

PRIVATE LABEL MANUFACTURING

FROM CUSTOM AGRONOMICS



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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TWO LOCATIONS TO SERVE YOU



Two strategically positioned locations to reduce lead times and better serve our customers. Each location is fully equipped with reactors, formulation tanks, bulk holding & shipping capacity, high-capacity packaging lines, QA/QC labs and label printing facilities.

PALM CITY, FLORIDA



LEXINGTON, MICHIGAN



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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

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

EPA-REGISTERED PRODUCTS

- Both the FL and MI location are EPA Establishments where we can manufacture, package or relabel EPA-registered products
- EPA-registered Crop Protection products
- EPA-registered Plant Growth Regulator products

BRAND DEVELOPMENT

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

RESEARCH & DEVELOPMENT

FROM CUSTOM AGRONOMICS



We have heavily invested in our research and development capabilities to ensure cutting edge product development, unique formulations to offer our customers differentiation in the marketplace, and industry leading quality and shelf life stability.

CAPABILITIES

- Contract research
- Prototype development
- Shelf life testing & QA/QC testing
- Compatibility testing
- New formulation development
- Full instrumentation capabilities for analysis, research, and quality assurance including
 - Spectral analysis (UV-VIS, FTIR, HPLC, ICP)
 - Surface chemistry (surface tension, Draves wetting, contact angle measurements)



STAFF

- R&D department manager with 20 years of formulation experience
- Nutritional, biostimulant and specialty chemistry chemist
- Microbiologist
- Surface chemist
- QA/QC analyst / Lab Tech

BASIC LIQUID FERTILITY

FROM CUSTOM AGRONOMICS



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

MICROS

- Foliar and soil applied formulations
- Basic manufacturers of
 - EDTA chelates
 - Glucoheptonates
 - Citrates
 - Boron MEA solutions
 - Urea-sulfuric clathrate based
 - Phosphite based micronutrients
 - Acetate based micronutrients
 - Urea-sulfuric stabilized micronutrients
 - Ammoniated chelates
- Customized formulations for specific crops / crop cycles
- Customized dual-purpose chelates suitable for both in-furrow and foliar applications

SOIL

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



SPECIALTY INPUTS

FROM CUSTOM AGRONOMICS



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

- Phosphate protection polymers
- Nitrogen uptake enhancers
- Phosphate uptake enhancers
- Nitrogen stabilizers

HUMIC/FULVIC ACID

- Enhanced nutrient availability
- Enhanced cation exchange
- Enhanced soil structure

REACTED PRODUCTS

FROM CUSTOM AGRONOMICS



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_3 / PO_4 blended phosphites

ACETATES

- Acetate nutrients have unmatched plant uptake with a high degree of foliar safety
- 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



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

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UREA-SULFURIC ACID REACTION PRODUCTS FROM CUSTOM AGRONOMICS



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 clathrate. 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, and value-added components are all possible to be formulated with the urea-sulfuric technology, even compounds that normally are not compatible due to the unique chemistry of low pH of urea-clathrate solutions.
- Starter fertilizers: the use of the urea-sulfuric technology will stabilize ammonium polyphosphate starters and even allow sulfate-based micronutrients to be directly mixed with APP solutions
- Perfect fit for drip irrigation applications.

ACID-BASED SURFACTANTS / ADJUVANTS

- 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.

NITROGEN STABILIZERS

FROM CUSTOM AGRONOMICS



Custom Agronomics is a basic manufacturer of superior, patented formulations of nitrogen protection products optimized to match your specific nitrogen application strategy. The patented DMSO solvent system in our nitrogen stabilization family of products allows for higher active ingredient levels, better urea prill penetration, efficient drying, and lower surface tension compared to standard NMP solvent systems currently available in the market.



N-VADE TECHNOLOGY

- Penetrates deeper into dry fertilizers with higher absorption and better coverage of actives
- Higher active ingredient concentrations allows for lower use rates / better performance
- Accelerates blending
- Excels in performance and safety
- We produce customized formulations of nitrogen stabilizers depending upon the application strategy and agronomic situation. Our primary active ingredients are:
 - NBPT: N-(n-Butyl)thiophosphoric triamide: slows the activity of the urease enzyme and reduces volatilization of surface-applied urea.
 - DCD: Dicyandiamide is a nitrification inhibitor that slows the conversion of ammonium into nitrate. This allows more efficient uptake of applied nitrogen by reducing nitrate leaching and denitrification.
- Our stabilizer products also contain a patented polymerized form of DCD that significantly enhances the performance of the actives as well as increases product stability, shelf life and formulation quality
- Our patented solvent system uniquely allows combinations of NBPT and DCD, with significantly higher total active concentrations than typical stabilizer products

INDUSTRY
STANDARD
PRODUCTS



N-VADE



A red tracking dye was added to show the comparative penetrating powers of the patented DMSO solvent system compared to industry standard NMP solvent systems

