

# ProfitPro<sup>®</sup>AG Farm Report

September 2019

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More from Every Acre, Every Animal  
& Every Gallon of Manure

## Crop Management News

by Dr. Jim Ladlie, ProfitProAG President

### Controlling Cost and Improving Profitability in Crop Production

#### Tillage Systems and Nutrient Placement

Regenerative and sustainable farming systems can be repeated indefinitely without a negative impact to the environment, food chain and consumer.

It results in:

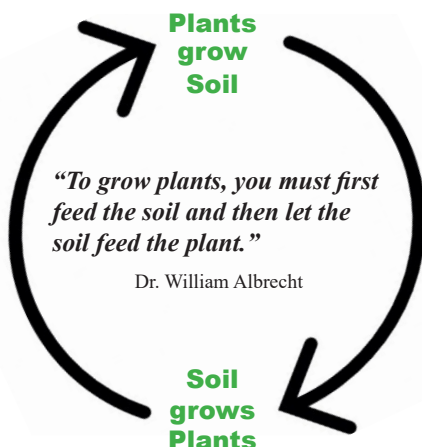
- A net gain in soil productivity
- Carbon fixation in humus
- Nutrient density to food and fiber
- Improved air & water quality
- Sustainable & profitable animal production
- Net improvement in consumer health
- Improvement in profitability



The soil and plant should be considered as one interconnected and interdependent living system. The better the soil, the better the plant. Improvement in soil health, plant health, quality and yield should cascade from year to year.

It all starts by improving and maintaining soil health. It is the firm foundation to produce more with less. Healthy soils produce healthy crops and reduce the reliance on excess tillage and fertilizer.

The following are basic principles that need to be implemented to build and maintain healthy soils and renewable farming systems:



- Use plant diversity to increase soil organic matter and biodiversity in the soil
- Manage soils by disturbing them less
- Keep plants growing as much as possible throughout the year to feed the soil
- Keep the soil covered as much as possible

***“If you want to make money, you must mimic Mother Nature.”***

#### FREE Teleconference Calls

##### Agronomic/Livestock

3<sup>rd</sup> Thursday of the Month

**September 19, 2019**

##### Call #

1-855-212-0212

##### Meeting ID #

769-100-082#

##### Time

8 to 9 pm Central Time

**For More Information  
or to find a Consultant  
in Your Area**

Call **1-888-875-2425**

Ask about the **ProfitMaster<sup>™</sup>**  
**Full-Circle System** and the  
**Manure Master<sup>™</sup> Program**

[www.profitproag.com](http://www.profitproag.com)

**Manure Mechanical  
DEFOAMER**

*A Fast-acting  
Mechanical  
Defoamer  
to Control  
Manure Foam  
at Pump-out*

~ All Natural  
Plant-based  
Oils ~

**Manure Defoamer** is an extremely effective and fast-acting liquid manure mechanical defoamer during pump-out. Apply **Manure Defoamer** at pump-out to knock down mechanical foam. By using **Manure Defoamer**, full pump-out or manure tanker capacity can be achieved.

For more information call  
**1-888-875-2425**



Innovative Manure Management

**manuremaster.com**

***“The Manure Treatment Experts”***

# ProfitCoat PB

## Biological Seed Coating

**ProfitCoat™ PB** is a dry organic seed coating that promotes uniform emergence, increased seedling vigor, enhanced root health and standability throughout the growing season. It contains beneficial microorganisms that will colonize the germinating seedling root and boost the biology in the rhizosphere. The consortium of beneficial bacteria and fungi fix nitrogen, improve availability and solubility of plant nutrients in addition to enhancing the plant's health. The coating contains a seed lubricant and up to 75 trace elements to support the microbes and seedlings during initial stages of growth. ProfitCoat PB is recommended for use on all plant seeds and is available with organic soybean inoculant (ProfitCoat PB + OSI). ProfitCoat PB is a "seedling and season-long plant health enhancement system."

**ProfitCoat PB Enhances the Performance of Seeds**

ProfitCoat PB is made with organic compliant materials and can be approved by organic certifying agencies for USDA-NOP programs.

## Critical Success Factors in Corn Production

Nutrient concentration and plant uptake is optimized when fertilizer is banded (Figure 1).

