

PAN AG

Agronomy Solution's & Supplies



7 N Nitrogen	20 Ca Calcium			
5 B Boron	26 Fe Iron	28 Ni Nickel	15 P Phosphorus	25 Mn Manganese
17 Cl Chlorine	12 Mg Magnesium	30 Zn Zinc	19 K Potassium	42 Mo Molybdenum
16 S Sulfur	29 Cu Copper			

PRODUCT GUIDE

PAN AG

1603 93rd St NE

Bismarck, ND 58501

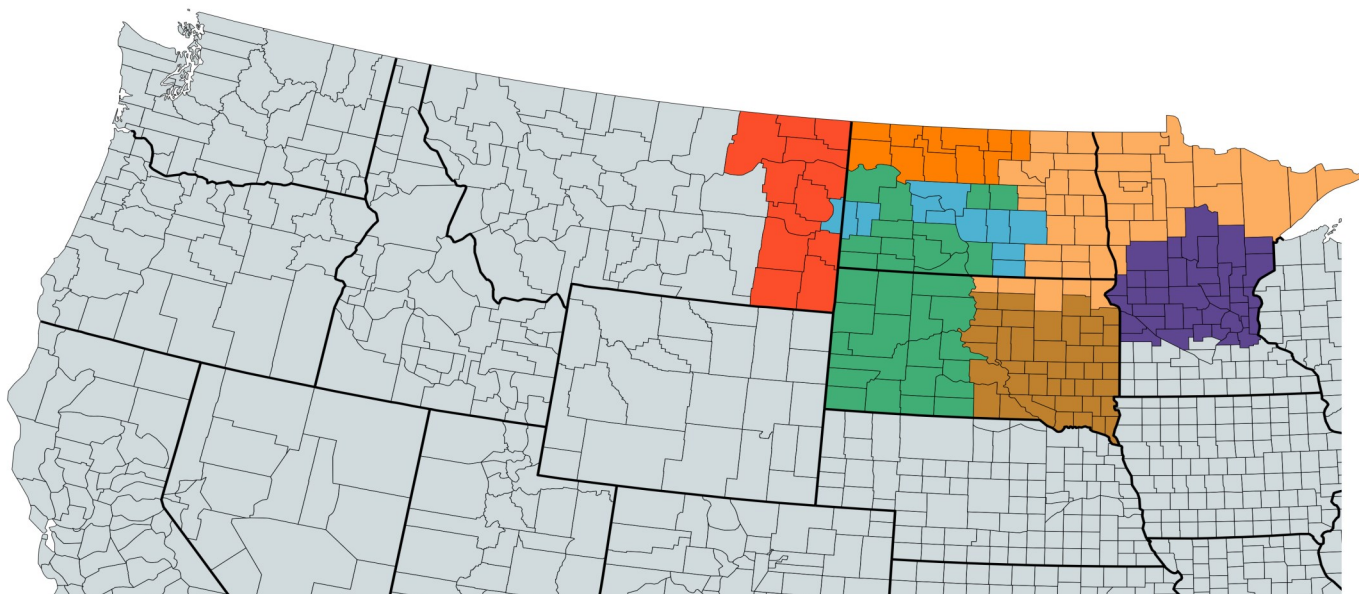
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www.thepanag.com



PAN AG
 Redox
 (701.391.1995)



Just because we've always done it that way doesn't mean there isn't a better way.

OLD SCHOOL



Apply hundreds of pounds of conventional fertilizer because that's what we've always done

NEW SCHOOL



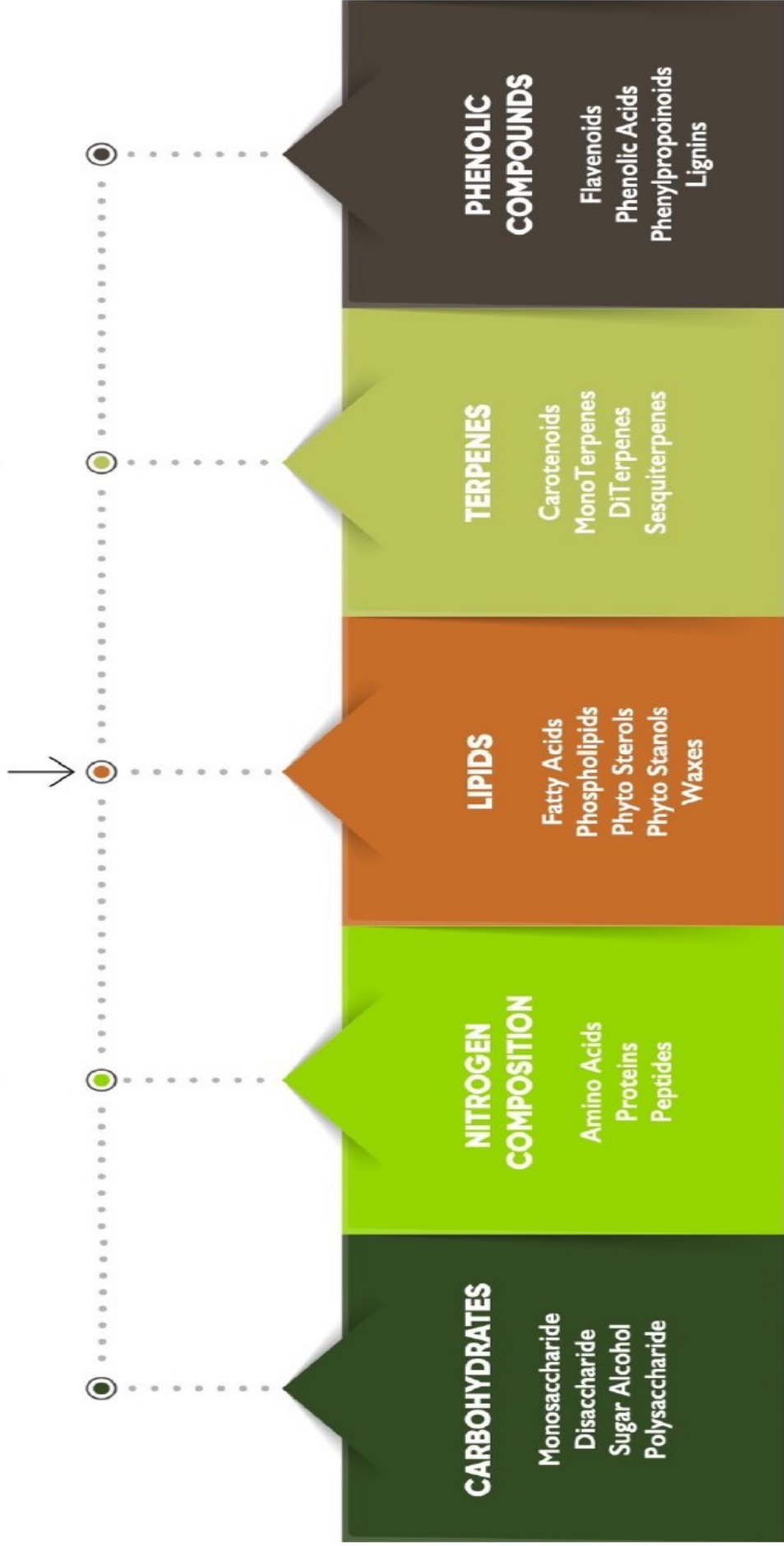
Apply lower rates of bio-nutrients that are plant-available and ready for uptake

IT'S TIME TO TRY SOMETHING NEW.

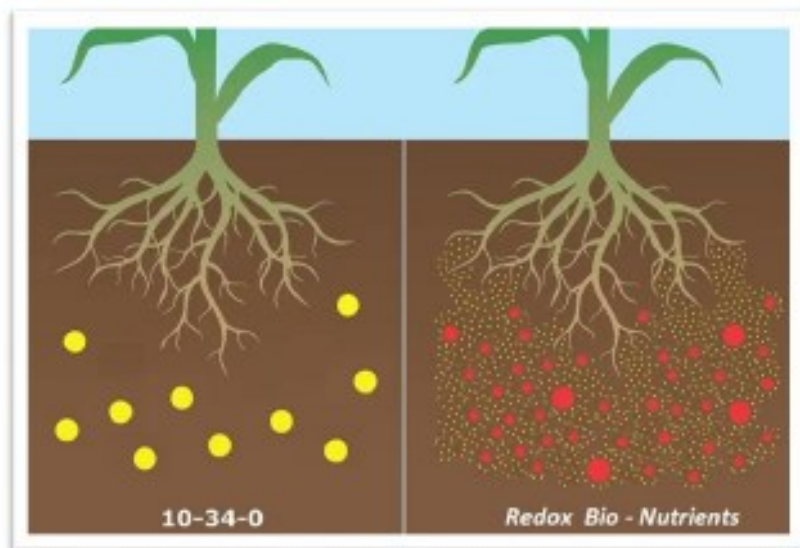


Redox
 BIO-NUTRIENTS

BIOACTIVE CARBON COMPOUNDS



Proficiency on the PLANT UpTake



10-34-0 Liquid
Fertilizer
Comparison
In-Row with
Redox Bio
Nutrients

10-34-0 – Liquid Fertilizer → 2.2 lbs. per 1/Gal

- 5 Gal → 11.0 lbs. Salt x 30 → 330 lbs./Salt/Acres

Redox- Bio Nutrient

- RooteX 2-15-2 ⇒ 32 oz per acre
 - \$15.75 per acre
 - 20:1 over Conventional Materials
- RootRx ⇒ 8 oz per acre ⇒ \$5.44 per acre
 - Optimizes root quality and quantity essential for water and nutrient uptake
 - Increases relative strength and viability of root metabolism
 - Stimulates root development & metabolism under conditions of high abiotic stress

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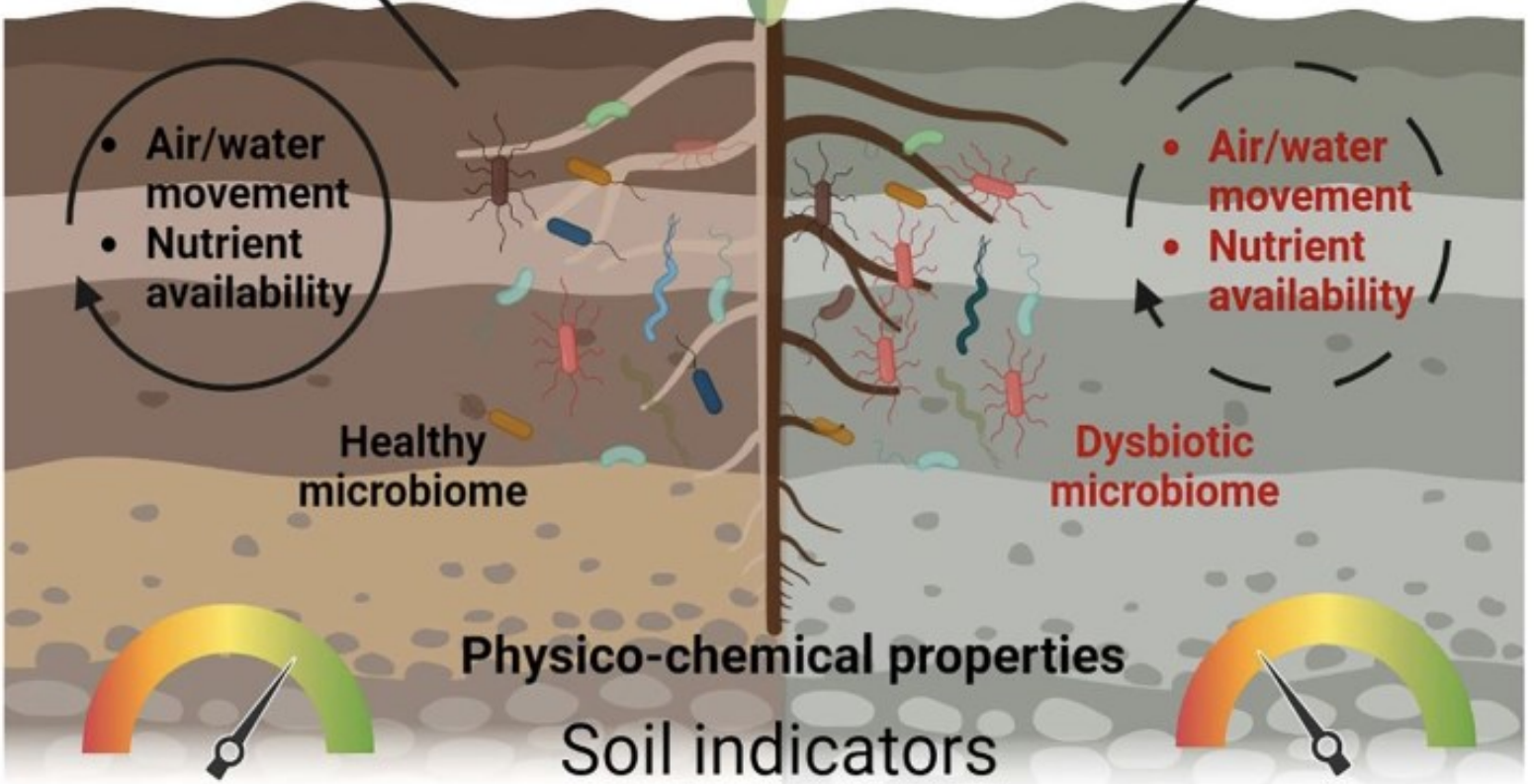
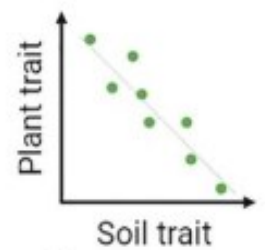
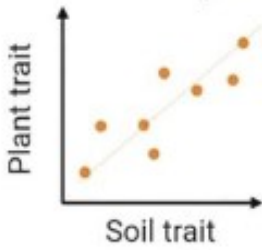
"Good" soil

