

AGRO·K  [®]

Science-Driven Nutrition SM

ENDEAVOR

Ag & Energy



Who we are:



SCIENCE-DRIVEN NUTRITION™

Tissue
Sampling

Yield
Data

Sap
Analysis

Weather
Data

5 R's of
Plant
Nutrition

Soil
Testing



Science-Driven NutritionSM



Agro-K's

5 R's

Right Nutrient

Right Time

Right Mix

Right Form

Right Place

Building

A

Strong

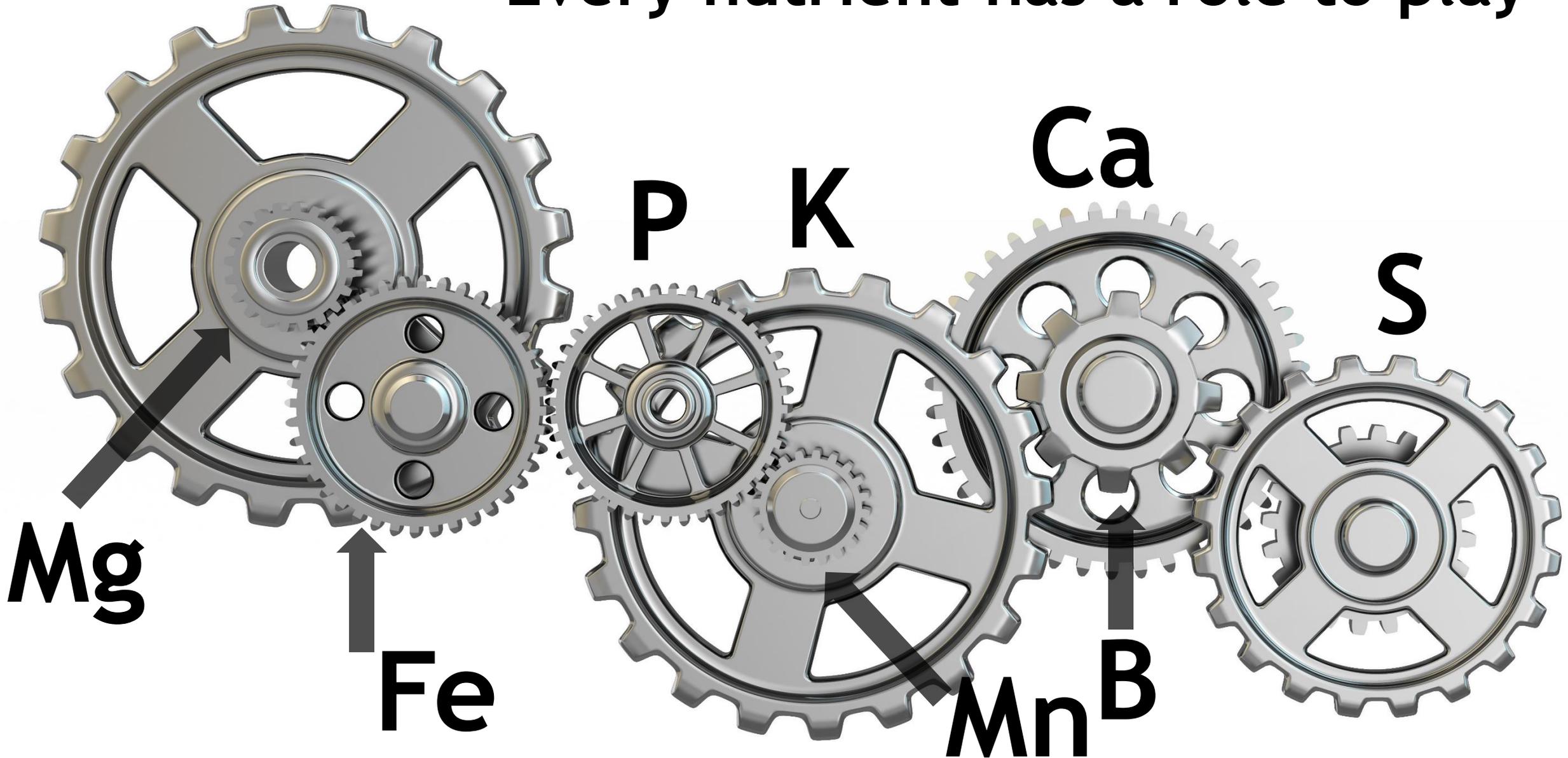
Fertility Program

The Right Nutrient

Si Zn Ni Ca
N Cu K Na Mg
Fe B S Cl
Co P Mn Mo

N

Every nutrient has a role to play



The Right Time

Identify critical points of influence.