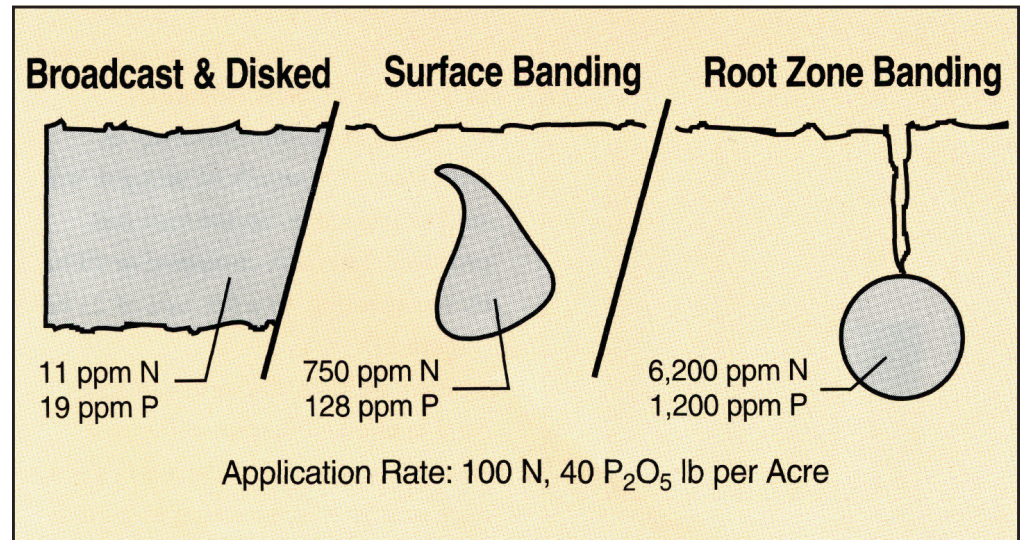


Figure 1. Comparing broadcasting, surface banding and subsurface banding

Source: Fluid Journal, Vol. 6, No. 3, Issue #22, Summer 1998

## Biological Seed Coating System

**Enhanced Advantages & Benefits**

- ✓ Germination & Vigor with On-Seed Delivery
- ✓ Microbial Colonization of Seedling Root
- ✓ Early Vigor
- ✓ Root Mass
- ✓ Plant Health
- ✓ Stem Diameter
- ✓ Standability
- ✓ Soil Biology
- ✓ Yield, Quality & Dry Down

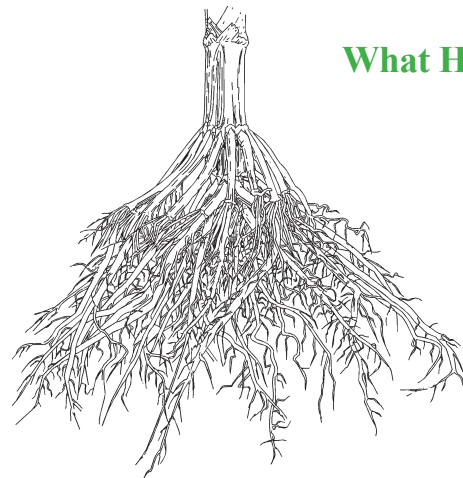
**ProfitCoat PB increased top growth 37% and root growth 42% at 12 days!**

For more information, call ProfitProAG at 1-888-875-2425 (toll free) or go to [www.profitproag.com](http://www.profitproag.com) to find a Service Rep in your area.

**ProfitProAG**  
Made in the U.S.A.

GUARANTOR: ProfitPro, LLC  
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## What Happens to Nutrients Inside a Band?



- Tie-up with residue decreases
- Uptake in moist soil increases
- Fixation is reduced
- Nitrogen enhances phosphorus uptake
- Efficiency increases

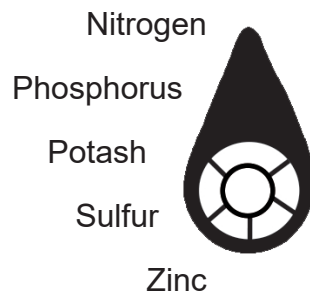


Figure 2.  
What happens to nutrients inside a band

Source: Agri-Growth, Inc., Hollandale, MN

# Advantages with Strip-till in Row Crop Farming

## — SOIL QUALITY ISSUES —

### Infiltration Rate Improvement:

(Initial first inch – dry condition)

Strip-till .....	3:44 - 1:02 - 1:40 min/inch
Conventional-till .....	7:51 - 3:12 - 19:11 min/inch

#### Strip-till

- 2002 - avg 2.82 in/hr
- 2003 - avg 2.94 in/hr

#### Conventional-till

- 2002 - avg 0.65 in/hr
- 2003 - avg 0.49 in/hr

### Organic Matter Improvements/Changes:

	<u>2000</u>	<u>2001</u>	<u>2002</u>
Strip-till	1.54%	1.63%	1.74%
Mulch-till	1.59%	1.60%	1.63%
Conv-till	1.58%	1.58%	1.58%

USDA-ARS Soil Scientist, Dr. Ron Follett, is working on a cooperating project to carbon sequestration in the IRF long term comparison plots and is finding we are storing approximately 990 lbs/acre of carbon each year in the strip-till.