- High photosynthesis
- High Yield
- Less disease
- Stress Resilience

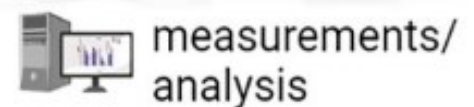
"Bad" soil

- Reduced photosynthesis
- Low Yield
- More disease
- Low stress resilience

Plant health indicators

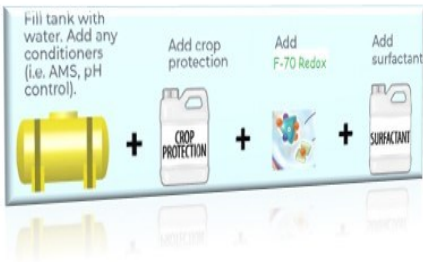
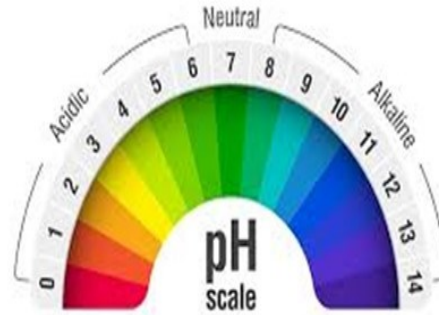


suboptimal optimal



Critical pH's for certain Herbicides and Nutrients

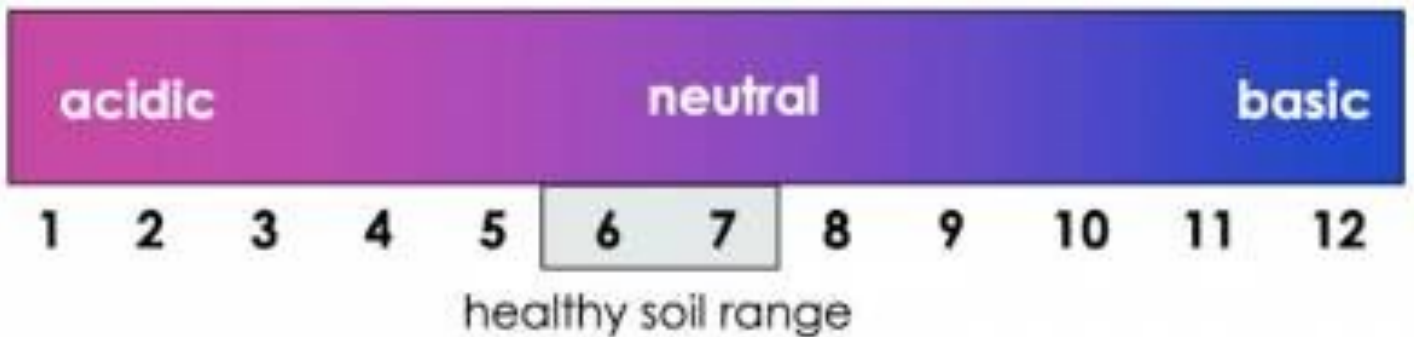
- Glyphosate – 5.0
- Liberty – 5.0
- 2-4D – 4.5 to 7
- Dicamba – 5.0 – 6.0
 - (Cannot be under 5.0)
- Dimethoate – 5.0
- Malathion – 5.0
- Permethrin – 6.0
- Propiconazole – 5.0 to 9.0
- ATTEST – 5.5 to 6.0
- ATTRIA – 5.5 to 6.0
- Nano Products – 4.0 to 6.5
- Organic Oils – 5.0 to 6.0



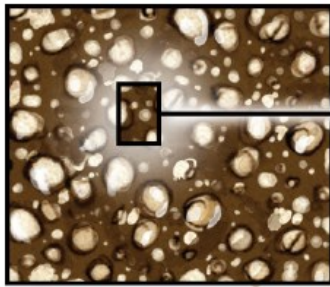
PAN AG





Redox
BIO-NUTRIENTS

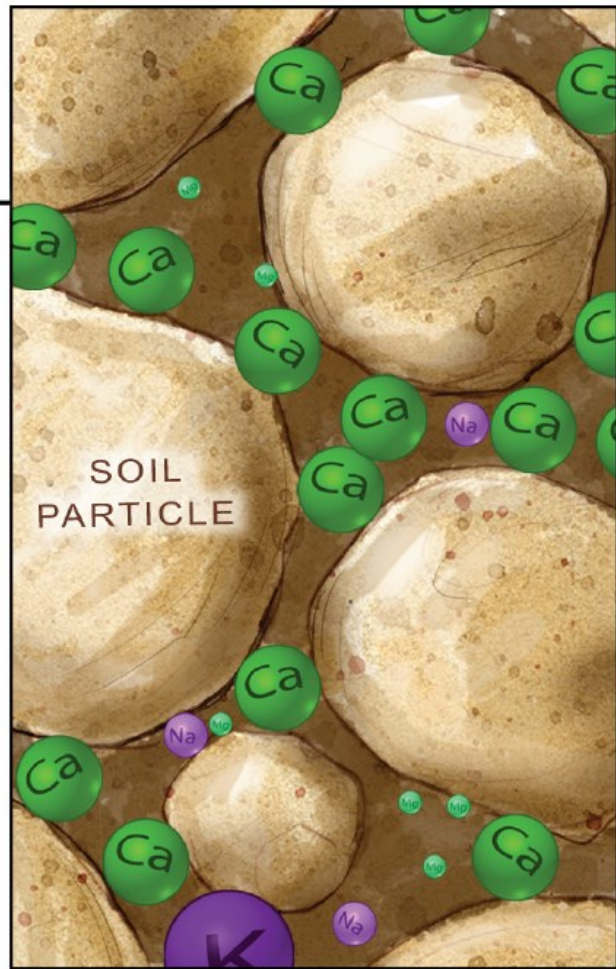
pH scale



Flocculated soil



	Potassium
	Calcium
	Sodium
	Magnesium



Redox

© Alison E. Burke/Cassio Lynn

Nutrients available to the plant

Important ions are bound to useful molecules and are protected from reacting with other ions



NUTRIENTS REQUIRED FOR PLANT GROWTH

Generally available to plants in sufficient quantities through air and water.

NON-MINERAL NUTRIENTS

6 C CARBON	1 H HYDROGEN	8 O OXYGEN
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Available through soil, but usually not through fertilizers.

Deficiencies in these are more common but available through fertilizers.

PRIMARY MACRONUTRIENTS

7 N NITROGEN	15 P PHOSPHORUS	19 K POTASSIUM
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SECONDARY MACRONUTRIENTS

20 Ca CALCIUM	12 Mg MAGNESIUM	16 S SULFUR
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MICRONUTRIENTS

28 Ni NICKEL	26 Fe IRON	25 Mn MANGANESE	30 Zn ZINC	29 Cu COPPER	5 B BORON	42 Mo MOLYBDENUM	17 Cl CHLORINE
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Guide to Nutrient Deficiency Symptoms

Plate IV
Figure 33

CHEMICALS may sometimes burn tips, edges of leaves and at other contacts. Tissue dies, leaf becomes whitcap.

DISEASE, *helminthosporium blight*, starts in small spots, gradually spreads across leaf.

DROUGHT causes the corn to have a grayish-green color and the leaves roll up nearly to the size of a pencil.

MAGNESIUM deficiency causes whitish strips along the veins and often a purplish color on the underside of the lower leaves.

NITROGEN hunger sign is yellowing that starts at tip and moves along middle of leaf.

POTASH deficiency appears as a firing or drying along the tips and edges of lowest leaves.

PHOSPHATE shortage marks leaves with reddish-purple, particularly on young plants.

HEALTHY leaves shine with a rich dark green color when adequately fed.

Drawings: Myrland Pease



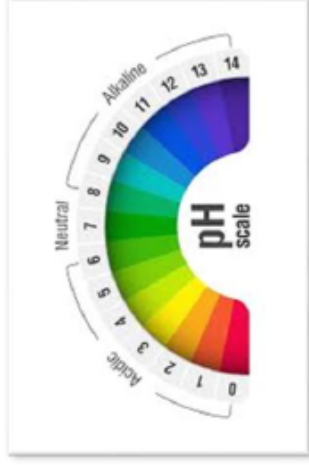


SOIL With a Balanced Fertility Have the Following Acceptable BS RANGES

(BS-Represents the Percentage of the CEC)

BASE Saturation - Adds to 100%

	TI/ PANAG	Other Guys.
(H)	Less Than 10%	2% - 10%
(K)	3% - 6%	4% - 8%
(Ca)	65% - 75%	65% - 80%
(Mg)	10% -15%	12% -14%
(Na)	Less than 1%	Less than 1%



1st Year {{ SOIL TEST NEEDED }}

Salt Level (ppm)	
Above 3 =====>	2 Quarts per acre
1 to 3 =====>	1 Quarts per acre
1 to 3 =====>	
In-ROW with Seed	1 pint per acres

2nd Year { NEED SOIL TEST Again}

Above 3 =====>	
1 to 3 =====>	
1 to 3 =====>	
In-ROW with Seed	

BASE Saturation of Calcium (Ca)	
FOOD GRADE - Calcium Carbonate	
50% and Upper ==>	no extra (Ca)
40% -50% =====>	10 lbs per acre
40% - 35% =====>	15 lbs per acre
35% - 20% =====>	25 lbs per acre
Less than 20% =====>	TT

Pelleted Beetlime ==>	150-200 lbs/per/acre
Gypsum =====>	1000 - 2000 lbs/per/acre
Lime =====>	1000 - 2000 lbs/per/acre

REMINDER ==> (SOIL SAMPLES STILL NEED TO BE TAKING FOR DOCUMENTATION AND TO SHOW RESULTS)



Supreme™ Flowable

INCREASES REPRODUCTIVE GROWTH & NITROGEN METABOLISM



0-5-4

GUARANTEED ANALYSIS

Available Phosphate (P ₂ O ₅)	5.00%
Soluble Potash (K ₂ O)	4.00%
Boron (B)	0.14%
Copper (Cu)	0.3%
Iron (Fe)	0.3%
Manganese (Mn)	0.6%
0.6% Water soluble Manganese (Mn)	
Molybdenum (Mo)	0.003%
Zinc (Zn)	0.6%

DERIVED FROM PHOSPHORIC ACID, POTASSIUM HYDROXIDE, BORIC ACID, COPPER SULFATE, FERROUS SULFATE, MANGANESE SULFATE, SODIUM MOLYBDATE AND ZINC SULFATE

WHY **Supreme™ Flowable?**

PRODUCT USAGE
Wheat. 3rd Leave
Corn. V3—to V5

Mainstay™ Si

FORTIFIES CELL WALL STRENGTH



GUARANTEED ANALYSIS

Calcium (Ca)	10%
--------------	-----

DERIVED FROM CALCIUM SILICATE

ALSO CONTAINS NON-PLANT FOOD INGREDIENT(S)

GUARANTEED ANALYSIS

SOIL AMENDING INGREDIENT(S):

22%	Silicon Dioxide (SiO ₂)
78%	Total Other Ingredients

DERIVED FROM CALCIUM SILICATE

WHY **Mainstay™ Si?**

PRODUCT USAGE
Wheat, Soybeans, Corn,
First Herbicide Application

TriPlex™ MICRO Flowable

IMPROVES MICRONUTRIENT NUTRITION AND NITROGEN METABOLISM



GUARANTEED ANALYSIS

Boron (B)	0.66%
Copper (Cu)	0.66%
Iron (Fe)	2.10%
Manganese (Mn)	2.10%
2.10% Water soluble Manganese (Mn)	
Molybdenum (Mo)	0.01%
Zinc (Zn)	2.10%

DERIVED FROM BORIC ACID, COPPER SULFATE, FERROUS SULFATE, MANGANESE SULFATE, SODIUM MOLYBDATE, AND ZINC SULFATE

WHY **TriPlex™ MICRO Flowable?**

PRODUCT USAGE
Soybeans. STAGE: V1-R1

F-70™ Flowable

IMPROVES NUTRIENT UPTAKE



1-3-3

GUARANTEED ANALYSIS

Total Nitrogen (N)	1%
1% Ammoniacal Nitrogen	
Available Phosphate (P ₂ O ₅)	3%
Soluble Potash (K ₂ O)	3%
Sulfur (S)	2%
2% Combined Sulfur	

DERIVED FROM ANHYDROUS AMMONIA, PHOSPHORIC ACID AND POTASSIUM SULFATE

ALSO CONTAINS NON-PLANT FOOD INGREDIENT(S)

GUARANTEED ANALYSIS

SOIL AMENDING INGREDIENT(S):

49%	Organic Matter
51%	Total Other Ingredients

PRODUCT USAGE
Enhance plant uptake on Herbicide
(4 oz per) acre under \$ 4.00 per/ac



TriPlex™ Micro Flowable

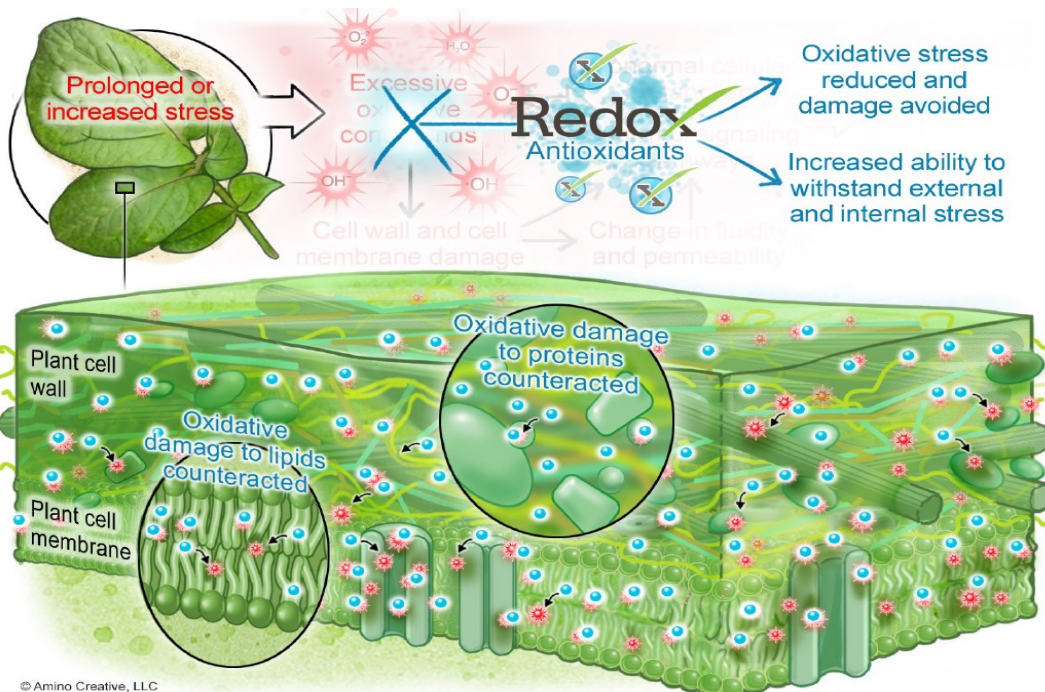
- ✔ Enhances micronutrient uptake due to L-amino acid chelation
- ✔ Improves nitrogen metabolism
- ✔ Contains soluble carbon