When limiting factors have the greatest effect on performance.

The Right Mix

Ca + B + Mo

K / Ca

The Right Form

Agrobest[®]

Sysstem[®]

Vigor

Dextro-Lac (D.L.)

BioMax

 **CLEAN[™]**

The Right Place

Leaves

Roots



Soil health is a critical factor.





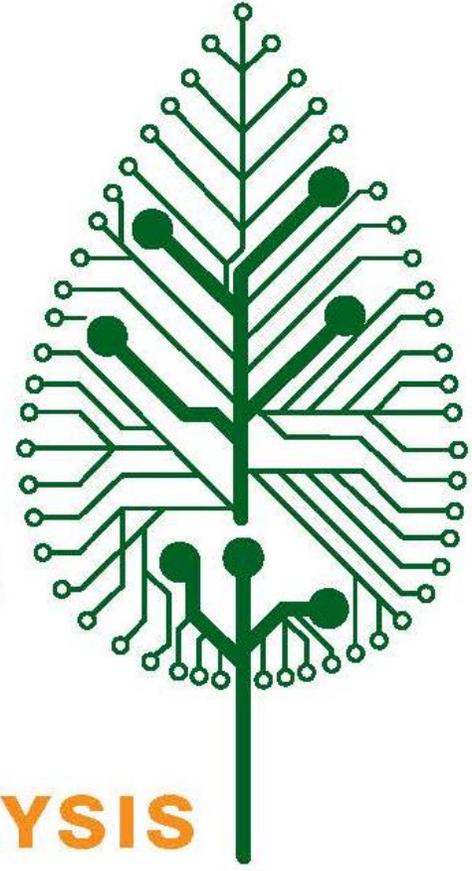
Sap Analysis: The Analytical Game Changer

Providing greater insights into long-standing principles of plant nutrition.

Like a blood sample for plants.

AGRO·K
DELIVERS RESULTS

 **NovaCrop** SAP
ANALYSIS



Sap Analysis Delivers

Timely

Real time information.
Usally within 5-7 days.

Accuracy

Getting better at meeting
specific crop needs.



Knowledge

What is happening
nutritionally inside the
plant.

Precision

Consistency from
year to year.

Efficiency

Less waste and
maximizing crop inputs

Important Differences in Technology

Tissue Testing

- Looks backward
- Includes dry matter
- Fewer data points
- General data

Sap Analysis

- Looks forward
- Reveals nutritional imbalances before they appear visibly
- Specific target ranges for multiple crops.

- ✓ 17 Essential Minerals for plant nutrition
- ✓ Total Sugars
- ✓ pH
- ✓ Nitrogen Cycle
- ✓ Critical Interactions

Mineral		Current Level	Optimum		
Total Sugars	%	1,9	0,6 - 1,9	1	
	%	1,1		2	
pH		6,5	6,2 - 6,6	1	
		7,5		2	
EC	mS/cm	11,3	12,5 - 15,5	1	
	mS/cm	16,2		2	
K - Potassium	ppm	4025	4698 - 6102	1	
	ppm	4231		2	
Ca - Calcium	ppm	419	1633 - 2967	1	
	ppm	2572		2	
K / Ca		9,60		1	
		1,65		2	
Mg - Magnesium	ppm	566	1120 - 1680	1	
	ppm	2024		2	
Na - Sodium	ppm	4	6 - 12	1	
	ppm	<1		2	
NH4 - Ammonium	ppm	285	215 - 400	1	
	ppm	250		2	
NO3 - Nitrate	ppm	766	55 - 165	1	
	ppm	2091		2	
N in Nitrate	ppm	173	12 - 37	1	
	ppm	472		2	
N - Total Nitrogen	ppm	1979	1720 - 2328	1	
	ppm	2019		2	
Cl - Chloride	ppm	481	737 - 1463	1	
	ppm	1511		2	
S - Sulfur	ppm	115	285 - 465	1	
	ppm	202		2	
P - Phosphorus	ppm	602	180 - 420	1	
	ppm	51		2	
Si - Silica	ppm	26,5	52,0 - 78,0	1	
	ppm	54,7		2	
Fe - Iron	ppm	0,51	3,35 - 6,65	1	
	ppm	1,23		2	
Mn - Manganese	ppm	1,91	7,80 - 18,20	1	
	ppm	2,71		2	
Zn - Zinc	ppm	3,50	7,80 - 18,20	1	
	ppm	4,68		2	
B - Boron	ppm	2,24	8,71 - 17,29	1	
	ppm	17,42		2	
Cu - Copper	ppm	0,47	0,60 - 1,80	1	
	ppm	2,23		2	
Mo - Molybdenum	ppm	<0,05	0,15 - 0,45	1	
	ppm	0,12		2	
Al - Aluminium	ppm	<0,50	<0,50 - 1,15	1	
	ppm	<0,50		2	
Co - Cobalt	ppm	<0,10		1	
	ppm	<0,10		2	