#### After Three Years of Strip-till - Conventional-till Demo Project Worm Counts/sq 10 inches — 2003

Strip-till .....	average = 15 worms/sq 10 inches
Conventional-till .....	average = 5 worms/sq 10 inches
Conventional-till .....	average = 1 worm/sq 10 inches w/anhrous fert

### Root Development Changes:

At 95 - 100 days after corn emergence (max depth)

<u>Tillage</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>
Strip-till	70"	52"	72"
Mulch-till	72"	49"	66"
Conv-till	56"	40"	54"

### Root Dimension – Volume & Root Length:

Comparison of Strip-till to Conventional-till

<u>Tillage in 2002</u>	<u>Cu Inches</u>	<u>Linear Length</u>
Strip-till	15,800	10,350 in
Conv-till	8,800	3,300 in

<u>Tillage in 2003</u>	<u>Cu Inches</u>	<u>Linear Length</u>
Strip-till	18,300	28,170 in
Conv-till	15,100	9,990 in

	<u>Length</u>	<u>Volumetric</u>
<b>Strip-till in 2002</b> to Conventional-till	4.8X better	1.7X better
<b>Strip-till in 2003</b> to Conventional-till	2.8X better	1.2X better

## — ECONOMICS — Dollars & Cents

### Corn Yields

#### Gross Output Dollars:

	<u>2001 (\$2.00/bu)</u>	<u>2002 (\$2.75/bu)</u>	<u>2003</u>
Strip-till	\$408.00	\$654.50	
Conv-till	\$386.00	\$621.50	

### A Short List of the Great Advantages

- Fewer trips across the field with implements
- Moisture savings throughout winter and on into late spring
- Less labor, fuel, time
- Better for soil resources
- Reduce wind and water erosion to near “Zero”
- Fewer weed pests
- Can better place nutrients for max production potential
- Improve soil biology/ecology
- Improve water infiltration and storage
- Improve root development
- Decrease irrigation by up to 25% of normal consumptive use
- Carbon sequestration



# A No-till System Approach to Regenerative Agriculture



## Cross Slot®

NO-TILLAGE SYSTEMS



"YOU CAN USE CROSS SLOT OR NO-TILL IT, KNOW THE DIFFERENCE"

www.CrossSlot.com

### CROSS SLOT YOUR ONE-STOP NO-TILL SEEDING TECHNOLOGY

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Wheat harvest of Cross Slot seeding  
Wolf Farm  
Washington State



## FIELD BENEFITS OF CROSS SLOT SEEDING

### ONE-PASS NO-TILL CROP ESTABLISHMENT

#### CROPS AND ROTATIONS

- ◆ Cross Slot drills seed all common agricultural crops and combinations.
- ◆ Yields—Extensive research and field experience has shown equal and improved yields compared with minimum and conventional tillage seeding.

#### NO-TILL SOILS

- ◆ Cross Slot drills seed precisely into almost all agricultural soils.
- ◆ Cross Slot drills readily adjust to variable moisture, density and friability.

#### SEEDING DEPTH SENSOR

- ◆ Each seeding opener down force is hydraulically controlled and independent of vertical travel.
- ◆ Required down-force for variable soil conditions is continuously monitored and automatically adjusted by an electronic sensor.

#### BANDED FERTILIZERS WITH SEEDING

- ◆ Fertilizer is banded adjacent to the seed through the same opener with no emergence reduction.
- ◆ All forms and combinations of fertilizer are possible: dry, liquid, anhydrous.

#### RESIDUE MANAGEMENT

- ◆ Heavy residue is no problem, either standing or down.
- ◆ No pre-seeding residue management is needed.
- ◆ Residue is returned over seed row with no 'tucking/hairpinning' problems in seed furrow.

#### VARIABLE SEED AND FERTILIZER

- ◆ Seed and fertilizer rates are variable by drill sections and field zones.



Dry land canola, WA, USA





◆ "With such low disturbance, the micro-organisms and worms have taken over this ground and brought it back to life"  
**Dan & Ben Wolf**  
 Washington State Farmers



30' (9m) Cross Slot drill, Alberta, Canada

## ECONOMIC BENEFITS OF CROSS SLOT SEEDING COMPARED WITH TILLAGE AND MINIMUM-TILLAGE

### DECREASED COSTS

- ◆ Seed rate is reduced by high germination and emergence.
- ◆ Fuel costs, labor and tractor time – save up to 60%.
- ◆ Capital costs are similar to tillage – operating costs are much less.
- ◆ Machinery replacement and maintenance are less frequent.