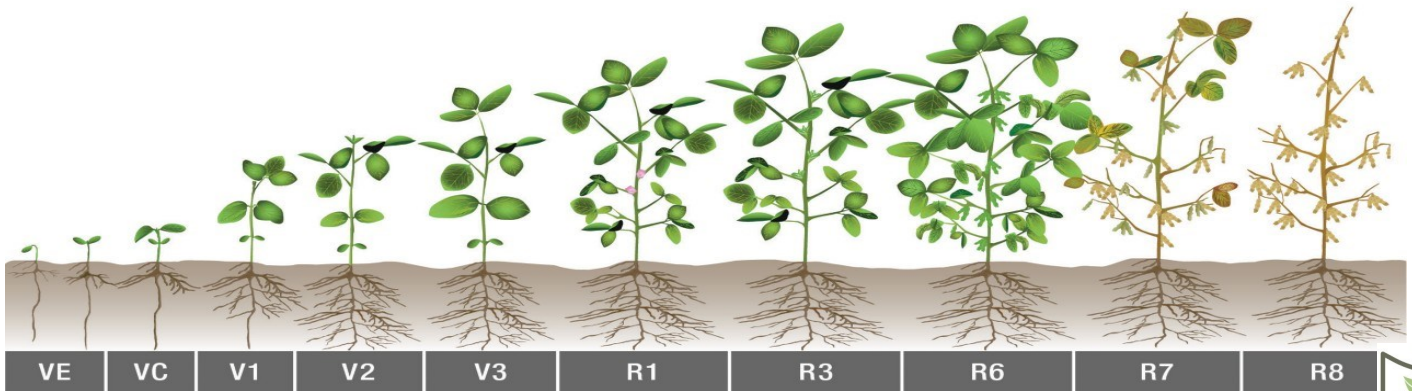
GUARANTEED ANALYSIS

Boron (B)	0.66%
Copper (Cu)	0.66%
Iron (Fe)	2.1%
Manganese (Mn)	2.1%
<i>Water Soluble Manganese (Mn)</i>	2.1%
Zinc (Zn)	2.1%

DERIVED FROM BORIC ACID, COPPER SULFATE, FERROUS SULFATE, MANGANESE SULFATE, AND ZINC SULFATE



© Amino Creative, LLC



Source: University of Illinois, 1999



ADVANCE. your Glyphosate with F-70 for upgrading crop security applications

F-70_{Redox} can be added to any spray mixture to enhance plant uptake of specialty and generic herbicide, fungicide and pesticide products. This product is field tested to change the way you manage crops and control weeds on all crops.

Add 3-6 oz to the acre and cut your herbicide for under \$5.00 per acre with F-70_{Redox}.



F-70™
Flowable
IMPROVES NUTRIENT UPTAKE

1-3-3 GUARANTEED ANALYSIS

Total Nitrogen (N)	1%
1%	Ammoniacal Nitrogen
Available Phosphate (P ₂ O ₅)	3%
Soluble Potash (K ₂ O)	3%
Sulfur (S)	2%
2%	Combined Sulfur

DERIVED FROM ANHYDROUS AMMONIA, PHOSPHORIC ACID AND POTASSIUM SULFATE

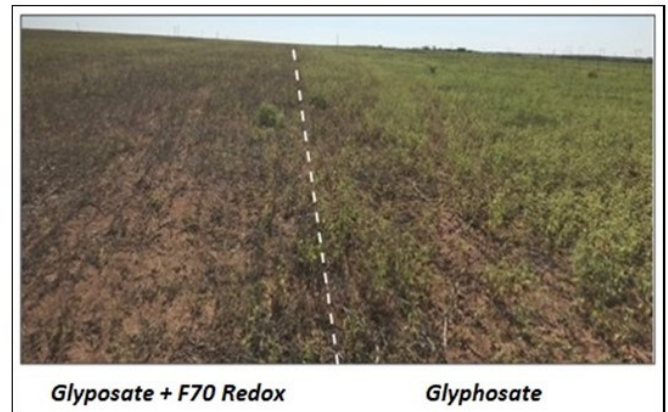
ALSO CONTAINS NON-PLANT FOOD INGREDIENT(S)

GUARANTEED ANALYSIS

SOIL AMENDING INGREDIENT(S):	49%	Organic Matter
	51%	Total Other Ingredients

Derived From Leonardite

WHY F-70™ Flowable?



- Faster burn down of weeds
- Higher Percentage kill on Resilient weeds
- Fulvic Acid , Complexing & chelating of Metal Ions
- Enhances fungicide activity
- Compatible with most products and adjuvants

- PRODUCT USAGE**
- Water Penetration
 - Soil Health
 - Root Growth
 - Nitrogen Efficiency
- YIELD & QUALITY BENEFITS**
- Soil Biology – Soluble carbon
 - C Management – Improve Soil Organic Matter

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IMPROVES CALCIUM NUTRITION & BUILDS SOIL STRUCTURE



Overlooked Fall Liming ?

Soil PH Below 5.9 in your field. Prepare for spring with an application our premium Mainstay™ Liquid Calcium 2.0 that goes to work in the same year. No need to wait a year to bring your PH up in your fields.

Redox
BIO-NUTRIENTS

Mainstay™ Calcium 2.0

- Improves cell wall structure
- Improves soil structure
- Reduces calcium/phosphorus tie-up



Redox
BIO-NUTRIENTS



PLAY To The Strengths of MEZ.

12-40-0-10S-1N *Without the Same Logistic Burden...*

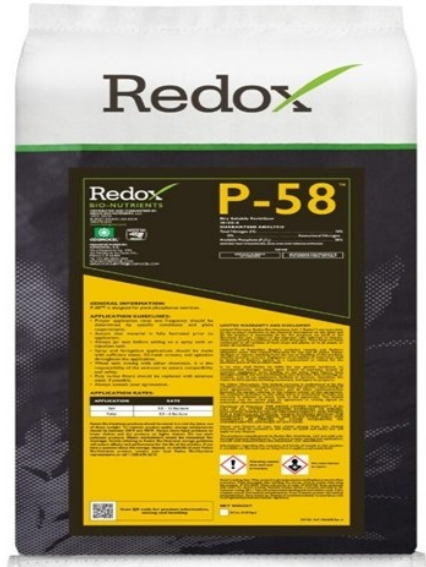
P-58™

- ✔ Improves availability and uptake of phosphorus
- ✔ Improves phosphorus movement within the plant
- ✔ High L-Amino acid content

GUARANTEED ANALYSIS

Total Nitrogen (N)	10%
Ammoniacal Nitrogen	10%
Available Phosphate (P ₂ O ₅)	58%

DERIVED FROM PHOSPHORIC ACID AND ANHYDROUS AMMONIA



REDOX (BIO-NUTRIENTS)

P-58™ and Triplex™ Zinc greatly enhances uptake and utility of phosphorus and zinc inputs during critical growth stages.

Applying 2 lbs. of P-58™ with 1 pt TrP Zinc in your burn down pass will provide sufficient nutrient input of **40 +** unit of **P** for the season. *Agronomic Decisions With an Economic Benefit*

1.	Fertilizer => MEZ	\$ 850 per/ton
2.	REDOX - Bio Nutrients - Advantage	
	* A \$ 10.00 per ac SAVINGS	
	* A Total Replacement of MEZ	
	REDOX - * Improves Phos movement within the plant	
	REDOX - * High L-Amino Acid Content	

PAN AG

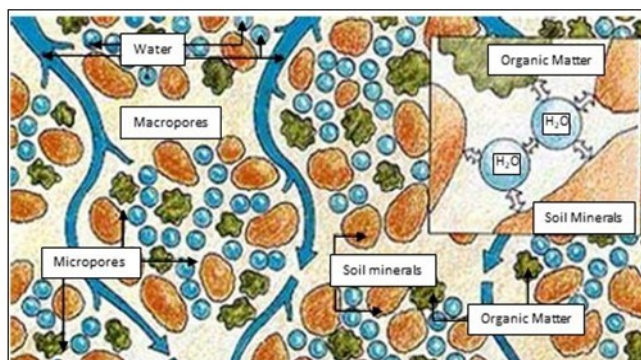
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Redox
BIO-NUTRIENTS



Salt Prescription on North Dakota Soils

Many Farmers in the Upper Midwest have seen salt issues in the past 15 years, acres are being forced out of production due to high salts in the soil. In the race to gain as much yield it helps when you have as many acres crop ready. Help recover your soils and put them back into production.



KEY PRODUCT OUTCOMES RATES

I. **Salt RX.** - is a proprietary blend of beneficial microbes that help digest salt in the soil.

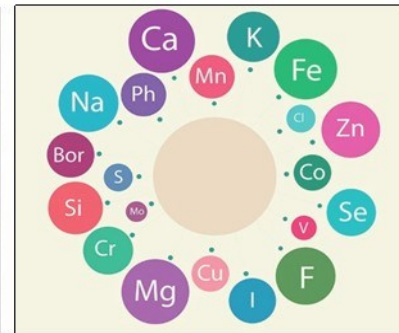
* Salt Rx - 50 grams per acres.

II. **Redox - Soilex** - has a High affinity for sodium and the surfactant content facilitates leaching of salts, by facilitating the flushing of salts and flocculating soil colloids. Reduce overall salinity and improve soil structure to create a more optimum for plant growth.

* Soilex - 1/2 gallon per acre per year.

III. **Redox - Mainstay Calcium (20%)** - a reacted plant nutrient in calcium, is efficiently absorbed by the plant, where increased plant available calcium is required. Perfect for high sodiums levels, summer heat stress and as a supplemental calcium nutrient

* Mainstay Calcium - 1 gallon = 2 lbs. of calcium per acre



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Redox
BIO-NUTRIENTS





AUGUST 18, 2023

ALMONT, ND .. EXIT 123 on I-94 WEST (North Side)

PAN AG, REDOX , SOILeX and SaltRx

Saline Area Recover Acres



January 21, 2024

Redox
BIO-NUTRIENTS



Soilex

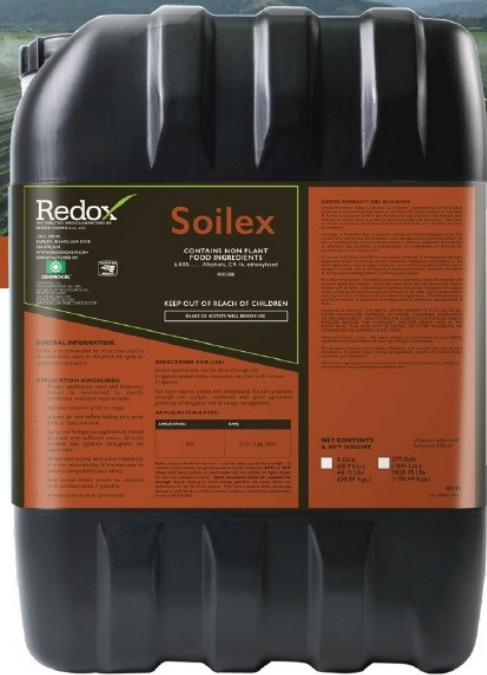
INCREASES SALINITY MANAGEMENT

RESEARCH OBJECTIVE

The purpose of the trial was to measure the benefit of Soilex™ applications to reduce salinity buildup with high saline water and no precipitation.

KEY OUTCOMES

Soilex™ provided a dramatic improvement in salinity levels and crop performance. Soluble salts were reduced by 3.4 times, soluble sulfur was reduced by 5 times, chloride was reduced by 2.7 times, sodium was reduced by 3.9 times. Plant response was dramatic, and production began two weeks prior to expectations.



THE REDOX SOLUTION:

Improve soil/water/air relationships by facilitating the flushing of salts and flocculating soil colloids. Reduce overall salinity and improve soil structure to create a more optimum environment for plant growth. Three Redox products may be beneficial for salinity management:

SOILEX

Soilex has a high affinity for sodium and the surfactant content facilitates leaching of salts. Use Soilex where total sodium content has exceeded 4% and EC is greater than 1. Apply 0.25 to 1 gallon per acre to the soil monthly or as required.

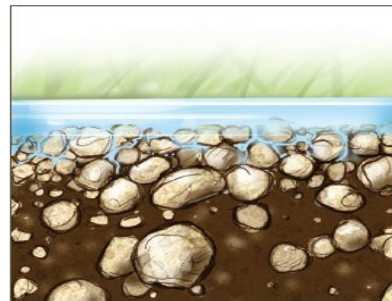
PENECAL

A reacted plant nutrient product high in surfactant and calcium. PeneCal reduces water surface tension and delivers calcium to micro pore space due to the reacted calcium and surfactant. Use PeneCal where soil EC levels are excessive or where water penetration is inadequate. Apply 0.25 to 1 gallon per acre to the soil every 4 to 6 weeks or as needed.

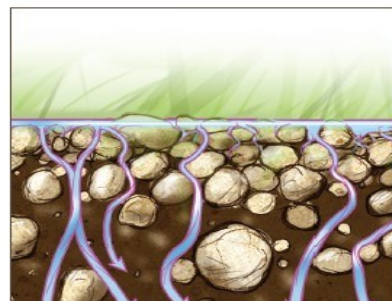
MAINSTAY CALCIUM

A reacted plant nutrient high in calcium. Mainstay Calcium is efficiently absorbed by plants. Use Mainstay Calcium with PeneCal where increased plant available calcium is required. Apply 0.25 to 1 gallon per acre to the soil during periods of critical calcium requirements or as required.

BEFORE



WITH SOILEX





LEGACY Seeds



OPTIMUM PERFORMANCE THROUGH CUSTOMIZED SOLUTIONS

We're dedicated to growers getting the most out of every acre of their farm, with a focus on seeds specific for South Dakota, North Dakota, Minnesota, Wisconsin and Michigan.