NITROGEN STABILIZERS

FROM CUSTOM AGRONOMICS



SURFACE APPLIED

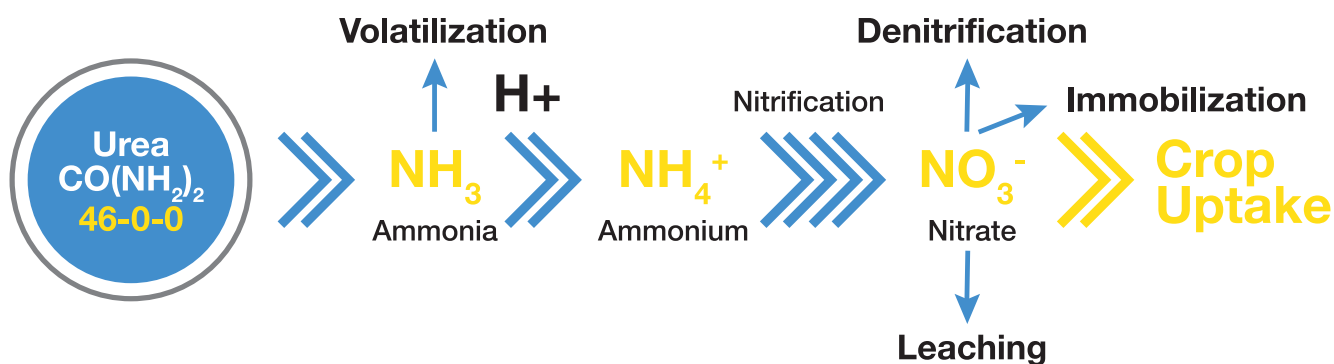
- NBPT / DCD combination with higher NBPT levels formulated with a patented solvent system. Designed for protection of surface applied nitrogen. Provides triple protection against volatilization, denitrification, and leaching.

MIXTURES

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

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.

SEED TREATMENT

FROM CUSTOM AGRONOMICS



Custom Agronomics develops and manufactures customized seed treatments containing nutritional, biological, physical, and chemical additives as individual or combined treatment products. These customized solutions are applied to seed to provide protection and improve the establishment of healthy crops. Our seed treatments not only satisfy the highest quality requirements but are also developed to be safe for your seeds.

NUTRIENT-BASED

Nutrient seed treatment is an excellent option for meeting the early nutrient demands of emerging crops. We offer nutritional packages including macro and micro elements for delivering early sources of essential nutrients.

- Better germination and enhanced emergence.
- Improved root growth and shoot development.
- Increased stress relief and improved stress tolerance.
- Excellent seed coverage and 100% water soluble.
- Quick drying times on seed.

BIOSTIMULANTS

With our biostimulant seed treatments, growers can enhance plant resilience and growth. We offer biostimulant packages that include plant extracts, amino acids, vitamins and other compounds designed to mitigate stress and drive early plant development.

- Promote early plant growth for improved yields.
- Enhance plant health by reducing the negative impacts of abiotic stress.
- Increased water and nutrient supply to the plant.
- Increase plant nutrient uptake.
- Improve nutrient use efficiency.

BIOLOGICAL

Custom Agronomics can provide specific blends of microorganisms, including plant growth promoting rhizobacteria and fungal compounds (PGPR) to inoculate the rhizosphere of emerging seeds and seedlings.

- Enhance seed germination.
- Establish early plant/microbe association.
- Establish early abiotic stress resistance.
- Increase growth promoting compounds in the rhizosphere.
- Enhance nutrient cycling and increased root uptake.

SURFACTANTS & ADJUVANTS

FROM CUSTOM AGRONOMICS



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

- Premium, 30 day tournament conditions 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.

UTILITY PRODUCTS, COLORANTS & PIGMENTS

FROM CUSTOM AGRONOMICS



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.

SOIL ECOLOGY SOLUTIONS

FROM CUSTOM AGRONOMICS



Custom Agronomics offers a wide range of customized beneficial microbe solutions for specific agronomic and environmental purposes. We have an expansive array of "off-the-shelf" liquid solutions in addition to the ability to culture specific synergistic microbial consortia from customer provided samples or detailed customer specifications. Our capabilities include sophisticated laboratory and formulation techniques to ensure microbe viability in formulated products, either alone as a microbiological adjunct, or in a blend of fertilizer and other nutrient compounds. Custom Agronomics has a microbiologist on staff for any project, including research and development, technical product support, quality assurance, population analysis, and sales team training. Custom Agronomics can provide blends of microorganisms, such as plant growth promoting rhizobacteria and fungi (PGPR) to enhance plant growth and development.

MICROBIALS

- Improve nutrient cycling and mineralization
- Inoculate the rhizosphere with a biodiverse set of nitrogen fixation and assimilation microbes
- Can establish a population of nutrient releasing bacteria in the soil that convert insoluble nutrients into plant available soluble micro- and macro-nutrients
- Establish early abiotic stress resistance
- Increase growth hormone production in the rhizosphere
- Enhance nutrient cycling and increase uptake by roots
- Control growth of a diverse range of pathogenic nematodes in the soil and rhizosphere*
- Control the growth of a wide range of pathogenic fungi in soil and on foliage*
- Remediate and control a variety of crawling and flying insect pests*
- Accelerate the decomposition and composting process of manures, grasses, sludges and a diverse range of biological solids
- Decompose post-harvest stalk residue in row crop applications
- Produce biological siderophores that act as binding sites for agriculturally important micro-nutrients
- Produce specific antibiotics and other biological compounds that induce systemic plant resistance
- Increase seedling germination and plant biomass
- Inoculate the soil with mycorrhizal fungi to improve air, water, and nutrient channeling through compacted soils
- Generate a diverse microbial population in the rhizosphere to increase general plant health and growth.

** These types of products may require an EPA registration*

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