diammonium phosphate

*** Spreader settings are not intended to replace spreader calibration or bag label spreader settings. Always check the bag label for additional spreader setting information and calibrate your spreader before applying product.

MU-SPORTS™

MU-Sports™ are SGN 150-240 fertilizers that include MUtech® slow release nitrogen and are designed for higher cut turf such as fairways & sportsfields.

NPK*	Description	P Source**	K Source	Application Rates g/m²	Nitrogen g/m²	2000 SR Spreader Settings***	Cone Setting	Pkg. Wt. kg
MU-SPORTS™ - SGN 150-240 - FEATURING MUTECH® SLOW RELEASE NITROGEN								
16+0+8 (16+0+6.6)	50% MUtech®, 19% Humic DG™, 2% Fe, SGN 150	-	Potassium Sulfate	15 - 30	2.40 - 4.80	K 1/2 - O	6	20
24+2+10 (24+0.9+8.3)	50% MUtech®, 2% Fe, 2% Mg, 0.5% Mn, SGN 240	-	Potassium Sulfate	15 - 25	3.60 - 6.00	K 1/4 - M 1/4	5	25

POLYSPORTS™

PolySports® products are high quality SGN 150-240 blended fertilizers designed for higher cut turf such as fairways & sportsfields. Slow release nitrogen comes from the following polymer coated technologies: NS-54™ polymer coated sulfur coated urea and Extend™ polymer coated urea.

NPK*	Description	P Source**	K Source	Application Rates g/m²	Nitrogen g/m²	2000 SR Spreader Settings***	Cone Setting	Pkg. Wt. kg
POLYSPORTS™ MINI - SGN 150 - FEATURING NS-54™								
10+18+10 (10+7.9+8.3)	30% NS-54™, 23% Humic DG™	DAP	Potassium Sulfate	20 - 30	3.60 - 5.40 P_2O_5	L 3/4 - O	6	20
23+2+10 (23-0.9-8.3)	65% NS-54™, 5% Fe	DAP	Potassium Sulfate	15 - 25	3.45 - 5.75	K 1/2 - N	7	25
POLYSPORTS™ PREMIUM - SGN 240 - FEATURING NS-54™ OR EXTEND™								
18+0+7 (18+0+5.8)	50% NS-54™, 20% Humic DG™	-	Potassium Sulfate	15 - 30	2.70 - 5.40	K 3/4 - O 3/4	4	20
18+24+12 (18+10.5+10)	48% NS-54™	DAP	Potassium Sulfate	15 - 30	3.60 - 7.20 P_2O_5	K 1/2 - N 1/2	4	25
25+5+15 (25+2.2+12.5)	32% NS-54™	DAP	Potassium Sulfate	15 - 25	3.75 - 6.25	K 1/2 - M 1/2	4	25
26+0+10 (26+0+8.3)	75% Extend™, 3% Fe	-	Potassium Sulfate	20-30	5.20 - 7.80	L 1/2 - N 1/2	4	25
28+3+10 (28+1.3+8.3)	96% NS-54™	DAP	Potassium Sulfate	15 - 25	4.20 - 7.00	K 1/2 - M 1/2	4	25
POLYSPORTS™ GENERAL PURPOSE - SGN 240 - FEATURING NS-54™								
20+4+20 (20+1.7+16.6)	60% NS-54™, 5% Fe	DAP	Potassium Chloride	20 - 30	4.00 - 6.00	L 1/2 - N 1/2	4	25
21+3+21 (21+1.3+17.4)	75% NS-54™	DAP	Potassium Chloride	20 - 30	4.20 - 6.30	L 1/2 - N 1/2	4	25
28+3+10 (28+1.3+8.3)	50% NS-54™	DAP	Potassium Chloride	15 - 25	4.20 - 7.00	K 1/2 - M 1/2	5	25
32+3+10 (32+1.3+8.3)	30% NS-54™, 2% Fe	DAP	Potassium Chloride	15 - 20	4.80 - 6.40	K 1/2 - L 1/2	4	25
ORNAMENTAL & LANDSCAPE FERTILIZERS - SGN 240 - FEATURING NS-54 AND MUTECH®-XL™								
14+14+14 (14+6.1+11.6)	60% NS-54™, 1% Fe, 0.1% Mn, 0.1% Zn, 0.1% Cu	DAP	SOP	Various	See label	Various		20
18+6+12 (18+2.6+10)	78% MUtech®-XL, 2% Fe, 0.1% Mn, 0.1% Zn, 0.1% Cu	TSP	SOP	Various	See label	Various		25

* NPK - The first line of NPK is analysis as N + P_2O_5 + K_2O. The second line is analysis as N + P + K.

