TURF
ARBOR CARE
ORNAMENTALS
NURSERIES
GREENHOUSES
SOD FARMS

Try other Performance Nutrition® products
- Humates & Humic Acids
- KaPre® Soil Amendments
- KaPre® Fertilizers
- LidoQuest® Patented Fertilizers
- NutriSmart® Patented Eco-Fertilizer
- Nutrol® Bio-Pesticide
- Pennamin® Amino Acid Nutrients
- Prudent® Patented Phosphite Fertilizers
- Vibrant® Patented Foliar Fertilizers
- Worm Castings & Extracts

Patented ECO-FERTILIZER
Soil AMENDMENT
Nitrogen REPLACEMENT
A pro-active approach for a GREENER tomorrow.

What should you know about NutriSmart?

- **NutriSmart** is a patented environmentally friendly microbial fertilizer & soil amendment developed by CK Life Sciences, a world-wide leader of eco-responsible agricultural practices.

- **NutriSmart** fixes nitrogen from the atmosphere; decomposes phosphate from the phosphate rock, and releases potassium from the soil.

- **NutriSmart** can effectively replace 10 – 25% of soil-applied fertilizer. NutriSmart fixes nitrogen as the plant needs it... **for up to 5 months!**

- **NutriSmart** has a “smart” relationship with the plant roots. When the plant signals NutriSmart that it requires nutrients, NutriSmart initiates the conversion and delivery process. In this way, **NutriSmart** is the ultimate controlled release fertilizer delivering nutrients on an "as needed" basis.

- **NutriSmart** is salt-free and is safe to use – even when applied on or near the seed.

- **NutriSmart** does not leach and reduces the leaching of chemical fertilizers.

- **NutriSmart** contains humates that nourish soil microbes and improve the soil quality.
NitriSmart - developed with the ENVIRONMENT in mind!

- **NitriSmart** components are naturally occurring substances; free of any chemical constituents.

- **NitriSmart** is non-toxic to humans and wildlife.

- **NitriSmart** reduces nitrate & phosphate pollution by minimizing nutrient leaching.

- **NitriSmart** contains no soluble N, P or K.

- The microbes found in **NitriSmart** are common microbes re-trained to supply N, P & K.

- **NitriSmart** does not contain any genetically modified organisms.

- The addition of **NitriSmart** to broadcast fertilizers will reduce the quantity of nitrates and phosphates entering the water supply.

- **NitriSmart** enriches soil with organic matter & biological activity.

- Prolonged use of **NitriSmart** will restore soil balance and improve soil physical and chemical properties.

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**Turf Root Weight Trial Conclusions:**

"...NitriSmart treatments revealed higher root masses versus the Controls...the averages for the NutriSmart treatments were higher versus the Controls thus revealing potential advantages as a soil amendment for root growth and reducing fertilizer inputs. ...In other words, less total nitrogen was applied with these treatments and still produced substantial rooting."

**Tomato Trial:**

In this trial, researchers compared tomato production amongst plants fertilized with urea as the primary nitrogen source vs. plants fertilized with various Urea:NutriSmart blends. Urea:NutriSmart blends ranged from full GSP plus 10% NutriSmart up to 40%GSP:60% NutriSmart.

Washington DC: NutriSmart treatments were equal to or better than the production of plants fertilized with the GSP.

*ACDS Research, Inc., NY*
How **SMART** is NutriSmart? **You Decide!**

Listed below (on the Plant Leaf Analyses Table) are the plant tissue analysis results for field corn grown at four different locations in the Mid West. The growers applied fifty (50) pounds of NutriSmart per acre to their standard fertility programs. NutriSmart was broadcast over snow in the winter or applied in deep trench tillage after harvest.

These results are evidence of NutriSmart’s “smart” relationship with the plant roots. Three of Four Case Studies show sufficient micro nutrition for 92% or more of the parameters measured. Do your tissue tests show the same results? If not, think NutriSmart!

<table>
<thead>
<tr>
<th>Plant Leaf Analysis Reports</th>
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</thead>
<tbody>
<tr>
<td><strong>Nutrients</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Nitrogen (%)</td>
</tr>
<tr>
<td>Sulphur (%)</td>
</tr>
<tr>
<td>Phosphorous (%)</td>
</tr>
<tr>
<td>Potassium (%)</td>
</tr>
<tr>
<td>Magnesium (%)</td>
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<tr>
<td>Calcium (%)</td>
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<tr>
<td>Sodium (%)</td>
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<tr>
<td>Boron (ppm)</td>
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<tr>
<td>Zinc (ppm)</td>
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<tr>
<td>Manganese (ppm)</td>
</tr>
<tr>
<td>Iron (ppm)</td>
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<tr>
<td>Copper (ppm)</td>
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<tr>
<td>Aluminum (ppm)</td>
</tr>
</tbody>
</table>

Sufficient or higher: 92% 100% 77% 92%

**ECO-friendly, ENVIRONMENTALLY sound**

**safe & ECONOMICAL**

**easy to apply**

**NutriSmart - developed with the GROWER in mind!**

- **NutriSmart** performs for the long-term so it only needs to be applied every 3 - 5 months, saving growers and turf managers time and money.
- **NutriSmart** is safe for growers and consumers.
- **NutriSmart** is effective. Worldwide commercial use and independent trials have documented the benefits of adding NutriSmart to conventional fertilizer programs.
**NutriSmart** - developed with the **FUTURE** in mind!

**NutriSmart** allows growers and turf managers to manage their fertility programs with less chemical fertilizer and minimal nutrient leaching.

Each NutriSmart application improves the soil’s structure and ability to support microbial activity critical to plant nutrition and health.