ALFALFA



CORN



RATION CHOICE®



SOYBEANS



WHEAT & OTHER SEEDS

ALFALFA

SPECIFICALLY BRED FOR MIDWEST FARMS, DELIVERING MIDWEST CAN-DO

Our alfalfa breeding program began in 2000 and develops exceptional varieties proven to perform in university yield trials.

Technology →

Agronomy →

Forage Solutions →

“Legacy alfalfa is as a consistent hay as we’ve ever used. Four–five year stands that continue to bring tonnage and quality. We wouldn’t have used it for 10 years if it weren’t.”

Josh Silverthorn, Silver-Shea Holsteins

REGENT S ALFALFA

DISEASE RATINGS

Disease Index Rating (DRI)	30/30
Bacterial Wilt	HR
Fusarium Wilt	HR
Anthracoese	HR
Phytophthora Root Rot	HR
Aphanomyces Root Rot (Race 1)	HR
Aphanomyces Root Rot (Race 2)	NR
Verticillium Root Rot	HR
Aphids	R
Stem Nematodes	NR

AGRONOMIC & PLANT CHARACTERISTICS

Feature	Saline Soil Tolerance
Fall Dormancy	4
Winterhardness (WSI)	1.8
Root Type	Tap
Yield Ability	3
Forage Quality	4
Recovery after Harvest	4

PRODUCT POSITIONING

Potato Leafhopper	S
Salt Tolerance	Tolerant
Moderately Wet Soils	3
Well Drained Soils	1
Three Cut System	2
Four Plus Cut System	2
Grazing/Wheel Traffic Tolerance	4

L-310 ALFALFA

DISEASE RATINGS

Disease Index Rating (DRI)	27/30
Bacterial Wilt	HR
Fusarium Wilt	HR
Anthracoese	R
Phytophthora Root Rot	HR
Aphanomyces Root Rot (Race 1)	R
Aphanomyces Root Rot (Race 2)	S
Verticillium Root Rot	R
Aphids	R
Stem Nematodes	NR

AGRONOMIC & PLANT CHARACTERISTICS

Feature	Premium Economy
Fall Dormancy	3.5
Winterhardness (WSI)	2.2
Root Type	Tap
Yield Ability	4
Forage Quality	4
Recovery after Harvest	4

PRODUCT POSITIONING

Potato Leafhopper	S
Salt Tolerance	NR
Moderately Wet Soils	4
Well Drained Soils	1
Three Cut System	2
Four Plus Cut System	2
Grazing/Wheel Traffic Tolerance	4

LC461-21

96 RM

OPTIONS: DGVT₂P RIB

- » Excellent total yield and silage quality
- » High starch content variety with good starch digestibility
- » Flowers early for good north of zone movement
- » Handles stress environments very well

CORN



LS0098-23 XF

00.9 RM

- » Exciting new line that is destined to be a fan favorite
- » Rockstar level yields!
- » Excellent emergence, responds well all types of row-widths
- » Very good tolerance to drought stress

SOYBEANS



Mainstay™ Si

- ✔ Increases antioxidant production
- ✔ Improves calcium and silicon nutrition
- ✔ Fortifies cell wall strength

GUARANTEED ANALYSIS

Calcium (Ca) 10%

DERIVED FROM CALCIUM SILICATE

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS

GUARANTEED ANALYSIS

Soil Amending Ingredient(s)

Soluble Silicon (Si) from Calcium Silicate 0.2%

Inert Ingredients (as a non-plant food ingredient) .. 99.8%

BROCHURE

LABEL

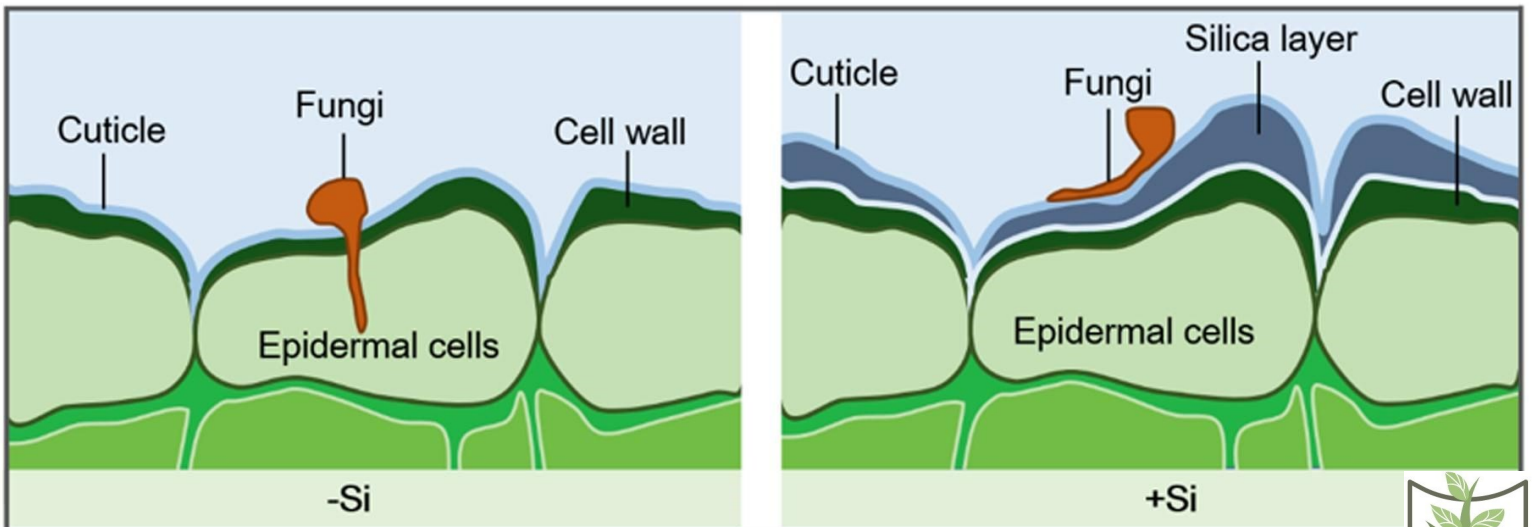
SDS



A



B



Mainstay™ Si

FORTIFIES CELL WALL STRENGTH

GUARANTEED ANALYSIS

Calcium (Ca) 10%

ALSO CONTAINS NON-PLANT FOOD INGREDIENT(S)

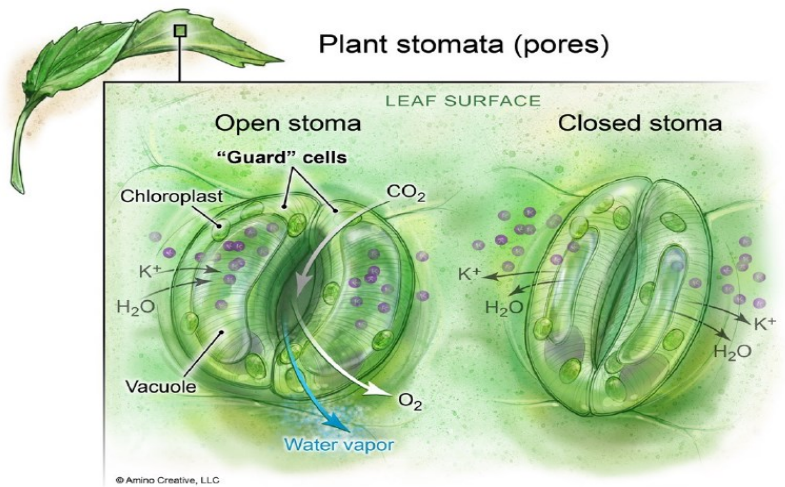
22% Silicon Dioxide (SiO₂)

- ✓ Increases antioxidant production
- ✓ Improves calcium and silicon nutrition
- ✓ Fortifies cell wall strength

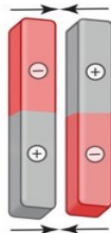


How does Mainstay™ Si work?

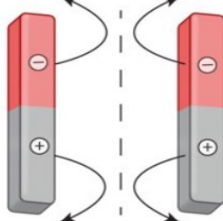
- Stomates
 - Smaller size
 - Higher concentration
- Chitinase
 - Enzymes for plant defense
 - Anti-insect & microbial
- Lycopene
 - Photosynthesis
 - Caretenoids
 - Beta-carotene
 - Xanthophylls
- Vitamin C
 - Protective role in photosynthetic process
 - Wide enzyme production
- IAA – Indo-3-acetic Acid
 - Cell division, tissue differentiation
 - C & O ratio



Unlike charges attract

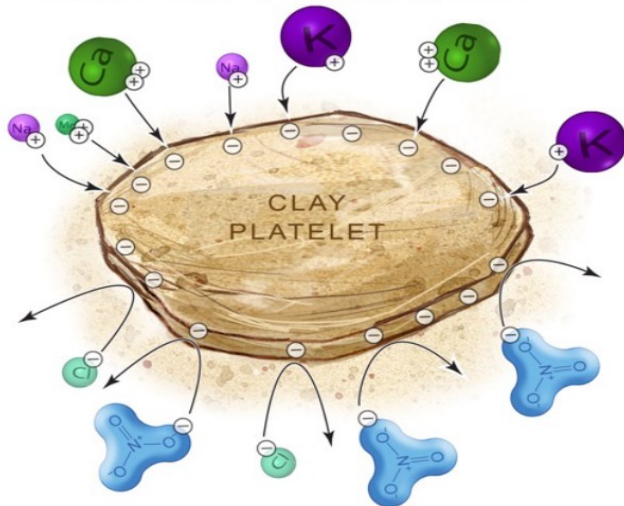


Like charges repel



...Like a magnet

Positively-charged ions and molecules are attracted to negatively-charged clay platelets



Negatively-charged ions and molecules are repelled by negatively-charged clay platelets



Redox

BIO-NUTRIENTS

RootRx™

It's the calm before one of the busiest times of the year for growers in the Midwest. A key to spring planting is getting crops into and out of the ground evenly & consistently.

Looking to improve the root development in corn to improve overall yield. Is a botanical extract that reduces abiotic stress by increasing root quality and quantity, resulting in improved soil health and nutrient uptake, improve overall root system and Increase overall yield.

KEY OUTCOMES:

- Early Vigor.
- Stronger Early Stand Establishment from Cold or Wet Soils.
- Uniformed Emergence = Overall Yield.
- Optimizes root quality and quantity essential for water and nutrient uptake.



RootRx™

IN-FURROW APPLICATION

Corn - 12 oz. to 16 oz.

Soybeans - 8 oz. to 12 oz.

Potatoes - 21 oz. to 32 oz.

PAN AG

Cody Hatzenbuhler: 701.391.1995
pan_ag@outlook.com / www.thepanag.com



(Molybdenum)
 Mo-containing enzymes regulate nitrogen (N) nutrition. In non-legumes, Mo-enzymes regulate the conversion of nitrate into proteins (nitrate reductase).

Molybdenum is critical for nitrate reductase. (Reducing Nitrate (NO₃) into Nitrite (NO₂)) If the crop is being fertilized with exclusively nitrate, your demand for Moly increases as the plant needs to reduce that nitrate in order to use it. It is needed in very small amounts, but in deficiency, the plant won't be able to utilize the nitrate and will show yellow leaves. That's why there is a little Moly in Supreme. Supreme has everything the plant needs to metabolize the nitrate it has stored and turn it into amino acids and proteins.



Supreme™ Flowable
 INCREASES REPRODUCTIVE GROWTH & NITROGEN METABOLISM

0-5-4
GUARANTEED ANALYSIS

Available Phosphate (P2O5)	5.00%
Soluble Potash (K2O)	4.00%
Boron (B)	0.14%
Copper (Cu)	0.3%
Iron (Fe)	0.3%
Manganese (Mn)	0.6%
0.6% Water soluble Manganese (Mn)	
Molybdenum (Mo)	0.003%
Zinc (Zn)	0.6%

DERIVED FROM PHOSPHORIC ACID, POTASSIUM HYDROXIDE, BORIC ACID, COPPER SULFATE, FERROUS SULFATE, MANGANESE SULFATE, SODIUM MOLYBDATE AND ZINC SULFATE

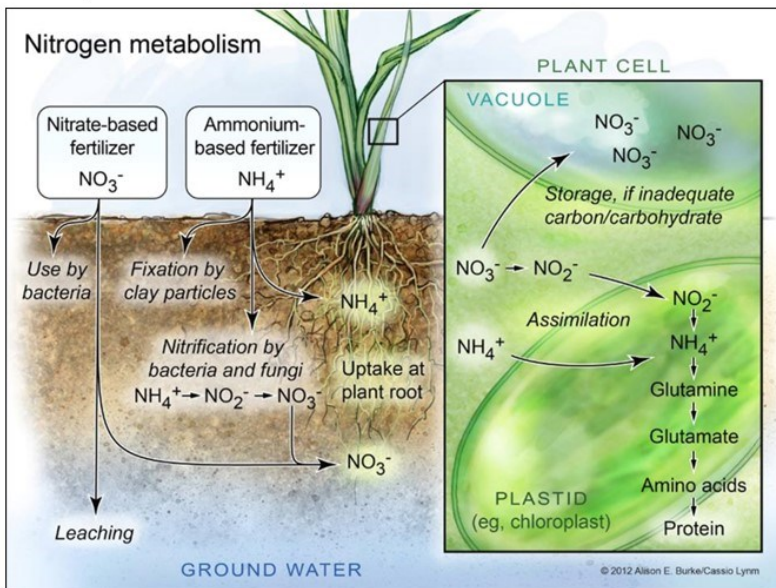
WHY Supreme™ Flowable?

Supreme™ Flowable is specifically formulated to target plant sugar alcohol production related to crop bloom, set, and size. The combination of plant nutrients and increased sugar alcohols will enhance nitrogen metabolism in plants and improve overall yield and quality.

PRODUCT USAGE

SPRING WHEAT

- 3rd Leave with Herbicide
- 1 pt per acre.
 - Supreme Flowable



You also need available Moly for Nitrogenase, an enzyme used by nitrogen fixing bacteria. Most Moly deficiencies are in acidic soils. By looking at the attached pH chart, you can see Moly availability drops as the pH gets lower.