### DECREASED SOIL DEGRADATION

- ◆ No compaction – minimal tillage, flotation tires.
- ◆ Low-disturbance drilling reduces moisture loss – otherwise every tillage pass can lose 0.5 in (12 mm).
- ◆ Reduced irrigation frequency from conserved moisture.
- ◆ Stones are progressively buried – not brought to the surface.

### DECREASED ENVIRONMENTAL IMPACTS

- ◆ Less erosion-wind and water – minimum dust and runoff.
- ◆ Less CO<sub>2</sub> emissions.

### INCREASED YIELDS

- ◆ Equal or better than tillage seeding.
- ◆ Excellent emergence and establishment.
- ◆ Banded fertilizer efficiency.
- ◆ Flexible cover-crops established and re-cropped.

### INCREASED SOIL HEALTH

- ◆ Organic matter – readily builds in first few years.
- ◆ Water infiltration – better porosity – less runoff.
- ◆ Biological variety and numbers improve.
- ◆ Soil trafficability – improved for machinery and livestock.

### INCREASED SEEDING EFFICIENCY

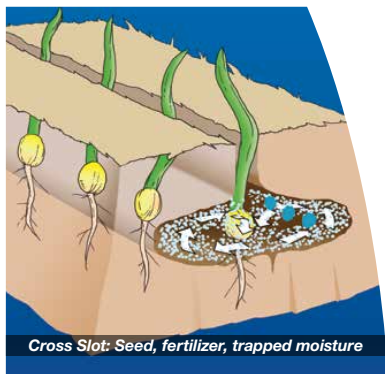
- ◆ Routine seeding speed is 6–9 mile/hr (10–14 km/hr).
- ◆ More acres (hectares) farmed with the same resources – more profit.
- ◆ More time available for management and choices.



Spring wheat emergence, Victoria, Australia



Wheat crops, ND, USA



Cross Slot: Seed, fertilizer, trapped moisture

◆ Readily sows a wide range of crops: grasses, alfalfa, camelina, canola, millet, barley, wheat, oats, rye, corn, peas, soy beans, garbanzos, lentils, sunflowers.



## SEED & FERTILIZER PLACEMENT CROSS SLOT – UNIQUE SEED SLOT

- ◆ Creates unique horizontal seed slots at precise, selected depths, whereas all other openers make vertical slots.
- ◆ Seed on one side, fertilizer placed simultaneously on opposite side, up to annual crop requirements.
- ◆ Residue folded back over the slots reduces moisture loss, provides seedling protection.
- ◆ Opener wheels maintain seed depth and firm closure.
- ◆ Self-closing of both slots ensures positive soil contact.
- ◆ Ultra-low soil disturbance conserves seed zone soil moisture.
- ◆ Positive closure of seed slot traps soil moisture vapor, ensuring rapid germination.



Cross Slot sod furrow: seed & fertilizer



Cross Slot opener







40' (12m) wing-up Cross Slot drill



◆ Banding gives even emergence and increased, high quality yields  
**Steve Berger at a Larson Farm field day**

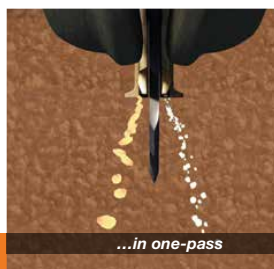


## FERTILIZER BANDING SIMULTANEOUS WITH SEEDING

- ◆ Fertilizer banded with the same disc opener that sows the seeds (true one-pass).
- ◆ Dry, liquid, gaseous or combination fertilizer banded simultaneously with seeding.
- ◆ Fertilizer banded at seed depth or deeper.
- ◆ Separated from seed 0.5–2 in (1.5–5 cm).
- ◆ Fertilizer banding is unaffected by soil moisture, form, residues, or speed.
- ◆ One pass fertilization, lb/ac (kg/ac) rate up to annual crop requirements with no emergence effect.
- ◆ Field tested up to 300 lb/ac (330 kg/ha) urea dry fertilizer.
- ◆ Soil disturbance minimal and confined to sub-surface (non-inversion).
- ◆ True, one pass, low-disturbance, no tillage seeding.



Seed & fertilizer placement...