**NutriSmart Chemical Reduction Program:**
- Emphasizes “Use Efficiency” rather than chemical rate.
- Nourishes and sustains the soil’s biodiversity.
- Integrates chemical and organic/biological fertilizers.
- Maintains or improves crop productivity, quality & safety.
- Is user friendly & cost effective.

Growers and turf managers will bear increasing responsibility for protecting their ecosystem and that of the surrounding community. They will have to maintain or increase production and quality using fewer available tools; some of the traditional pesticides and herbicides may not be available and water quality standards will restrict conventional fertilizer usage. NutriSmart helps growers transition to the new paradigm of responsible agricultural and turf management.

**NutriSmart – For a New Generation of Fertility Programs:**
- Replacing 10 – 25% of conventional or high-quality organic fertilizers with NutriSmart is an ideal program to implement modern agriculture practices, e.g. **IPNS** (Integrated Plant Nutrient System), **SAP** (Sustainable Agricultural Practices) & **LEIA** (Low External Input Agricultural Systems).
- NutriSmart is an economical and effective solution for improving soil quality & supporting sustainable agriculture.
- NutriSmart is the ideal technology to improve the Nutrient Use Efficiency (**NUE**) of chemical fertilizers.
- NutriSmart is suitable for use in conventional and organic farming (**NutriSmart-B** only).

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**Which ****NutriSmart** is Right for You?**

**For Conventional Growers**

**NutriSmart**

- 0-5-0
- 70% Leonardite and Lignite
- 20% Phosphate Rock
- 5 – 8% Starch and molasses
- 2 – 4 % Patented Yeast powder
- **Contains 30% Total Organic Matter**

**For Organic Growers**

**NutriSmart-B**

- 0-0-0
- 93% Leonardite and Lignite
- 6% Starch and molasses
- 1% Patented Yeast powder
- **Contains 35% Total Organic Matter**

**NutriSmart and NutriSmart-B come is several SGN sizes. There is a NutriSmart for every application.**

- **SGN 100** For short cut grasses, tees, greens, etc.
- **SGN 150** For short cut grasses, tees, greens, fairways, etc.
- **SGN 250** For agricultural applications, residential commercial lawn care, lawn care, lawn and garden fertilizers, etc.
- **SGN 350** For agricultural, turf and ornamental broadcast applications, etc.

**NutriSmart is easy to apply. And, unlike other humate products, NutriSmart is a dust-free product with uniform granules.** (See photo, left)

**Much cleaner and safer to use!**
Application Instructions

Turf Applications:

1. For use as an Aerification Amendment:
   - Aerify Surface to be treated
   - Broadcast 200-350 pounds of NutriSmart
   - Drag NutriSmart into Holes
   - Top-dress as normal

   **Note:** Apply NutriSmart at each aerification. Do not exceed 750 pounds of NutriSmart per year.

2. For use with conventional and organic fertilizers
   - Replace 10 – 30% of soil applied granular NPK with an equal amount by weight of NutriSmart.
   - Apply as normal and follow same application schedule as normal fertility program.

Agricultural and Other Applications:

1. For use with conventional & high quality organic granular fertilizers:
   - Replace 10 – 30% of soil applied granular NPK with an equal amount by weight of NutriSmart.
   - Apply as normal and follow same application schedule as normal fertility program.

2. For use with manures:
   - Replace 25 – 50% of manure with the rates listed below.
   - Apply as normal and follow same application schedule as normal fertility program.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slow-growing or low nutrient demand crops (rice, etc.):</td>
<td>200 – 350 lbs/Acre</td>
</tr>
<tr>
<td>Fast-growing or high nutrient demand crops (vegetables, trees):</td>
<td>400 – 900 lbs/Acre</td>
</tr>
</tbody>
</table>

NutriSmart’s effect on soil leaching

**University** trials and commercial experience show:

- NutriSmart significantly reduces amounts of \( \text{NO}_3^- \) & \( \text{PO}_4^{3-} \) in soil leachate when compared to chemical fertilizer
- NutriSmart increases the amount of water retained in the soil
- NutriSmart alleviates leaching problems that may be caused by the use of conventional fertilizers

How does NutriSmart work?

NutriSmart’s blend of naturally occurring microbes work together to convert the resources found in the soil and atmosphere into usable, available plant nutrients.

The specifically selected microbes contained in each NutriSmart granule form a symbiotic community of mutually interdependent nutrient-releasing microorganisms.

The microbes in NutriSmart are in a dormant state during storage, and only activate when the granules are applied and irrigated into the soil.
Benefits of pre-blending NutriSmart with conventional or organic NPK fertilizers

**Benefits to Crops & Turf**
- Improves & sustains plant growth/yield.
- Improves crop quality.
- Provides long efficacy; delivers nutrients throughout the growing cycle.
- Supports healthier plants - improves the development of root system.

**Example:**
China
Crop: Rice
Results: Yield increased by 10%
NUE increased by 50%

**Benefits to the Environment**
- Reduces rates of chemical fertilizer application; reduces amount of salts entering the ecosystem.
- Is Natural & Environmentally Friendly.
- Significantly reduces pollution caused by the leaching of excess nitrogen.
- Improves the soil quality – increases the soil organic matter & improves soil environment for beneficial microorganisms.

**Benefits to Fertilizer Blenders**
- NutriSmart increases the fertilizer/N, P, & K nutrients use efficiency.
- NutriSmart enables product differentiation in existing and new markets: Meeting UN/FAO recommended agricultural system e.g. IPNS & balanced fertilization.
- NutriSmart blends easily with a full range of chemical products.
- NutriSmart is readily available and price stable.
- NutriSmart enables environmentally friendly claims: creates a better image and corporate citizenship.

**Example:**
Korea
Pre-blended NutriSmart + 11-10-12 + coated urea
Blended Result: 11-4-5

with 40% NutriSmart