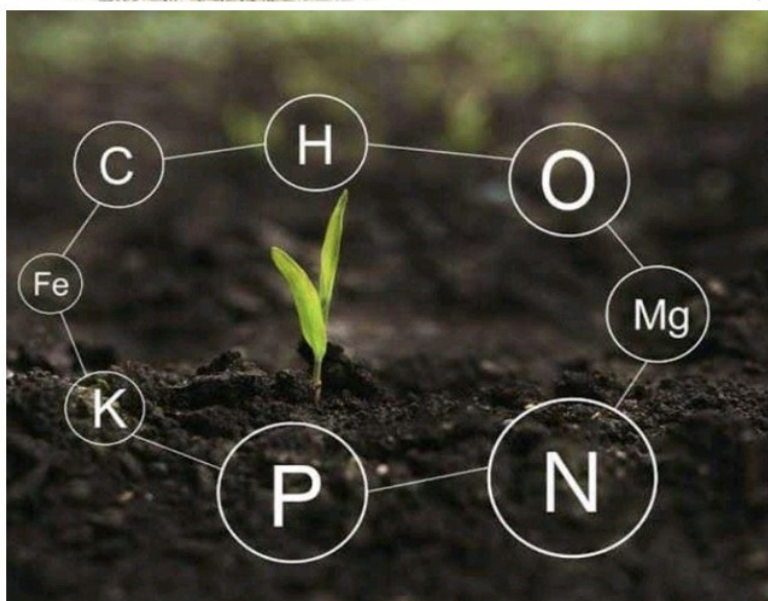
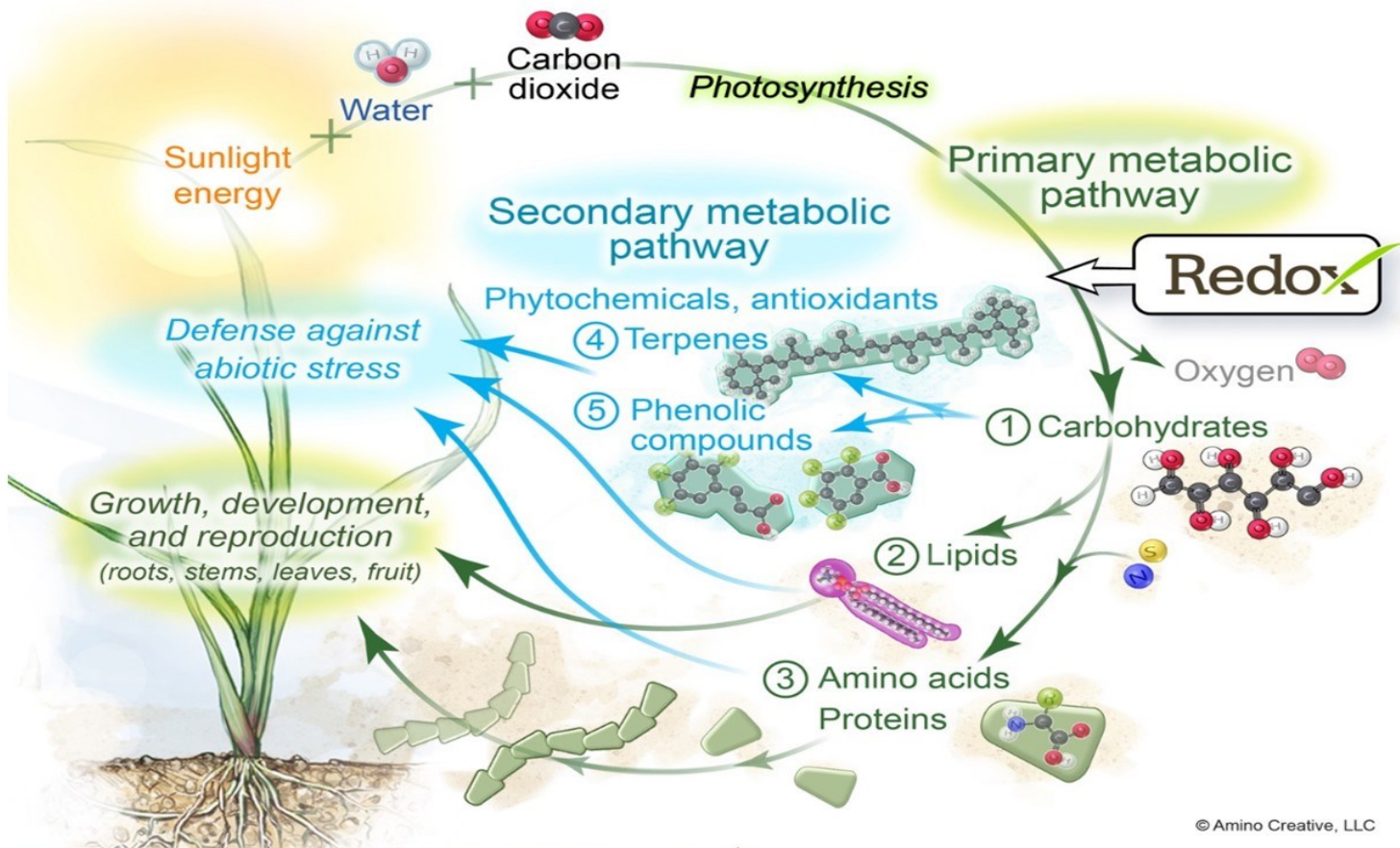
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Redox
 BIO-NUTRIENTS



DO YOU WANT TO DOMINATE YOUR YIELD POTENTIAL FOR 2024 CROP YEAR



PAN AG
Redox ✓

WE SOLVE PRACTICAL PROBLEMS

WITH INNOVATIVE SOLUTIONS

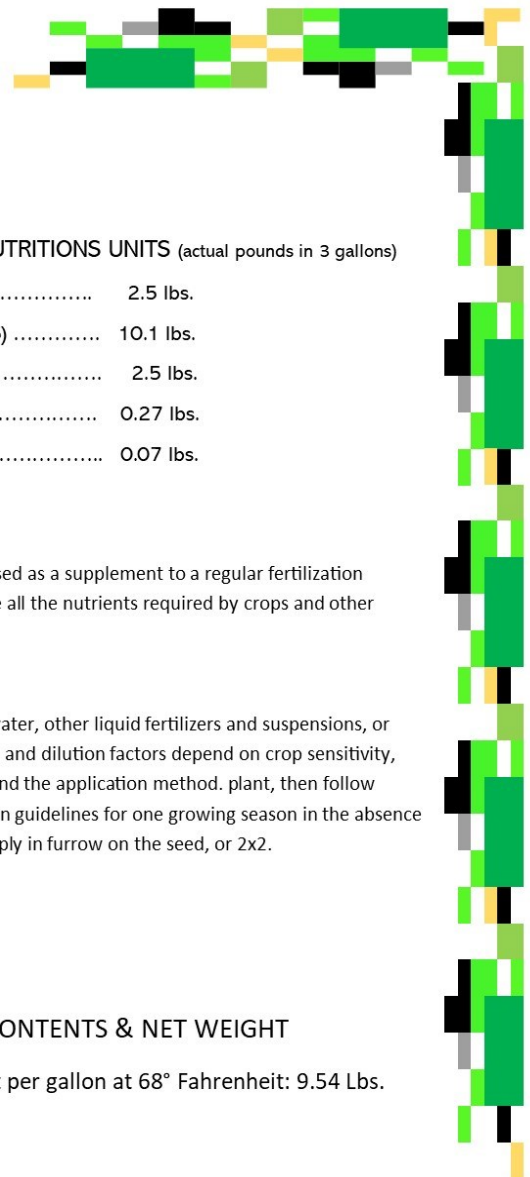
701-391-1995





STARTER FERTILITY

CARBOCOMPLETE



GUARANTEED ANALYSIS

Total Nitrogen (N)	2.5 %
6% Ammoniacal Nitrogen (N)	
Available Phosphate (P2O5)	10 %
Soluble Potash (K2O)	2.5 %
Sulfur (S)66 %
Zinc (Zn)	0.02%
0.02% Chelated Zinc (Zn)	

Derived from Ammonium Hydroxide, Ammonium Thiosulfate, Anhydrous Ammonia Phosphoric Acid, Potassium Hydroxide, and Zinc EDTA

ALSO CONTAINS NON-PLANT FOOD INGREDIENT(S)

SOIL AMENDING INGREDIENT(S):

- 5% Organic Matter from Leonardite
- 4% Humic Acids from Leonardite

Storage and Handling

Use within 24 hours of mixing with water, chemicals or other products. Keep container closed when not in use. Avoid freezing. Products containing organic materials may settle and should be shaken or stirred if stored. Products containing living organisms should not be stored in direct sunlight or allowed to freeze; should not be carried over from one year to the next; and should be used during the growing season in which it was purchased. Store in a cool, dry place.

SOLUBLE EFFICIENT NUTRIENTS UNITS (actual pounds in 3 gallons)

Total Nitrogen (N)	2.5 lbs.
Available Phosphate (P2O5)	10.1 lbs.
Soluble Potash (K2O)	2.5 lbs.
Sulfur (S)	0.27 lbs.
Zinc (Zn)	0.07 lbs.

PRODUCT DESCRIPTION

CARBOCOMPLETE is intended to be used as a supplement to a regular fertilization program and will not, by itself, provide all the nutrients required by crops and other plants.

DIRECTIONS FOR USE

CARBOCOMPLETE may be applied in water, other liquid fertilizers and suspensions, or with most pesticides. Application rates and dilution factors depend on crop sensitivity, the amount of foliage to be sprayed, and the application method. plant, then follow recommended applications. Application guidelines for one growing season in the absence of a soil test. 3 gallons per acre and apply in furrow on the seed, or 2x2.



NET CONTENTS & NET WEIGHT

Weight per gallon at 68° Fahrenheit: 9.54 Lbs.

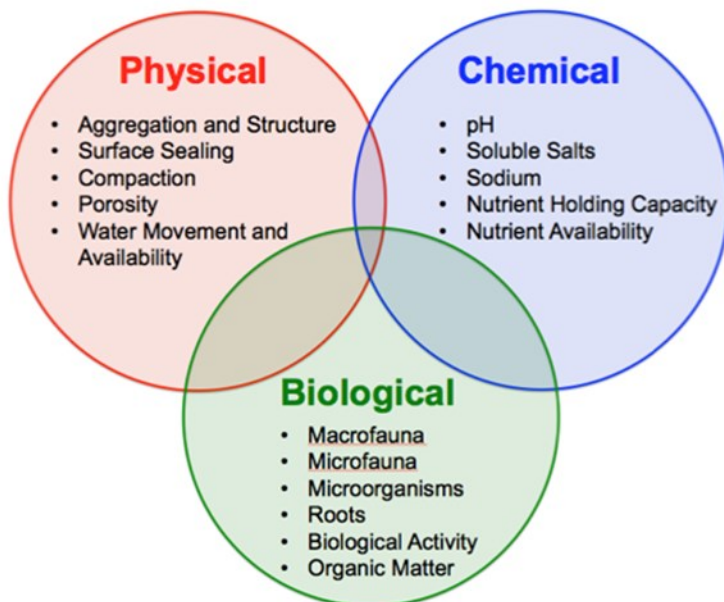


Table 1. Herbaceous forage plants. Salinity tolerance and estimated EC range (* = wet sites).

Tolerant (EC 15-25)
*beardless wildrye tall wheatgrass Russian wildrye *NewHy hybrid wheatgrass slender wheatgrass Altai wildrye *tall fescue *western wheatgrass *strawberry clover
Moderately Tolerant (EC 10-15)
crested wheatgrass thickspike wheatgrass intermediate wheatgrass pubescent wheatgrass *creeping foxtail *prairie cordgrass Canada wildrye buffalograss
Moderately Sensitive (EC 5-10)
*meadow bromegrass smooth bromegrass yellow sweetclover birdsfoot trefoil *cicer milkvetch *orchardgrass alfalfa *switchgrass *reed canarygrass *alsike clover *white clover red clover



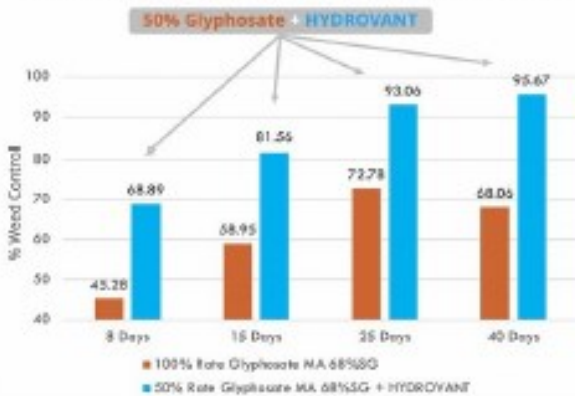
Annual Cropping
Salt Tolerant Crops barley sugarbeets safflower
High Water Use Crops sweetclover alfalfa safflower
Longer Growing Season Crops corn sunflowers
Permanent Cover
Salt Tolerant Permanent Cover tall wheatgrass slender wheatgrass western wheatgrass
High Water Use Permanent Cover alfalfa switchgrass meadow bromegrass intermediate/pubescent wheatgrass
Longer Growing Season Permanent Cover alfalfa



HYDROVANT FA

Advanced Activator-Sticker Technology

Average % Weed Control Across 6 Weeds/Grasses



Significant Increase in Weed Control

HYDROVANT-FA WEED CONTROL REPLICATED TRIAL
Glyphosate plus Hydrovant

Results show that by combining glyphosate at a 50% rate with Hydrovant-FA, efficacy increased significantly in controlling broadleaf weeds and grasses. Weeds and grasses tested included: Hairy Crabgrass, Thistle, Grass, Argentine Fingergrass, Jungle Rice and Common Purslane.

- All treatments applied with Hydrovant-FA resulted in a 128% - 152% increase in weed control.
- 50% rate of Glyphosate + Hydrovant-FA performed significantly better than Glyphosate alone.
- Evaluation after 8 days saw the fastest and greatest weed control.

PAN AG



Binds Active to Target

Hydrovant is very rainfast, keeping the active on the target surface even during and after rain events ensuring the active stays around long enough to complete its job.



Environmentally Friendly

Hydrovant helps to maintain compliance with environmental regulations by reducing spray applications and limiting environmental leaching and runoff.



Safe on Crops

Hydrovant's gentle water-based formula lets the plant breathe by allowing water and gas to pass through to the leaf never causing phytotoxicity.