...in one-pass



Unbanded fertilizer

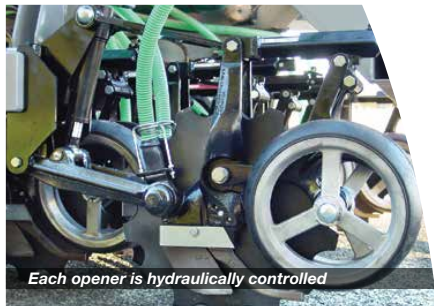
Banded fertilizer



Cross Slot seed and fertilizer placement



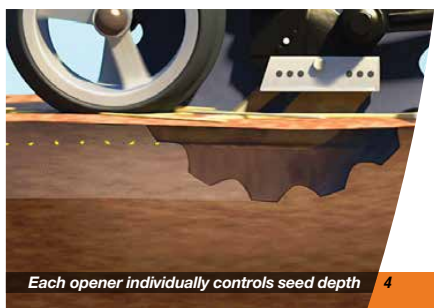
Sunflower crop



Each opener is hydraulically controlled



Automatic down force control unit in tractor cab



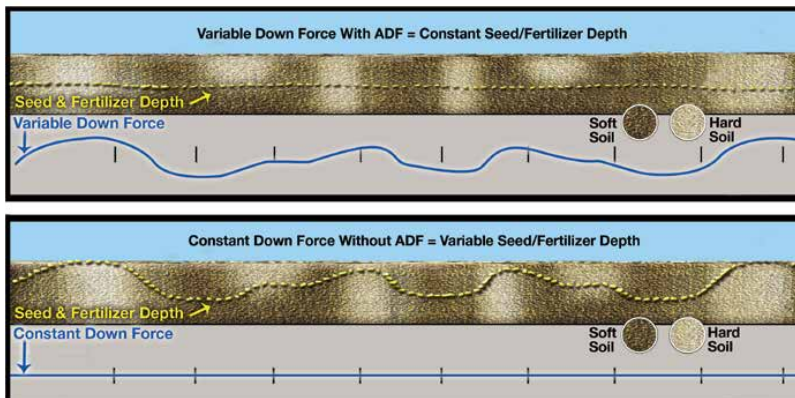
Each opener individually controls seed depth



## SEEDING DEPTH CONTROL THE MOST IMPORTANT PERFORMANCE REQUIREMENT

- ◆ Uniform, correct seeding depth is of utmost importance to crop stands and yields.
- ◆ Achieving uniform seeding depth in no-till fields is difficult because of variable surfaces and soil densities.
- ◆ Cross Slot drill engineers have superbly mastered this uniform depth requirement.
- ◆ Each opener is hydraulically controlled to provide the required down-force, up to 1000 lb (454 kg) down-force per opener.
- ◆ Down-force is independent of vertical adjustments for soil surface variations.
- ◆ Depth control and minimal soil disturbance provides near maximum seed emergence.
- ◆ Seeding rates can be reduced due to improved emergence.
- ◆ Electronic sensors continuously monitor and re-adjust the down force required to maintain the set seed depth.
- ◆ Automatic down force (ADF) samples 10 times per second and adjusts 3 times per second.

### Depth Control by Automatic Down Force (ADF)







Seeding into 100 bu/ac (6.7t/ha) wheat residue



Constant seed depth = consistent results



Seeding into 100 bu/ac (6.2t/ha) corn residue



## RESIDUE MANAGEMENT

### CROSS SLOT SEEDS IT ALL

- ◆ Pre-seeding plant residue management is usually not required.
- ◆ Manages any form, type or quantity of residues with only a depth adjustment.
- ◆ Residues are replaced over the horizontal shelves by the depth wheels.
- ◆ No residue enters the seed zone which avoids 'hairpinning' – a common problem with other openers.
- ◆ Existing field residues are retained without redistribution.
- ◆ Residue reduces rainfall impact and runoff (erosion), reduces evaporation (more soil water) and provides organic matter.
- ◆ Residues attract earthworms to the slot zone.
- ◆ Grain crops produce 3–4 tons of residue per acre worth \$75–100 in nutrients, moisture and yield gains.
- ◆ Don't waste it – use Cross Slot!



Seeding peas into heavy grass residue



Peas emerging through heavy residue



Extensive early root growth & earthworm activity



Excellent crop stand



Uniform crop emergence



Cross Slot drill

Hoe drill



Uniform crop emergence matters



## CROP EMERGENCE

### PRODUCTION DEPENDS ON HIGH STAND ESTABLISHMENT

- ◆ Top Left Photo: One pass crop seeding by Cross Slot.
- ◆ Left Centre Photo: Winter canola seeded side by side on the same day, Cross Slot drill on the left side and a common hoe drill on the right side.

Seeding rate for both drills was 3 lb/ac (3kg/ha), no fertilizer was applied to either at the time of seeding in a dry-land area of 8–10 in (20–25 cm) annual rainfall.