**Influence
critical stages of
development.**





Mineral		Current Level	Optimum			
Total Sugars	%	0,5	0,6 - 1,9	1	<div style="width: 30%;"></div>	
	%	0,4		2	<div style="width: 20%;"></div>	
pH		6,5	6,2 - 6,6	1	<div style="width: 80%;"></div>	
		6,5		2	<div style="width: 90%;"></div>	
EC	mS/cm	9,7	12,5 - 15,5	1	<div style="width: 40%;"></div>	
	mS/cm	12,8		2	<div style="width: 60%;"></div>	
K - Potassium	ppm	3924	4698 - 6102	1	<div style="width: 50%;"></div>	
	ppm	2731		2	<div style="width: 30%;"></div>	
Ca - Calcium	ppm	217	1633 - 2967	1	<div style="width: 5%;"></div>	
	ppm	2055		2	<div style="width: 50%;"></div>	
K / Ca		18,08		1	<div style="width: 0%;"></div>	
		1,33		2	<div style="width: 0%;"></div>	
Mg - Magnesium	ppm	398	1120 - 1680	1	<div style="width: 10%;"></div>	
	ppm	1263		2	<div style="width: 50%;"></div>	
Na - Sodium	ppm	9	6 - 12	1	<div style="width: 70%;"></div>	
	ppm	11		2	<div style="width: 85%;"></div>	
NH4 - Ammonium	ppm	509	215 - 400	1	<div style="width: 0%;"></div>	
	ppm	464		2	<div style="width: 0%;"></div>	
NO3 - Nitrate	ppm	<20	55 - 165	1	<div style="width: 5%;"></div>	
	ppm	<20		2	<div style="width: 2%;"></div>	
N in Nitrate	ppm	<5	12 - 37	1	<div style="width: 10%;"></div>	
	ppm	<5		2	<div style="width: 5%;"></div>	
N - Total Nitrogen	ppm	3102	1720 - 2328	1	<div style="width: 100%;"></div>	
	ppm	1966		2	<div style="width: 60%;"></div>	
Cl - Chloride	ppm	166	737 - 1463	1	<div style="width: 10%;"></div>	
	ppm	919		2	<div style="width: 50%;"></div>	
S - Sulfur	ppm	118	285 - 465	1	<div style="width: 20%;"></div>	
	ppm	137		2	<div style="width: 30%;"></div>	
P - Phosphorus	ppm	1049	180 - 420	1	<div style="width: 100%;"></div>	
	ppm	222		2	<div style="width: 50%;"></div>	
Si - Silica	ppm	51,4	52,0 - 78,0	1	<div style="width: 60%;"></div>	
	ppm	48,2		2	<div style="width: 50%;"></div>	
Fe - Iron	ppm	1,35	3,35 - 6,65	1	<div style="width: 20%;"></div>	
	ppm	1,48		2	<div style="width: 30%;"></div>	
Mn - Manganese	ppm	3,02	7,80 - 18,20	1	<div style="width: 20%;"></div>	
	ppm	7,97		2	<div style="width: 50%;"></div>	
Zn - Zinc	ppm	9,02	7,80 - 18,20	1	<div style="width: 50%;"></div>	
	ppm	11,92		2	<div style="width: 60%;"></div>	
B - Boron	ppm	1,27	8,71 - 17,29	1	<div style="width: 5%;"></div>	
	ppm	7,13		2	<div style="width: 40%;"></div>	
Cu - Copper	ppm	0,40	0,60 - 1,80	1	<div style="width: 30%;"></div>	
	ppm	0,64		2	<div style="width: 50%;"></div>	
Mo - Molybdenum	ppm	<0,05	0,15 - 0,45	1	<div style="width: 20%;"></div>	
	ppm	<0,05		2	<div style="width: 15%;"></div>	
Al - Aluminium	ppm	<0,50	<0,50 - 1,15	1	<div style="width: 50%;"></div>	
	ppm	<0,50		2	<div style="width: 60%;"></div>	
Co - Cobalt	ppm	<0,10		1	<div style="width: 0%;"></div>	
	ppm	<0,10		2	<div style="width: 0%;"></div>	

Consult your advisor for appropriate fertilizer recommendations.