Hydrovant = 1 Gallon per 1000 Gallon of Water in Tank

Hydrovant = \$ 85.52 per Gallon

With REDOX (F70) @ 4 oz per acres (Under \$ 5.00 per acre)

PAN AG

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pan_ag@outlook.com / www.thepanag.com

Redox

BIO-NUTRIENTS

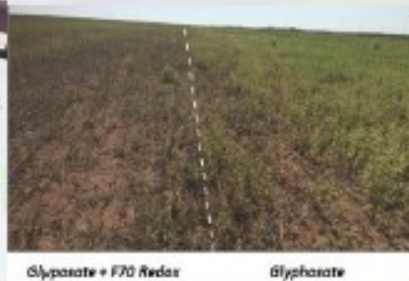


HYDROVANT^{FA}

Advanced Activator-Sticker Technology

Mode of Action: Activator-Sticker

HYDROVANT's advanced polymer matrix (microscopic mesh) works like a scaffolding holding the active ingredients in place while allowing water and carbon dioxide to pass through the leaf.



F-70TM

Flowable

IMPROVES NUTRIENT UPTAKE

Higher Percentage Kill on Resilient Weeds

Fulvic Acid, Complexing & Chelating of Metal Ions

Enhances fungicide activity

Compatible with most products and adjuvants



PARANAG



Grow Your Best Crop, Ever.

Bio-Sul Premium Plus

WHAT IS BIO-SUL PREMIUM PLUS?

Bio-Sul is a sustainable blend of 70% recycled elemental sulphur and 30% recycled Class A compost.

Sulphur is a key component in the production of amino acids, and a vital component of a well balanced nutrient management plan. Essential to all crops, sulphur ensures the efficiency of ALL other nutrients in the plant.

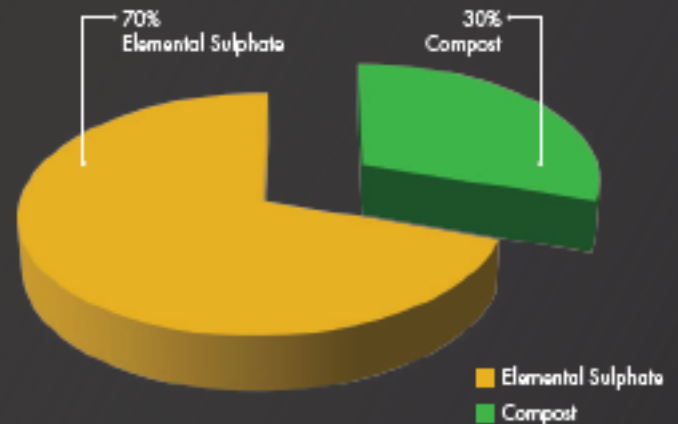
By utilizing compost as a carrier for the elemental sulphur, Bio-Sul provides crucial microorganisms that work to promote conversion and soil health.

The elemental sulphur in Bio-Sul Premium Plus is deliberately produced at varying particle sizes, allowing a slow, constant release of sulphur to the soil - over periods of up to 5 years!

WHY DO I NEED SULPHUR?

Due to reduced emissions, the atmosphere is no longer a source of sulphur for plants. Modern farming practices have increased crop yields as well, increasing the required levels of sulphur. We now need to adopt sulphur management strategies to ensure all crops in our rotations are getting adequate levels of sulphur. After all, when one nutrient is deficient, it limits the efficiency of all other nutrients.

Sulphur is a component of numerous protein enzymes that regulate photosynthesis and nitrogen fixation. Without adequate sulphur, crops such as wheat cannot efficiently use N, P and other elements. This leads to decreased yield and protein in all crops - as much as 10 - 40% in canola. As a rule, crops with high protein generally need more sulphur.



INVESTING IN SMART SULPHUR

Elemental sulphur with a varying particle size is the perfect sulphur solution for all soil types - especially sand and hills. How is this possible?

The smallest, microscopic particles convert quickly from elemental sulphur to plantready sulphate sulphur (SO_4-S), providing immediate nutrition to the soil. The larger particles take longer to convert, providing sustained long-term release of sulphate to the soil. Phosphate, calcium, and macros all become highly available and protected when close to a sulphur particle, making them accessible to the root hairs.

However, elemental sulphur will only convert in optimal growing conditions. In waterlogged areas, microorganisms become dormant, pausing the conversion. This prevents leaching and runoff of the unconverted sulphur, as the particles remain solid on the soil surface until optimal conditions resume.

CONVENIENT & LOGISTICAL SULPHUR SOLUTION

Because of the variable particle size and slow, sustained release of sulphate, Bio-Sul is applied at a 3-5 year application rate. In optimal growing conditions, growers can expect up to 25% conversion in year one, with each application increasing conversion speed as the level of microbes grow in the soil.

Bio-Sul can be surface broadcast in the fall, early winter (on up to 6" of snow), or early spring and after the crop has been seeded. The flexibility of application time leaves more opportunity to focus on seeding in the spring, and to spend more time on N, P, K, and micronutrients. Seeding after a Bio-Sul application will help to incorporate some particles into the soil, as will frost and rain.



BALANCING NUTRIENTS

Balancing N:S Ratios is the first step in an aggressive fertility plan. If N is applied in an S deficient area, it could actually have a negative effect on yields. The proper N:S ratio is dependent on the crop.

The best ways to assess the needs of a crop are:

- tissue testing
- soil testing
- visual inspection
- 4R Nutrient Strategy

4 R'S NUTRIENT STRATEGY



Apply nutrient from the **Right Source**



At the **Right Rate**



At the **Right Time**



In the **Right Place**

Crop	Sulphur Uptake (lb./bu.)
Spring Wheat	0.2
Barley	0.16
Oat	0.13
Rye	0.28
Canola	0.54
Flax	0.56
Pea	0.25
Lentil	0.3
Potato	0.9
Alfalfa	6.0
Grass	4.2
Barley Silage	3.9

Crop	N:S Ratio
Canola	5:1
Cereals	10:1
Potatoes	10:1
Pulses	8:1
Grassland	8-12:1

SWITCHING FROM AMMONIUM SULPHATE

Bio-Sul Premium Plus is an excellent and easy alternative to ammonium sulphate. Unlike Bio-Sul, AMS has a much higher salt content, higher acidity, and while it may be available sooner in the spring, it won't last until later in the season when it is needed for yield and protein building. It can be hard to handle, store, corrosive to equipment, and plugs up drills. Bio-Sul is a solution to all of these issues.

Application of synthetic fertilizers in the seed row can increase the salt index, and cause seed injury or decreased seed germination.

Each different form of sulphur must be managed accordingly.



LOW PH & SALT LEVELS

Elemental sulphur requires soil bacteria to slowly convert it to sulphate. This slow process reduces the risk of abruptly increasing soil acidity. In fact, elemental sulphur in large amounts can be used to drive down pH levels.

Because it contains no harsh carrier chemicals, Bio-Sul has a low salt index, which reduces the risk of seed injury and decreased germination. In addition, the sulphur helps to convert non-soluble sodium into water soluble sodium sulphate (NaSO_4), helping to wash the salt out of the soils. This is an excellent feature for growers using irrigated systems that bring in sodium.

CUSTOM APPLICATION & RATES

Our network of Trusted Applicators are agronomists, retailers and producers who are passionate about sustainable farming. While Bio-Sul may be self applied, we offer experienced and accurate custom application - leaving growers to focus on other things in the busy season.

Bio-Sul is broadcast on the soil surface using spin spreaders. There is no need to cultivate, as a simple rainfall will distribute the particles. Banding is not recommended or necessary. In terms of storage, BioSul can be placed directly on the ground, eliminating the need for costly storage..

The recommended application rate is 220lb/acre of BioSul Premium Plus, delivering 155lbs of actual sulphur to be dispersed into the soil over a period of years. Growers looking optimize production and maintain healthy S levels should surface broadcast large amounts of Bio-sul every 3-5 years. This long term application provides a low-cost sulphur solution.

To contact a dealer for more information, visit <https://aberhartagsolutions.ca/trusted-applicators>



Aberhart Ag
SOLUTIONS
GROWING YOUR FUTURE



Topline Prime

Premium Soybean Inoculant

Topline Prime uses two other rhizosphere living nitrogen fixers along with a phosphorus solubilizer. Helping in converting tied up nutrients in the soil to help feed the crop through out the growing season.

USE RATE: 1 oz per 140,000 seeds

- 3 Bradyrhizobium Japonicum 1×10^9
- Bacillus Megaterium
- Bacillus Pumilus
- Azotobacter
- Chroococcum
- Azospirillum Lipoferum
- Trichoderma Harzianum
- Ascophyllum Nodosum (kelp)

Microbes are Sedated after Multiplication and packaged with a proprietary safe carrier

- Microbes stay sedated in packaging until opening
- Safe Carrier shields Microbes from chemicals
- When Microbes Awake-Safe Carrier provides food for a fast start and even multiplication





Seed Coat Gold

Soybean

Seed Coat Gold is a planter box treatment for soybeans to help enhance early season vigor while providing beneficial microbes that help unlock nutrients in the soil to help feed the plant through the growing seasons

Yield increase +5.9 Bushels

Seed Coat Gold is a proprietary blend of beneficial microbes that help unlock nutrients in the soil, enhance early plant vigor, and reduce stress in the plant

Bradyrhizobium Japonicum 1.5×10^8

Azotobacter, Azospirillum, Bacillus,
Pseudomonas, Streptomyces, Trichoderma
 3.1×10^8

USE RATE

1 scoop (0.5 oz) per unit of seed 140,000 seeds per unit

TIMING

Apply at time of planting. For bulk planter pour over top of seed. For row unit planters use 1 scoop per unit of seed.



Seed Coat Gold

Premier Microbial Treatment

Seed Coat Gold is an all in one convenient solution. Apply in furrow.

USE RATE: 8 grams per acre



BENEFITS

Increase Plant Available Nutrients that are tied up in the soil.

Solubilizes bound up Iron in the soil for plant availability.

Helps fix atmospheric Nitrogen for the plant to utilize.

Enhances the plants ability to hand stress through out the crop life cycle.

Solubilizes plant available Iron

Aids in the creation of ATP (the energy that the plant uses)

Helps the plant with its natural defenses.

**Yield bump
Avg +6.3 bu**

**www.thepanag.com |
Cody Hatzenbuhler 701-391-1995**



SEED SILK

Seed Silk— This is a seed lubricant made with volcanic rock dust giving seed lubricity along with other trace minerals as a side benefit. There are no microbes in this product just seed lubricity.

Use Rate: 1 oz per unit or
2 oz per cwt

Pkg size: 224 unit package
(14 lbs pail)

Cost: \$0.60 per unit | \$134.40 per pail



EVO AGRI

SOYBEAN SEED TREATMENT

Evo Agri ViVance Soybean line up helps To target & fight against seed borne and Soil borne diseases and pests. Win the fight In your field & protect your yield with ViVance Soybean all in one seed treatments.



ACTIVE INGREDIENTS:

ViVance 3F

Mefenoxam – 4lb
Fludioxonil – 4lb
Thiophanate-methyl

ViVance Complete

Mefenoxam – 4lb
Fludioxonil – 4lb
Thiophanate-methyl
Imidacloprid – 5 lb

WHAT IT PROTECTS AGAINST	VIVANCE COMPLETE	VIVANCE 3F
FUNGUS		
Fusarium	X	X
Rhizoctonia	X	X
Pythium	X	X
Phytophthora	X	X
Pod & Stem Blight	X	X
PESTS		
Aphids	X	
Bean Leaf Beetles	X	
Wireworm	X	
SDS		
White Mold		
Nematodes		
Use Rate per cwt	4.0 oz / cwt	3.0 oz / cwt

***FOR SDS, WHITE MOLD, AND NEMATODE PROTECTION EVO AGRI OFFERS: HEADS UP ST AND TRUNEMCO PRODUCTS

VIVANCE COMPLETE TREATS 50# UNITS

5 GALLON - 320 UNITS
15 GALLON - 960 UNITS
30 GALLON - 1,920 UNITS

VIVANCE 3F TREATS 50# UNITS

5 GALLON - 427 UNITS
15 GALLON - 1,281 UNITS
30 GALLON - 2,562 UNITS

EVO AGRI VIVANCE SOYBEAN SEED TREATMENT ALLOWS YOU TO FIGHT BACK AGAINST YIELD ROBBING DISEASES & PESTS. VIVANCE SOYBEAN SEED TREATMENT IS OFFERED IN 5 GALLON CASES, 15 GALLON KEGS, AND 30 GALLON KEGS.





