#### PRIVATE LABEL MANUFACTURING

## CUSTOM AGRONOMICS

AGRICULTURE • TURF • ORNAMENTAL • LAWN CARE Our Business is Growing Yours





PALM CITY, FL • LEXINGTON, MI

772-223-0775

www.customagronomics.com

## WELCOME!

Custom Agronomics is a private-label manufacturer of liquid solutions for the agriculture, turf management, lawn care and industrial markets. With locations in Palm City, Florida and Lexington, Michigan, Custom Agronomics is well-suited to serve both the North American and overseas export markets. Our products are actively distributed throughout North America, the Caribbean, Europe and Asia. Whether you have existing products that need to be produced, or if you need a complete turn-key product line developed for you, Custom Agronomics is a trusted partner that can help get the job done with a high level of confidence.

- EPA Establishment: Custom Agronomics is able to produce, label and package EPA-registered pesticide formulations
- Proprietary reactor vessels: Industry-leading, in-house designed reactor vessels that give Custom Agronomics among the highest capacity to manufacture highly exothermic products all with exceptional quality and process control capabilities.
- Quality control: One micron ultra-filtration systems, high purity raw materials, and tight quality control procedures ensure peace of mind
- Product development: In house laboratory and PhD Chemist on staff for product research
   and development
- Marketing support: In house graphic arts design for logo creation, literature creation, web content creation and other marketing support functions
- Multiple packaging options: 5 packaging lines with capabilities to package all sizes from one pint to full tank truck quantities with full lot number control
- Multiple load cell-enabled, heated process tanks
- In-house design and printing of full color, chemical resistant product labels
- Training support: Full commitment to training sales staff and providing training materials to support the products / product line as needed.

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## BASIC LIQUID FERTILITY

## CUSTOM

**CUSTOM AGRONOMICS** has a wide capability to produce virtually any liquid nutritional input. With our proprietary manufacturing and reaction vessels, Custom Agronomics can handle everything from basic liquid blending to managing highly endothermic and exothermic processes. Final product quality is unsurpassed, using only the highest quality raw materials and the most sophisticated production processes including an industry-leading final product ultra-filtration down to one micron.

#### NPK

- Foliar and soil applied formulations
- Fast and slowly available nitrogen sources
- Stabilized nitrogen sources
- Orthophosphate and polyphosphate
- Multiple potash sources

#### SOIL

- Soil amendments
  - Humic acid
  - Carbon-based
  - Microbial-based
  - Root stimulating
- In furrow
- Root injection
- Soil remediation / acid-based
- Drip irrigation

#### MICROS

- Foliar and soil applied formulations
- Basic manufacturers of
  - EDTA chelates
  - Glucoheptonates
  - Citrates
  - Boron MEA solutions
  - Nitrates
  - Urea-sulfuric clathrate based
  - Phosphite based micronutrients
  - Acetate based micronutrients
  - Urea-sulfuric stabilized micronutrients
- Customized formulations for specific crops / crop cycles

#### CUSTOM AGRONOMICS, INC.

## SPECIALTY FROM CUSTOM AGRONOMICS

## CUSTOM

Value-added formulations are our specialty. Certain markets such as specialty agriculture, finely maintained turf, and indoor gardening / hydroponics demand enhanced products that deliver multiple benefits and increase the quality of production above basic fertilizer inputs. Our enhanced formulations deliver increased ROI, higher quality production and market differentiation.

#### BIOSTIMULANTS

 Multiple sources of plant extracts, microbially-derived stimulants and specialty chemical compounds designed to reduce plant stress, increase yields and enhance quality.

#### **AMINO ACIDS**

- Plant-derived, L-form amino acids for inclusion in custom formulations.
- Designed to enhance nutrient uptake, enhance microbial activity, and provide low salt index nitrogen.

#### SAR ELICITORS

• Multiple SAR elicitors to enhance stress resistance and adverse environmental conditions.



#### **SILICA**

 Highly proprietary silica formulations designed for total tank mix / formulation compatibility and enhanced plant uptake.



#### NUTRIENT EFFICIENCY

- Phosphorous protection polymers.
- Nitrogen efficiency (slow-release polymers, nitrogen stabilizers / nitrification inhibitors, acid-stabilized nitrogen)
- Foliar uptake enhancers
- Amino acid-based complexing agents

#### 

#### REACTED PRODUCTS FROM CUSTOM AGRONOMICS

# CUSTOM

Custom Agronomics has heavily invested in the ability to synthesize products that are created in highly exothermic reactions. Our ability to tightly control all aspects of the reaction, especially reaction temperatures, allows for unsurpassed production capabilities with industry-leading quality control. Designed in-house, our reactor systems are highly proprietary and have allowed Custom Agronomics to be an industry leader in manufacturing reacted fertilizer and specialty chemical products. All reacted products are produced using the highest purity raw materials and are filtered to 1 micron to ensure the highest quality and product integrity available today.