Left Center & Lower: Photo taken approximately four weeks after seeding.

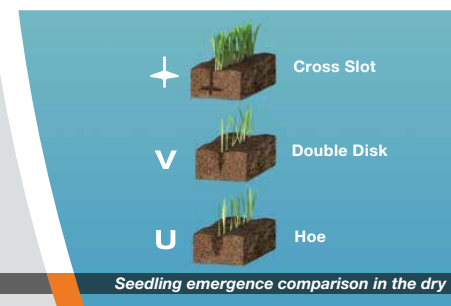
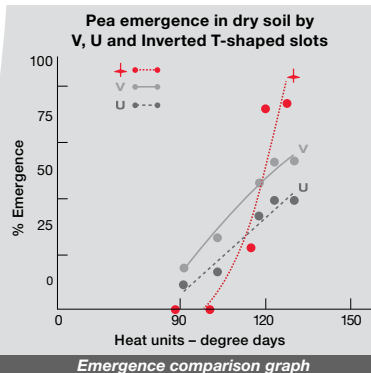
- ◆ Right Centre Photo: Cross Slot provides the capability to seed on the previous crop row to capture higher organic matter, fertility and moisture.



Cross Slot seeded winter wheat root growth



Seeding on the previous crop row





# 2020 Early Order Product Cash Discount Program

- All products on conventional and organic price sheets (except for products listed below).
- The Early Order Product Cash Discount Program (E.O.P.C.D.P.) is for 2020 crop year inputs.

Deadline Discount Dates	2020 Retail Early Order Product Cash Discount <sup>1,2</sup>
September 1 – 30, 2019	12%
October 1 – 15, 2019	10%
October 16 – 31, 2019	9%
November 1 – 15, 2019	8%
November 16 – 30, 2019	7%
December 1 – 15, 2019	6%
December 16 – 31, 2019	5%
January 1 – 15, 2020	4%
January 16 – 31, 2020	3%
February 1 – 29, 2020	2%

<sup>1</sup>Cash or check

<sup>2</sup>Products **NOT** included in the 2020 Early Order Product Cash Discount Program:

- Commercial fertilizers
- Manure pit treatment products
- Services
- Equipment
- Human products

**For more information or to place an order call:**

**Chris Chodur** – 507-402-4195 (cell) / [cchodur@profitproag.com](mailto:cchodur@profitproag.com)

**Dennis Klockenga** - 320-333-1608 (cell) / [dklockenga@profitproag.com](mailto:dklockenga@profitproag.com)

**Dr. Jim Ladlie** – 507-383-1325 (cell) / [jladle@profitproag.com](mailto:jladle@profitproag.com) or call ProfitProAG at 1-888-875-2425

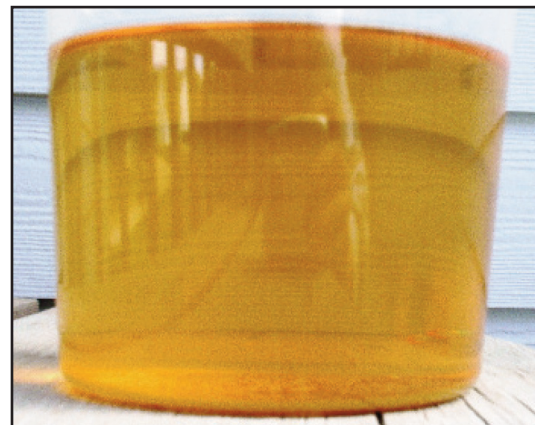


## NPF<sup>TM</sup> (Natural Plant Food) for Conventional and Organic Crop Production

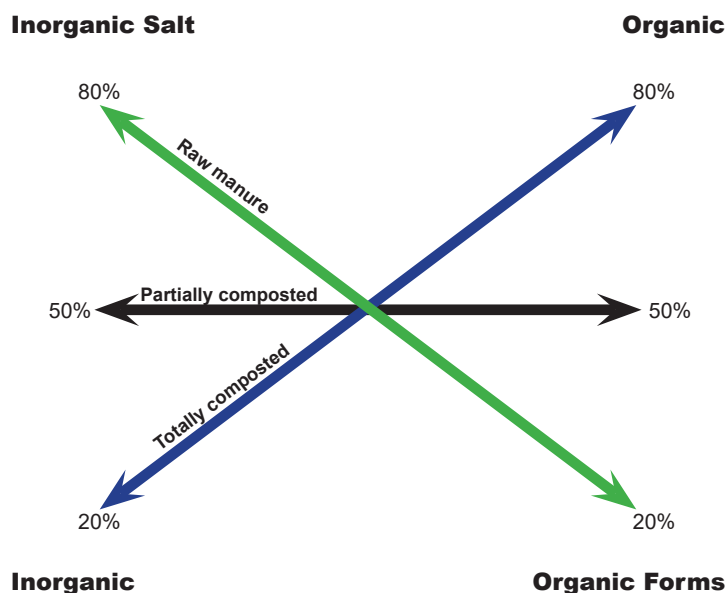
- ☒ NPF is a natural plant nutrient and microbial rich solution.
- ☒ NPF is derived from microbial-composted, liquid manure.
- ☒ This enzymatic process leaves a light brown to a golden clear odorless solution that can be applied as a starter, foliar and in other plant nutrient applications or as a carrier for glyphosate rather than water.