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Limited Transpiration

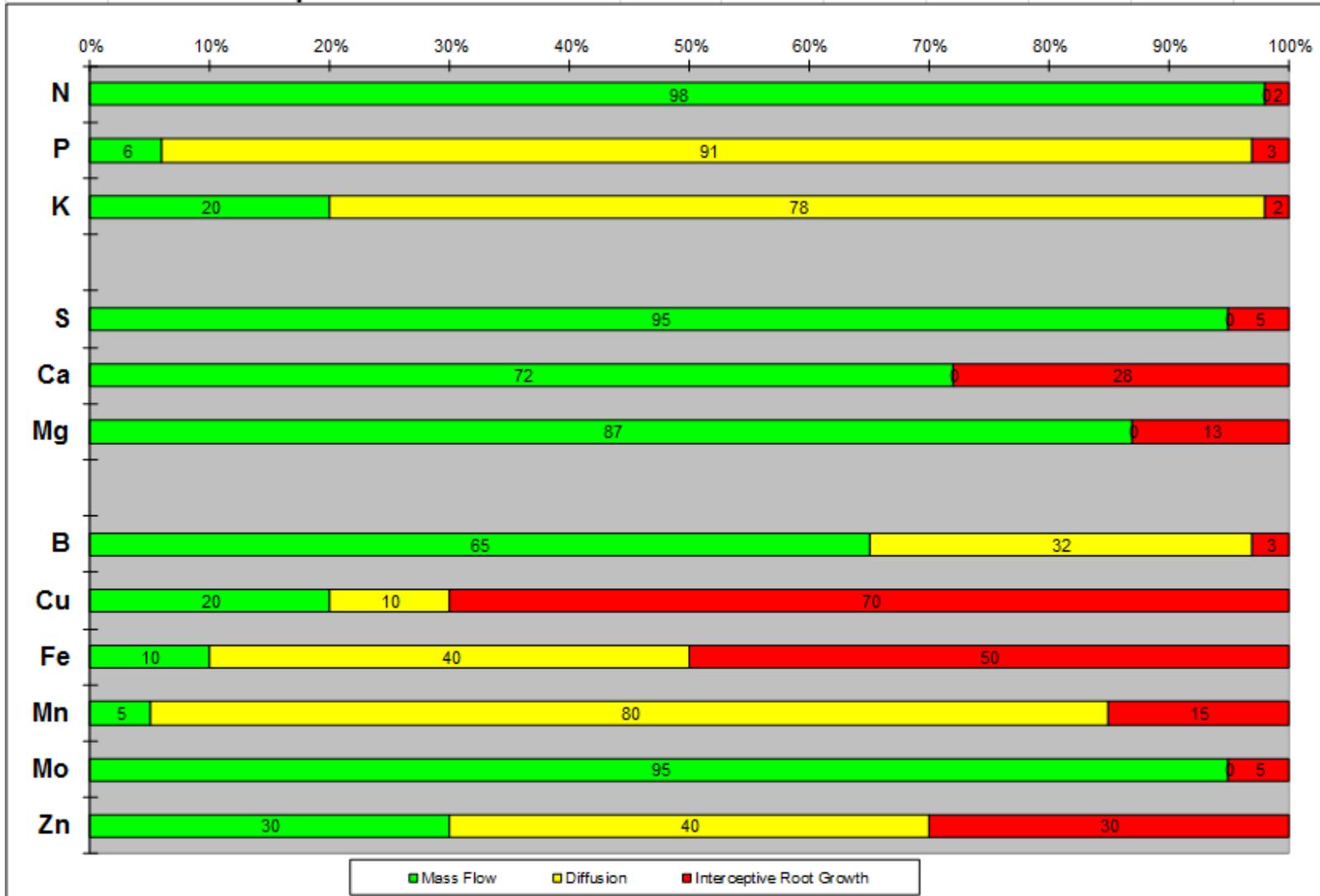
Water Stress or High Humidity?



Effects on Ca and Mg uptake.