FORAGES

- Soybeans
- Sun Hemp
- Yellow Sweetclover
- Red Clovers
- Peredovik Sunflower
- Hays Forage Barley
- Flax
- Sugar Beet
- AC GreenFix
- Annual Rye Grass
- Kale
- Forage Collard
- Forage peas
- Winter or Spring Triticale
- Oats
- White Proso Millet
- Pearl Millet
- German Millet
- Hybrid Sorghum/Sudangrass
- Hairy Vetch
- Purple Top Turnip
- Pasja Turnip
- Oil Seed Radish
- Canola
- Cow Pea
- Lentils
- Spring Tricale
- Haywire Forage Oats
- Stockford Forage Barley
- Buckwheat
- Barley/Pea
- Oats/Pea
- Alfalfa – Channel

Call us on prices
701.391.1995

PANAG

www.thepanag.com



Cover Crop Chart

GROWTH CYCLE

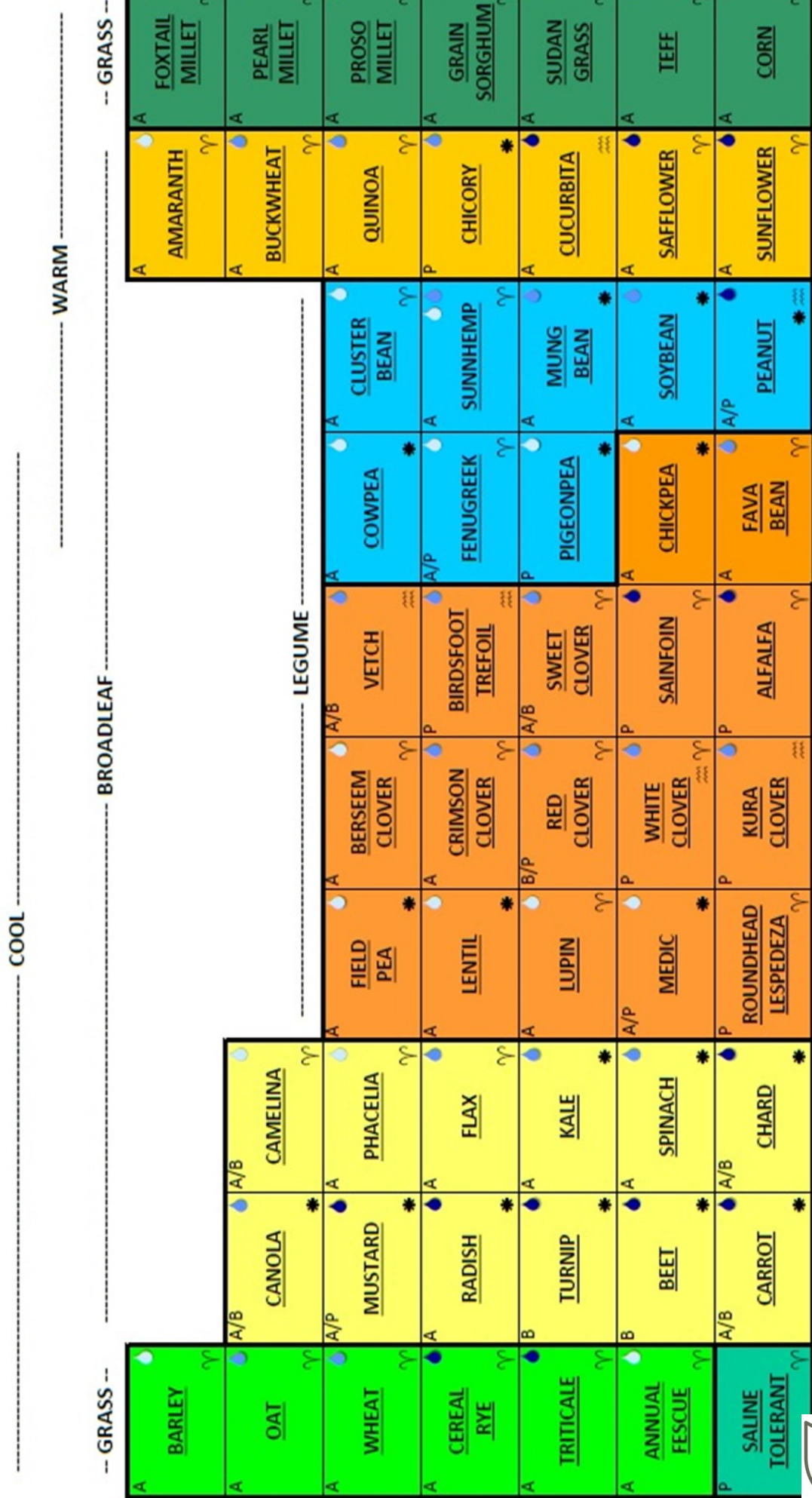
A = Annual
 B = Biennial
 P = Perennial

PLANT ARCHITECTURE

γ = Upright
 * = Upright-Spreading
 ~ = Prostrate

RELATIVE WATER USE

○ = Low
 ● = Medium
 ● = High





PAN AG

1d •



..... CATTLE PREP.. FoR LICE ⚠️

If you are having issue with Lice on cattle this winter you can add Bio-Impact Garlic 12x 🧄 to your 50 lbs bag of Salt ..

If you poured your cattle it last for around 52 days.

Please read the farmer review on the product.
Cody J. Hatz Pan Ag 701.391.1995



TESTIMONY OF COWBOS + GARLIC

I (Jerry Woodbury from Carson, North Dakota) approached Cody Hatzenbuehler (Pan Ag) at the Bismarck Ag Show last February 2019. We were talking about the CowBos products. I told him I have lousy and patched haired cows. He told me he had a feed/mineral product that has the ability to take care of this lice problem.

I moved my herd of cows home at the beginning of March in 2019. Cody brought his CowBos product to the farm. He filled the tubs with his CowBos product and Garlic 10X. In two weeks you could tell there was hair starting to grow back on the cows. It worked very well for the lice problem that I was having with my cows.



Summer came and I was very happy with the fly control. We kept them on the CowBos + Garlic 10x through the summer for fly control. The Charolais bull's backs were white instead of being covered with flies. The whole heard did well with this product. It worked really well. I was pleased with the results.

Jerry Woodbury

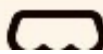
PAN AG
CowBos


Cody H. Cell
701.391.1995

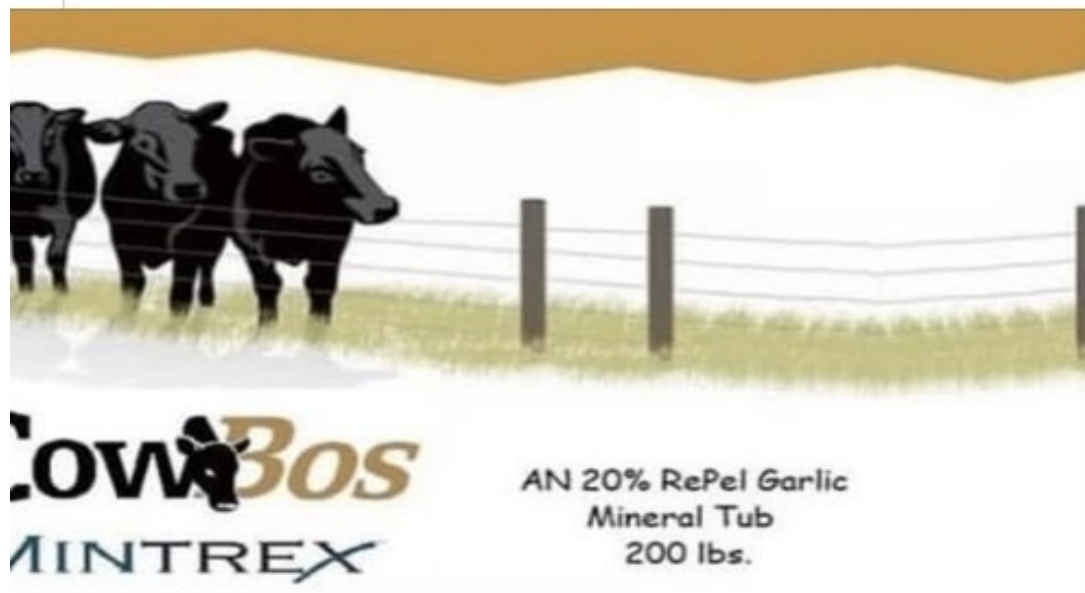


Garlic Worth its Salt for Fly

Fly Counts



Thinking !! Cows last trimester?
Cowbos - Tubs: "Fresh out of the factory ".
is a complete supplement that provides protein,
energy, and trace minerals in optimal
proportions for maximum performance.
701-391-1995 or www.thepanag.com/cowbos



CowBos
MINTREX

AN 20% RePel Garlic
Mineral Tub
200 lbs.



**CowBos Formulated for
Calving and Breeding**

- Improve Body Condition
- Chelated Minerals
- Support Fetal Development
- Improve Calf Vigor
- Increase Colostrum & Milk Production
- Quicker Breed Back
- Tighter Calving Interval

CowBos AN 20% RePel
MIN

This protein, energy, concentrated vitamin and mineral package specifically formulated for use on growing and mature beef calf complement roughage (grass hay or dry grass pasture) and/or 1 Provide plenty of drinking water and free choice salt.

GUARANTEED ANALYSIS

Crude Protein, min	20.00%
Crude Fat, min	5.00%
Crude Fiber, max	4.00%
Calcium [Ca], max	1.50%
Calcium [Ca], min	1.00%
Phosphorus [P], min	1.00%
Magnesium [Mg], min	1.00%
Potassium [K], min	4.00%
Copper [Cu], min	390 ppm
Iodine [I], min	24 ppm
Selenium [Se], min	4 ppm
Manganese [Mn], min	1100 ppm
Zinc [Zn], min	1300 ppm
Vitamin A, min	100,000 IU/lb
Vitamin D3, min	20,000 IU/lb
Vitamin E, min	200 IU/lb

INGREDIENTS
Molasses Products, Plant Protein Products, Soybean Oil, Monocalcium Phosphate, Magnesium Oxide, Vitamin A Supplement, Copper Methionine Analogue Chelate, Zinc Methionine Hydroxy Analogue Chelate, Manganese Methionine Hydroxy Analogue Chelate, Vitamin D3 Supplement, Vitamin E Supplement, Calcium Carbonate, Manganese Oxide, Copper Zinc Oxide, Sodium Selenite, Manganese Sulfate, Zinc Sulfate, Ethylene Dithiourate, and Cobalt Carbonate.
THIS FEED CONTAINS ADDED SELENIUM AT 4 ppm.

SELENIUM CAUTION: Directions for use must be carefully followed. Do not use in association with other feed containing supplemental selenium. Contains high levels of copper. Do not feed to sheep.

FEEDING RECOMMENDATIONS: 1/2-1 pound per/head per/day AS A GUIDE: One large diameter tub to every 35-50 head of calves.

MANUFACTURED FOR PENNY NEWMAN GRAIN, WYNDMERE, PA.

PENNY NEWMAN



GUARANTEED ANALYSIS

Crude Protein, min	20.00%
Crude Fat, min	5.00%
Crude Fiber, max	4.00%
Calcium [Ca], max	1.50%
Calcium [Ca], min	1.00%
Phosphorus [P], min	1.00%
Magnesium [Mg], min	1.00%
Potassium [K], min	4.00%
Copper [Cu], min	390 ppm
Iodine [I], min	24 ppm
Selenium [Se], min	4 ppm
Manganese [Mn], min	1100 ppm
Zinc [Zn], min	1300 ppm
Vitamin A, min	100,000 IU/lb
Vitamin D3, min	20,000 IU/lb
Vitamin E, min	200 IU/lb

INGREDIENTS
Molasses Products, Plant Protein Products, Soybean Oil, Monocalcium Phosphate, Magnesium Oxide, Vitamin A Supplement, Copper Methionine Hydroxy Analogue Chelate, Zinc Methionine Hydroxy Analogue Chelate, Manganese Methionine Hydroxy Analogue Chelate, Vitamin D3 Supplement, Vitamin E Supplement, Calcium Carbonate, Manganese Oxide, Copper Zinc Oxide, Sodium Selenite, Manganese Sulfate, Zinc Sulfate, Ethylene Dithiourate, and Cobalt Carbonate.

CowBos AN 20% Repel MINTREX

This protein, energy, concentrated vitamin and mineral package is specifically formulated for use on growing and mature beef cattle to compliment roughage (grass hay or dry grass pasture) and/or light grain. Provide plenty of drinking water and free choice salt.

GUARANTEED ANALYSIS

Crude Protein, min	20.00%
Crude Fat, min	5.00%
Crude Fiber, max	4.00%
Calcium (Ca), max	1.50%
Calcium (Ca), min	1.00%
Phosphorus (P), min	1.00%
Magnesium (Mg), min	1.00%
Potassium (K), min	4.00%
Copper (Cu), min	390 ppm
Iodine (I), min	24 ppm
Selenium (Se), min	4 ppm
Manganese (Mn), min	1100 ppm
Zinc (Zn), min	1300 ppm
Vitamin A, min	100,000 IU/lb
Vitamin D3, min	20,000 IU/lb
Vitamin E, min	200 IU/lb

INGREDIENTS

Molasses Products, Plant Protein Products, Soybean Oil, Monocalcium Phosphate, Magnesium Oxide, Vitamin A Supplement, Copper Methionine Hydroxy Analogue Chelate, Zinc Methionine Hydroxy Analogue Chelate, Garlic, Manganese Methionine Hydroxy Analogue Chelate, Vitamin D Supplement, Vitamin E Supplement, Calcium Carbonate, Manganous Oxide, Copper Sulfate, Zinc Oxide, Sodium Selenite, Manganese Sulfate, Zinc Sulfate, Ethylenediamine Dihydriodide, and Cobalt Carbonate.

THIS FEED CONTAINS ADDED SELENIUM AT 4 ppm.

SELENIUM CAUTION: Directions for use must be carefully followed.

Do not use in association with other feed containing supplemental selenium.

WARNING: Contains high levels of copper. Do not feed to sheep.

FEEDING RECOMMENDATIONS: 1/2-1 pound per/head per/day.

AS A GUIDE: One large diameter tub to every 35-50 head of cattle.

MANUFACTURED FOR PENNY NEWMAN GRAIN, WYNDMERE, ND

PENNY  NEWMAN

855.4.CowBos | www.CowBos.com

Net Weight

200 lbs

H&P ELITE MINERAL US AG

For beef cattle on pasture

Guaranteed Analysis

Calcium (Ca)	Min	14.10	Max	16.90 %
Phosphorus (P)			Min	3.95 %
Salt (NaCl)	Min	8.80	Max	10.50 %
Magnesium (Mg)			Min	2.00 %
Potassium (K)			Min	0.30 %
Cobalt (Co)			Min	25 PPM
Copper (Cu)			Min	3,000 PPM
Iodine (I)			Min	200 PPM
Manganese (Mn)			Min	3,497 PPM
Selenium (Se)			Min	14.9 PPM
Zinc (Zn)			Min	7,499 PPM
Vitamin A			Min	350,000 IU/lb
Vitamin D			Min	87,000 IU/lb
Vitamin E			Min	999 IU/lb
Thiamine			Min	535 mg/lb

Ingredients

Calcium Carbonate, Processed Grain By-Products, Monocalcium Phosphate, Salt, Magnesium Oxide, Zinc Sulfate, Molasses Products, Saccharomyces cerevisiae Yeast Culture, Manganese Sulfate, Vegetable Oil, Copper Chloride, dl- α -Tocopheryl Acetate (source of Vitamin E), Zinc Amino Acid Complex, Thiamine Mononitrate, Vitamin A Acetate, Copper Amino Acid Complex, Vitamin D3 Supplement, Ethylenediamine Dihydroiodide, Sodium Selenite and Cobalt Carbonate.

Feeding Directions

H&P ELITE MINERAL US AG should be fed at the rate of 3.0 to 4.0 ounces per head daily. The amount of mineral required will depend on body size, production level, forage quality, and/or other supplementation. Contact your sales representative for specific dietary and feeding recommendations. Provide fresh, clean supply of water at all times.