#### PHOSPHITE

- Made from the highest purity phosphorous acid at industry leading low reaction temperatures and filtered to 1 micron
- Huge variety of basic and value-added
   potassium phosphite formulations
- Micronutrient phosphites
- PO<sub>3</sub> / PO<sub>4</sub> blended phosphites

#### ACETATES

- Acetate nutrients have unmatched foliar absorption
- Low risk of phytotoxicity and low use rates
- Potassium, calcium, magnesium, zinc and other formulations

#### **UREA SULFURIC**

- Urea-sulfuric clathrate technology
- Water treatment, soil treatment, adjuvants and fertilizers
- See next page for more details

# <image>

#### DKP

- Di-Potassium Phosphate (DKP) is an exceptional foliar fertilizer reacted with food grade materials under strict temperature control
- Highly concentrated
- Low salt index
- Exceptional uptake
- Analysis as high as 0-20-25
- 100% ortho-phosphate

#### CUSTOM AGRONOMICS, INC.

#### UREA-SULFURIC ACID REACTION PRODUCTS FROM CUSTOM AGRONOMICS

# CUSTOM

When urea and sulfuric acid are reacted in our highly proprietary reactors using a tightly-controlled process, the result is a special molecule called a chlathrate. By varying the formulation and the structure of the clathrate, we have the unique ability to create multiple products with various characteristics and purposes. Because the acid is "sequestered" in this clathrate molecule and does not disassociate like normal acids, these formulations allow the safe delivery of sulfuric acid to the soil or irrigation water. The unique characteristics of these formulations allows sulfuric delivery and reduced pH applications without the usual worries of worker and crop safety.

#### WATER TREATMENT

• Products designed to be injected into irrigation systems to reduce pH, remediate bicarbonates, and reduce the deleterious effects of poor irrigation water.

#### SOIL TREATMENT

- Products designed to be sprayed or injected to deliver acid-stabilized nitrogen as well as remediating the soil. After application, the clathrate hydrolyzes in the soil to safely deliver sulfuric acid and a form of nitrogen that does not volatilize.
- Because of the clathrate molecule, the sprayable products do not pose a threat to the foliage of even finely maintained golf greens even if the products are not watered in immediately.
- Benefits include remediation of bicarbonates, assistance with high sodium soils, enhanced tank mix compatibility, zero volatilization, reduction of spray tank pH, liberating soil nutrients that are not available due to soil reactions / adverse soil conditions, enhanced activity of applied organics and microbials, reduction in black layer.

#### FERTILIZER SYSTEMS

- A wide variety of acid-stabilized fertilizers created with the urea-clathrate technology as the nitrogen source.
- NPK, minors, value-added components are all possible to be formulated with the urea-sulfuric technology, even compounds that normally are not compatible due to the non-damaging low pH of urea-clathrate solutions.
- Starter fertilizers: the use of the ureasulfuric technology will stabilize ammonium polyphosphate starters and even allow sulfate-based micronutrients to be directly mixed with APP solutions

#### ACID-BASED SURFACTANTS

 Urea-sulfuric combinations with soil surfactants and penetrants have incredible soil remediating properties to enhance infiltration, remediate adverse soil conditions, enhance pesticide performance, and enhance tank mix compatibility.

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### NITROGEN STABILIZERS FROM CUSTOM AGRONOMICS

# CUSTOM

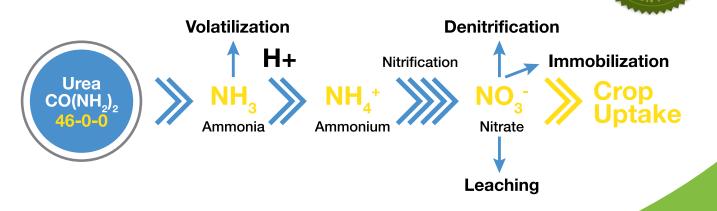
Custom Agronomics is a basic manufacturer of superior, patented formulations of nitrogen protection products. Various formulations are available depending upon the application strategy of the nitrogen. The patented solvent system in our nitrogen stabilization family of products allows better penetration, better drying, and lower surface tension which results in more thorough coverage and ease of use even in cold temperatures.

#### SURFACE APPLIED

 NBPT / DCD combination with higher NBPT levels formulated with a patented solvent system. Designed for protection of surface applied nitrogen. Provides triple protection against volatilization, denitrification, and leaching.

#### BELOW GROUND

- Higher concentration DCD with lower levels of NBPT formulated with a patented solvent system for below-ground nitrogen protection.
- Nitrification inhibitor helps prevent leaching, denitrification and slows the conversion of ammonium to nitrate.
- Perfect for applications in wet / poorly drained soils, tile-drained soils, coarse – sandy soils, and heavy soils that are traditionally cultivated.



Protect your nitrogen investment from nitrogen loss due to volatilization, denitrification and leaching with our suite of patented nitrogen protection products.

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#### MIXTURES

- Custom ratios for flexible use.
- Blends of NBPT / DCD in ratios that provide a moderate degree of protection regardless of nitrogen application strategy.

## SURFACTANTS & ADJUVANTS FROM CUSTOM AGRONOMICS

# CUSTOM

Custom Agronomics produces a full range of spray tank adjuvants, soil surfactants, and specialty surfactant chemicals designed to enhance the performance of spray mixtures and to increase the efficiency of moisture. Surface Chemist on staff for research, product development, and technical support.