Ca - Calcium	ppm	217	1633 - 2967	1	
	ppm	2055		2	
K / Ca		18,08		1	
		1,33		2	
Mg - Magnesium	ppm	398	1120 - 1680	1	
	ppm	1263		2	

Percentages of Nutrient Uptake Through Roots by Mass Flow, Diffusion and Interceptive Root Growth



Compiled from data in BARBER and OLSEN 1968, DENNIS 1971

Sysstem-Advance[®] 5-0-0

Guaranteed Analysis:

Total Nitrogen (N) 5% Urea nitrogen	5.0%
Sulfur (S)	1.25%
Boron (B)	0.10%
Manganese (Mn) 2.0% Water Soluble Manganese	2.0%
Molybdenum (Mo)	0.01%
Zinc (Zn)	4.0%

Derived from

Urea, Boric Acid, Ammonium Molybdate, Manganese Phosphite,
Zinc Phosphite and Zinc Sulfate

Net Wgt 26.25 lbs / 2.5 gal

AGRO·K 

Sysstem-LeafMax[™]

Guaranteed Analysis:

Magnesium (Mg)	0.50%
Sulfur (S)	2.0%
Cobalt (Co)	0.005%
Copper (Cu)	0.50%
Iron (Fe)	0.75%
Manganese (Mn)	1.25%
Molybdenum (Mo)	0.15%
Zinc (Zn)	3.0%

Derived from

Cobalt Carbonate, Copper Sulfate, Ferrous Sulfate, Magnesium
Carbonate, Magnesium Sulfate, Manganese Phosphite, Sodium
Molybdate, Zinc Phosphite, Zinc Sulfate

Product density is 10.84 lbs/gallon
at 68 degrees Fahrenheit.