### Organic versus Inorganic

- ☒ NPF is higher in organic plant nutrients versus commercial fertilizer or raw manure that are inorganic.
- ☒ Organic plant nutrients are four to five times more efficient than inorganic for plant uptake and utilization.
- ☒ To be in the organic form, a carbon molecule complexed with the nutrient is required.
- ☒ To get carbon complexed to any nutrient, biology is needed.
- ☒ During the composting of raw manure, microbes convert high salt inorganic nutrients into highly available organic nutrients.



Strained NPF for use as a non-burning (low salt), non-odorous organic nutrient and microbial rich solution.



The NPF organic plant nutrient and microbial rich solution stimulate the root and leaf microflora. Healthy roots and leaf microflora with help reduce the likelihood of disease and maximize nutrient and moisture uptake.

Growers/producers are encouraged to contact their organic certifier before using this product.

Made in the U.S.A.

## NPF Usage Rates

NPF can be applied by itself at the following usage rates. A ProfitProAG Crop Management Consultant can help you determine application rates of NPF and if additional conventional/organic plant nutrients would be required.

Uses	Rates/Acre	Price/gal (bulk)
Crop residue decomposition	10 to 20 gal or more	NPF is \$0.63/gallon bulk
Starter in-furrow	5 to 10 gal	NPF is \$0.63/gallon bulk
Broadcast/band/strip-till	20 gal or more	NPF is \$0.63/gallon bulk
Foliar	10 gal	NPF is \$0.63/gallon bulk

Note: Price may change at any time and without notice

**ProfitProAG's NPF delivers energy, nourishment, healthy roots and leaf surface for your crop throughout the growing season.**





## Featured Product of the Month



# Eubio-NBS (c10)

## At-application Liquid Manure Enhancer

### PRODUCT DESCRIPTION:

**Eubio-NBS (c10)** is a "Next Generation" Natural Biological Stimulant. It optimizes and stimulates the biological liquid manure medium to help increase already existing natural processes that are essential for healthy soil and plants.

Eubio-NBS (c10) is part of the Manure Master Program.

Eubio-NBS (c10) is biodegradable, non-toxic, non-hazardous, non-corrosive, non-irritating and does not require PPE.

### GUARANTEED ANALYSIS:

Biocatalyst liquid ..... 100%

### INGREDIENTS:

All natural biodynamic liquid supernate.

### USAGE AND APPLICATION RATE:

Eubio-NBS (c10) can be mixed into liquid manure at the rate of 12.8 oz per acre [10 acres per gallon of Eubio-NBS (c10)].

Eubio-NBS (c10) can be metered into the manure tank at the time of filling or agitated into the pit or lagoon. If placing the product into the pit or lagoon, agitate first, then add the product and agitate again to achieve complete incorporation of the product in the manure.

For dragline application, meter product into the manure flow to achieve uniform application and rate per acre.

### STORAGE:

Normal warehousing. Product is freeze/thaw stable. Shelf life three years.

### LIMITATION OF LIABILITY:

Due to system variations and other additives that may be present, please discuss usage of Eubio-NBS (c10) with our technical representative.

Eubio-NBS (c10) has no known negative impact on natural biological processes.