CAUTION: Follow label directions. The addition to feed of higher levels of this premix containing selenium is not permitted.

WARNING: Contains added copper. DO NOT FEED TO SHEEP.

This product was made in a feed manufacturing facility that does not handle or store products containing animal proteins prohibited in ruminant feed.



Manufactured by:



PAN AG

AGRONOMY SOLUTIONS & SUPPLIES

Cody J. Hatzenbuehler

Agronomist/Livestock Nutrition Specialist

701-391-1995

pan_ag@outlook.com

www.thepanag.com

GRAND HARVEST

GRAND HARVEST NET WRAP

THE MOST RELIABLE SOLUTION FOR YOUR ROUND BALER

Grand Harvest net wrap has a reliable quality that performs on every round baler and baling conditions.

The best balance between price and quality.

Applications:

- Silage
- Hay
- Straw

Available in:

- 48'' x 9 840'
- 51'' x 9 840'
- 64'' x 7 000'
- 67'' x 7 000'



NYTRO

NYTRO NET WRAP

LONGER SIZE NET WRAP

Which means: **Less downtime in the field** > More bales per day with **less stops to refill.**

+ % LENGTH & AUTONOMY

Applications:

- Silage
- Hay
- Straw

Available in:

- 48'' x 12 500'
- 51'' x 12 500'
- 64'' x 9 000'
- 67'' x 9 000'



GH 9 840'

+27%

NYTRO 12 500'

GH 7 000'

+29%

NYTRO 9 000'

COTESI® CROSS-NET WRAP

THE PERFECT MATCH FOR YOUR ROUND BALER



Advantages

- Cotesi patented cross weft technology;
- If a warp or weft are severed, the net wrap will still hold the bale;
- Withstands more pressure;
- Extra crop protection

CROSS NET
The **BEST**
net wrap in
the world!

Since 2020,
21 MILLION
bales in
the field!



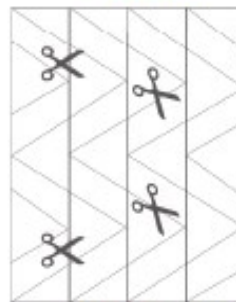
Applications:

- Hay
- Straw
- Corn Stalks

Available in:

- 48'' x 9 840'
- 51'' x 9 840'
- 64'' x 7 000'
- 67'' x 7000'

Cross-Net Construction



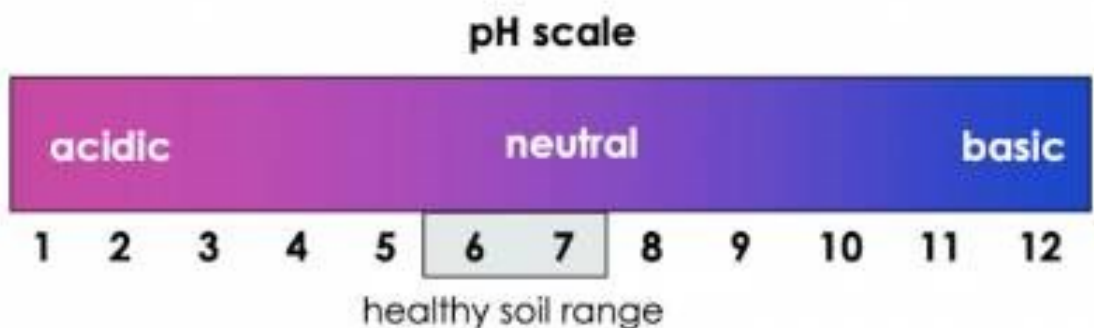
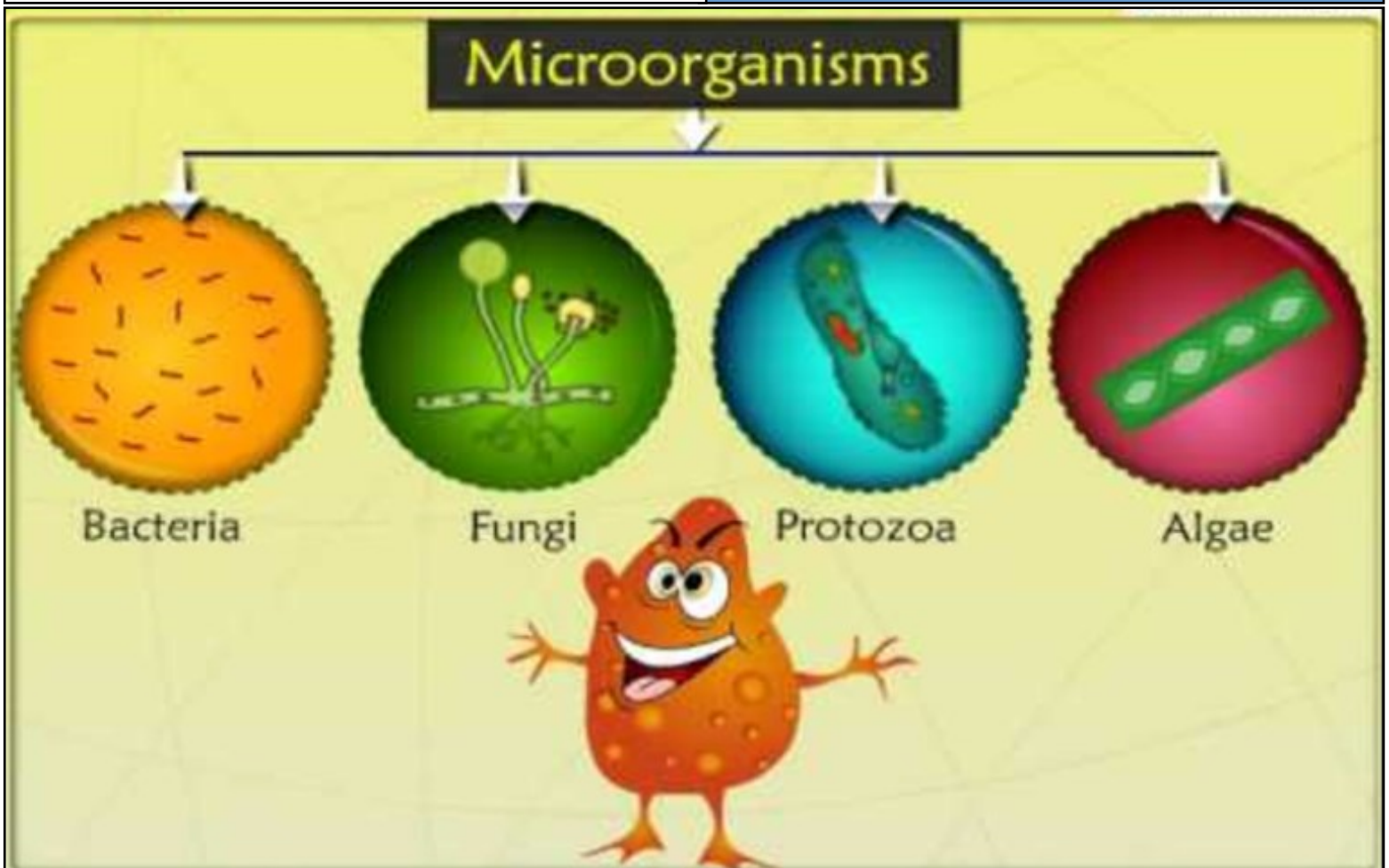
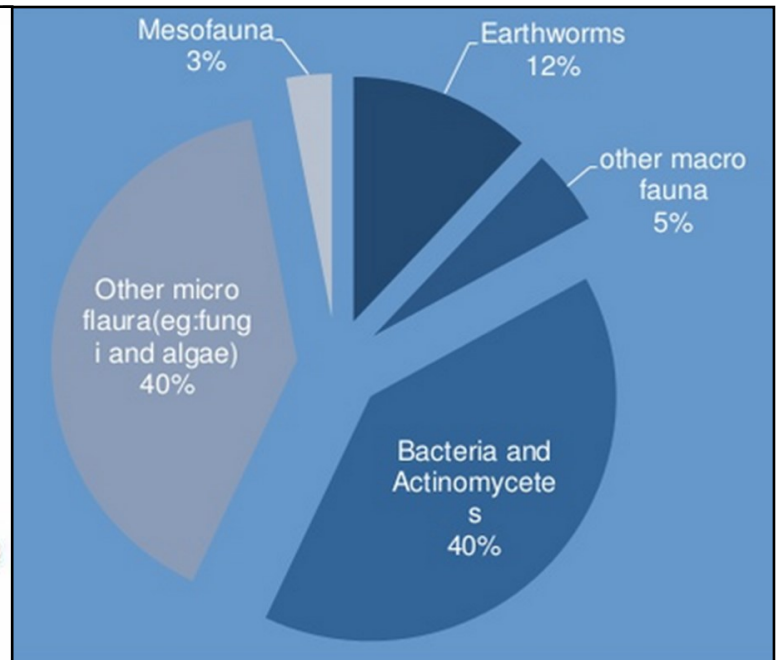
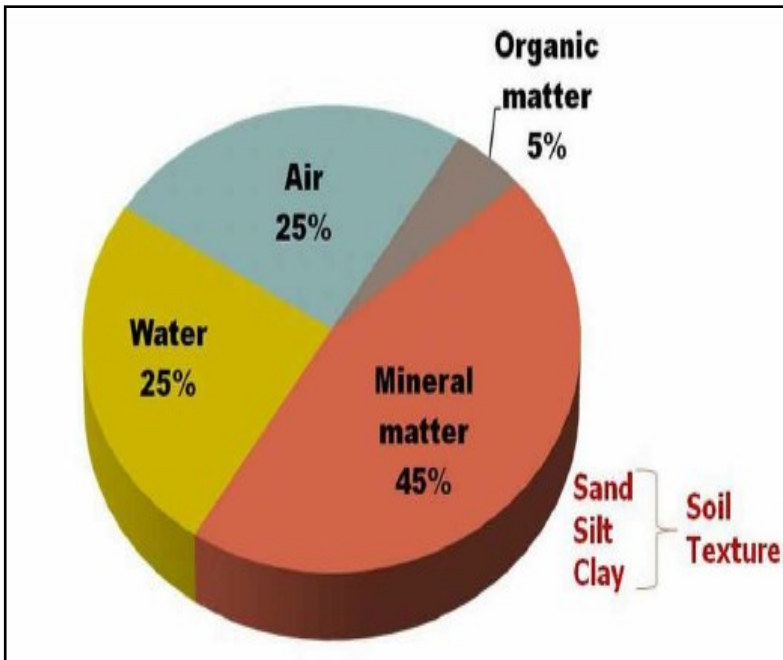
Does not open the net.

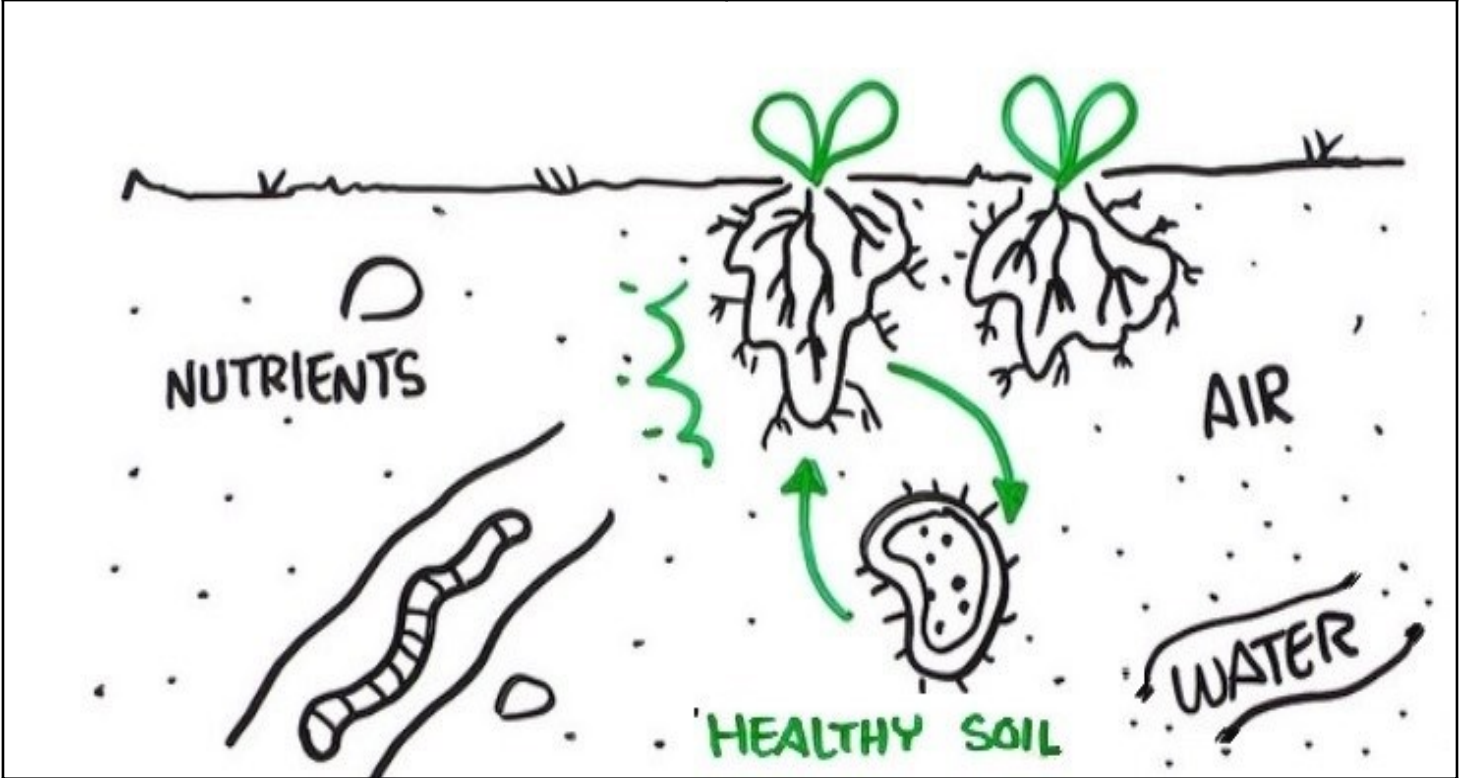
Standard Construction



Opens the net.







PAN AG

Redox

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