Net Wgt 27.10 lbs / 2.5 gal
Net Wgt 12.30kg / 9.46L

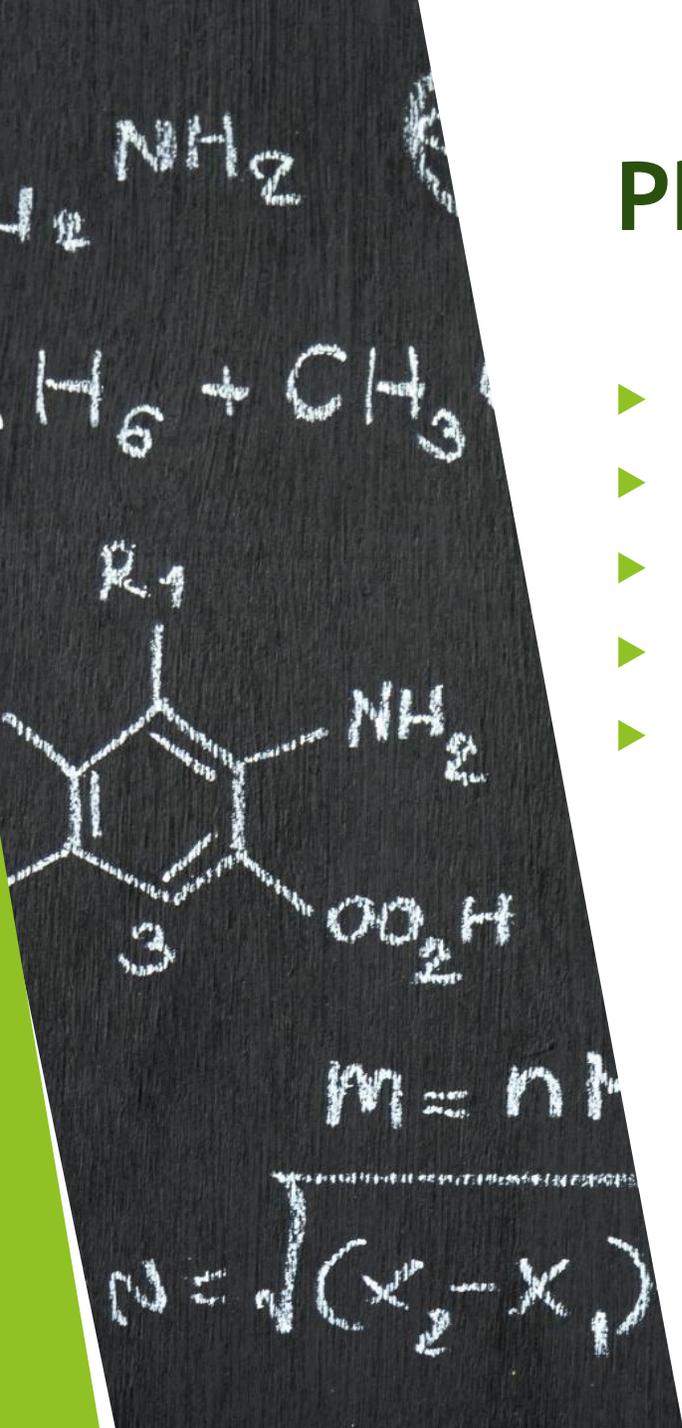
AGRO·K 

Sysstem[™] Series

- ▶ All TRUE mineral nutritional phosphites
- ▶ Highly systemic
- ▶ Compatible with many crop protection products

Phosphite and Root Flush

- ▶ PO3- NOT PO4
- ▶ Missing an Oxygen atom
- ▶ Increase in Root mass
- ▶ Optimize the ability to pull more nutrients out of the soil
- ▶ Activate natural SAR responses



Critical stages of development.





Mineral		Current Level	Optimum			
Total Sugars	%	1,9	0,6 - 1,9	1	[Progress bar]	
	%	1,1		2	[Progress bar]	
pH		6,5	6,2 - 6,6	1	[Progress bar]	
		7,5		2	[Progress bar]	
EC	mS/cm	11,3	12,5 - 15,5	1	[Progress bar]	
	mS/cm	16,2		2	[Progress bar]	
K - Potassium	ppm	4025	4698 - 6102	1	[Progress bar]	
	ppm	4231		2	[Progress bar]	
Ca - Calcium	ppm	419	1633 - 2967	1	[Progress bar]	
	ppm	2572		2	[Progress bar]	
K / Ca		9,60		1	[Progress bar]	
		1,65		2	[Progress bar]	
Mg - Magnesium	ppm	566	1120 - 1680	1	[Progress bar]	
	ppm	2024		2	[Progress bar]	
Na - Sodium	ppm	4	6 - 12	1	[Progress bar]	
	ppm	<1		2	[Progress bar]	
NH4 - Ammonium	ppm	285	215 - 400	1	[Progress bar]	
	ppm	250		2	[Progress bar]	
NO3 - Nitrate	ppm	766	55 - 165	1	[Progress bar]	
	ppm	2091		2	[Progress bar]	
N in Nitrate	ppm	173	12 - 37	1	[Progress bar]	
	ppm	472		2	[Progress bar]	
N - Total Nitrogen	ppm	1979	1720 - 2328	1	[Progress bar]	
	ppm	2019		2	[Progress bar]	
Cl - Chloride	ppm	481	737 - 1463	1	[Progress bar]	
	ppm	1511		2	[Progress bar]	
S - Sulfur	ppm	115	285 - 465	1	[Progress bar]	
	ppm	202		2	[Progress bar]	
P - Phosphorus	ppm	602	180 - 420	1	[Progress bar]	
	ppm	51		2	[Progress bar]	
Si - Silica	ppm	26,5	52,0 - 78,0	1	[Progress bar]	
	ppm	54,7		2	[Progress bar]	
Fe - Iron	ppm	0,51	3,35 - 6,65	1	[Progress bar]	
	ppm	1,23		2	[Progress bar]	
Mn - Manganese	ppm	1,91	7,80 - 18,20	1	[Progress bar]	
	ppm	2,71		2	[Progress bar]	
Zn - Zinc	ppm	3,50	7,80 - 18,20	1	[Progress bar]	
	ppm	4,68		2	[Progress bar]	
B - Boron	ppm	2,24	8,71 - 17,29	1	[Progress bar]	
	ppm	17,42		2	[Progress bar]	
Cu - Copper	ppm	0,47	0,60 - 1,80	1	[Progress bar]	
	ppm	2,23		2	[Progress bar]	
Mo - Molybdenum	ppm	<0,05	0,15 - 0,45	1	[Progress bar]	
	ppm	0,12		2	[Progress bar]	
Al - Aluminium	ppm	<0,50	<0,50 - 1,15	1	[Progress bar]	
	ppm	<0,50		2	[Progress bar]	
Co - Cobalt	ppm	<0,10		1	[Progress bar]	
	ppm	<0,10		2	[Progress bar]	

Consult your advisor for appropriate fertilizer recommendations.

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Because NovaCropControl has no effect and / or no control over the sampling, NovaCropControl accepts no liability for adverse effects as a result of its analysis or advice provided.



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