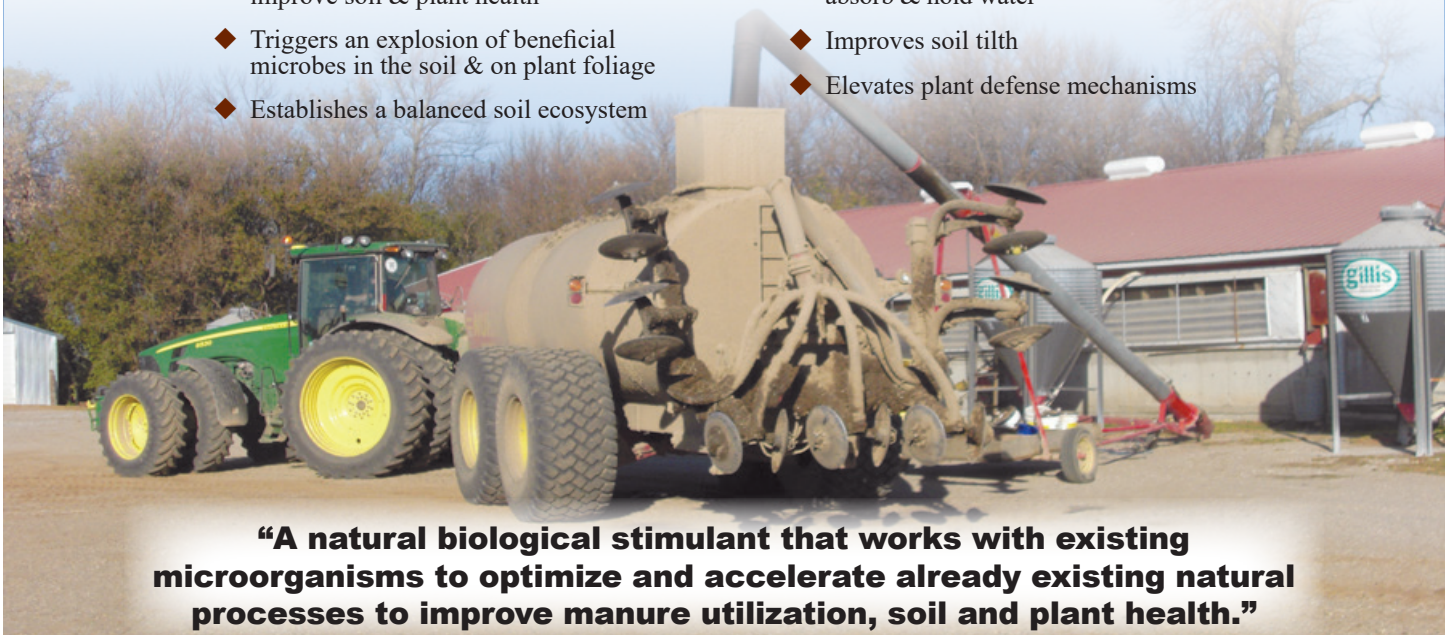
## "Green Regenerative & Sustainable Technology"

# Eubio-NBS

Eubio = Healthy Ecosystem/Life  
NBS = Natural Biological Stimulant

## The Ideal Manure, Soil & Plant Enhancer

- ◆ Enhances the manure and its ability to improve soil & plant health
- ◆ Improves the soil's ability to nourish plants, absorb & hold water
- ◆ Triggers an explosion of beneficial microbes in the soil & on plant foliage
- ◆ Improves soil tilth
- ◆ Establishes a balanced soil ecosystem
- ◆ Elevates plant defense mechanisms



**"A natural biological stimulant that works with existing microorganisms to optimize and accelerate already existing natural processes to improve manure utilization, soil and plant health."**

# **ProfitPro®AG invites YOU to call in on the third THURSDAY of the month for the FREE TELECONFERENCE**

**A cost-effective and convenient way to gain knowledge  
on new crop production technologies**

**It's Easy . . . It's FREE**

**Thursday, September 19, 2019**

**8:00 p.m. Central Time**

## **UPCOMING SUBJECTS**

- **Controlling Cost and Improving Profitability in Crop Production**
- **Advantages with Strip-till in Row Crop Farming**
- **Cross Slot No-tillage Systems**
- **NPF™ (Natural Plant Food) for Conventional and Organic Crop Production**

**Dr. Jim Ladlie, ProfitProAG President, Dennis Klockenga, ProfitProAG Consultant, Matt Wangen, Strip-till farmer and Gavin Porter, Cross Slot V.P. Sales & Marketing** will discuss the upcoming subjects and answer questions.

**For more information visit [www.profitproag.com](http://www.profitproag.com) and click on “Monthly Teleconference.”**

## **DIRECTIONS FOR CALLING IN**

1. Dial the toll free number **1-855-212-0212** at 8 p.m. **SHARP** (Central Time) to get in from the beginning.
2. Enter the meeting ID No. **769-100-082#** (pound or hashtag key).
3. **All calls will be muted when joining the teleconference.**
4. **To ask a question** during the Q & A portion of the program, press \*6 (star six). After asking the question please press \*6 to re-mute your phone.
5. **NO FEE** or pre-registration required.
6. Access the teleconference anytime between 8 to 9 p.m. (CT)