** P Source: MAP = Monoammonium phosphate DAP = Diammonium phosphate

*** Spreader settings are not intended to replace spreader calibration or bag label spreader settings. Always check the bag label for additional spreader setting information and calibrate your spreader before applying product.

EXCLUSIVE HELICAL CONE TECHNOLOGY

The Andersons Model 2000 and Model 2000 SR professional spreaders include our innovative helical cone technology. The helical cone, located above the impeller, can be adjusted to place the fertilizer at the correct location on the impeller to provide an even spread pattern. The helical cone allows for even spreading of all sizes of fertilizer granules, and it is only available from The Andersons.

MODEL 2000 SR™ PROFESSIONAL ROTARY SPREADER

- Utilizes patented "Helical Cone" technology for a superior spread pattern
- Includes side deflector shield and port shut-off for limiting spread pattern
- Heavy duty stainless steel frame tubing resists corrosion and adds rigidity
- Extra-large hopper capacity
- Extended handle
- 13" turf saver pneumatic tires
- Integrated front lift handle
- Hopper cover included
- Limited lifetime gear warranty

MODEL SSD™ DROP SPREADER

- High quality stainless steel hopper, metering mechanism and hardware to prevent corrosion and extend spreader life
- Heavy duty stainless steel frame to extend spreader life
- Pneumatic turf saver tires for track free application to premium turf
- Precision metering for applying a variety of fertilizers, control products and seeds
- Vinyl hopper cover to protect material from weather

MODEL 2000™ PROFESSIONAL ROTARY SPREADER

- Utilizes patented "Helical Cone" technology for superior spread pattern
- Extra-large hopper capacity
- Extended handle
- Heavy duty frame tubing for extra rigidity
- 13" turf saver pneumatic tires
- Integrated front lift handle
- Hopper cover included
- Limited lifetime gear warranty

For more information on our line of professional-grade spreaders, visit our YouTube channel: **YouTube.com/AndersonsPro**

PRIZELAWN® ARC 1 ACCURATE CALIBRATOR

The Prizelawn Calibrator attaches to the spreader and collects granular materials or seeds, which can then be easily removed for weighing to determine the accuracy of the spreader setting with a given product. The ARC 1 Calibrator will fit most professional rotary spreaders.

Watch our video, "**Make Calibration Simple with the Prizelawn® ARC 1 Spreader Calibrator**" on The Andersons Pro YouTube channel: **YouTube.com/AndersonsPro.**

ABOUT THE ANDERSONS, INC.

The Andersons, Inc. (Nasdaq: ANDE) is a diversified company rooted in agriculture that conducts business in the commodity trading, ethanol, plant nutrient and rail sectors. The company is known for growing enduring relationships through extraordinary service, a deep knowledge of the market and a knack for finding new ways to add value.

Founded by Harold Anderson and his family in 1947 in Maumee, Ohio, and privately owned until 1996, the premise of the original organization was to make it as easy as possible for regional farmers to take their grain to market. The business model of serving others is the foundation on which the company was built. Today, The Andersons' more than 2,400 employees conduct business from over 130 locations and continue to be committed to providing extraordinary service with the utmost integrity.

Our Mission:

We firmly believe that our Company is a powerful vehicle through which we channel our time, talent, and energy in pursuit of the fundamental goal of serving God by serving others. Through our collective action, we greatly magnify the impact of our individual efforts to:

- Provide extraordinary service to our customers
- Help each other improve
- Support our communities
- Increase the value of our Company

The Andersons®

AndersonsPlantNutrient.com

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