#### SURFACTANTS

- Penetrants
- Pesticide adjuvant surfactants
- Soil conditioning surfactants
- Microbial / biostimulant enhanced surfactants
- Biosurfactants
- Soil wetting agents
- Moisture retention agents
- Long-term wetting agents
- Acidified surfactants
- Irrigation / injection surfactants
- Pelletized wetting agents

#### ADJUVANTS

- Drift control
- Spreader / Stickers
- Spray tank acidifiers
- Acidifier / pH Indicator combination products
- Odor masking agents
- Rheology modifiers
- On target / pesticide retention products
- Compatibility agents
- Herbicide activators
- Fungicide activators



Spray tank adjuvants perform many agronomic functions such as reducing surface tension, modifying droplet size, increasing penetration & uptake, enhancing on target deposition and increasing overall pesticide efficacy.

#### CUSTOM AGRONOMICS, INC.

#### UTILITY PRODUCTS, COLORANTS & PIGMENTS FROM CUSTOM AGRONOMICS

# CUSTOM

#### COLORANTS

- Turf colorants: Enhance the appearance of dormant or off-color turf with our wide array of turf colorants. Available with or without binders and in several shades of green, these high quality, concentrated colorants will deliver long-lasting, vibrant color and contrast for both fairways and greens / tees.
- Pond and lake colorants: both liquid and soluble packet formulations of intense blue and black formulations. Designed to be high performance and environmentally friendly.
- Spray pattern indicators: available in blue and green in several concentrations, these products are formulated to aid in the elimination of skips and overlaps in spray patterns.



Divot sand colorants

#### **UTILITY PRODUCTS**

- Marking foam: Formulated to rapidly dissipate without damaging or discoloring turf while assisting in preventing skips and overlaps in spray patterns.
- Spray tank cleaners: products designed to remove pigment stains, generalized cleaning, and pesticide neutralizing for spray tank maintenance.
- Rust removers: formulations designed to chelate, solubilize and remove unsightly staining from surfaces and structures
- Defoamers: concentrated solutions designed to reduce foaming of spray tank solutions.

#### **CUSTOM AGRONOMICS, INC.**

#### SOIL ECOLOGY SOLUTIONS FROM CUSTOM AGRONOMICS

# CUSTOM

Custom Agronomics offers a wide range of customized beneficial microbe solutions for specific agronomic purposes. A wide array of "off-the-shelf" options exist in addition to the ability to culture a specific consortia from a customer-provided sample or to a customer specification. Our capabilities even include highly sophisticated encapsulation technologies to keep the microbes viable in hostile environments. Microbiologist on staff for research, product development, and technical support.



#### MICROBIALS

PRODUCT	DESCRIPTION
• Biological Mineralizer	Improves nutrient cycling and mineralization
<ul> <li>Biological Nitrogen Cycler</li> </ul>	Inoculates soil and plants with a biodiverse set of nitrogen fixers and assimilators
Nutrient Solubilizers	Provides nutrient releasing bacteria to the soil that make insoluble nutrients plant soluble and available (i.e., P, K, Ca, B, Si, S, Mn, Mg, Fe, Cu, Zn)
<ul> <li>Biological Nematode Management</li> </ul>	Remediates a wide range of pathogenic nematodes in the soil and rootzone
• Biological Fungal Management	Remediates a wide range of pathogenic fungi in soil and on the foliage
• Biological Insect / Pest Management	Remediates a wide variety of crawling and flying insect pests
• Biological Compost Product	Accelerates composting and decomposition of manures, composts,green manures, grasses, landfills, sludge, and wastes
• Biological Residue Degrader	Decomposes post-harvest stalk residue on corn, bean, and other crops
• Mycorrhizal Fungi	Mycorrhial fungi for improved air & water
	channeling through compacted soils

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## CONTRACT PACKAGING & PRIVATE LABEL FROM CUSTOM AGRONOMICS

Custom Agronomics provides total vertical integration to help develop and promote your product line / brand. From formulation development to marketing collateral creation, Custom Agronomics is the one-stop, full-service provider that can get your brand to the next level.

#### PRODUCT DEVELOPMENT

- Product conceptualization, development and shelf life / stability testing.
- Improvements of current formulations



State-of-the-art laboratory with on-site surface chemist and microbiologist for research, product development, and technical support.

#### LABEL DEVELOPMENT

- In-house label printing capabilities includes full-color, chemical resistant glossy labels with your custom design and logos.
- Print as needed; no need to commit to large print inventories.

#### TOLLING

- Toll manufacturing: we will produce products to your specifications, to include inclusion of your proprietary ingredients with full confidentiality.
- Toll packaging for most package sizes including pint (1/2 L), quart (1L), hose end applicator bottles, gallons, 2.5 gallon (10L), drums, totes
- Low minimum order requirements

#### MARKETING COLLATERAL

• In-house design capabilities to help develop literature, labels, logos, info sheets training presentations and other support pieces to help drive the brand.

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