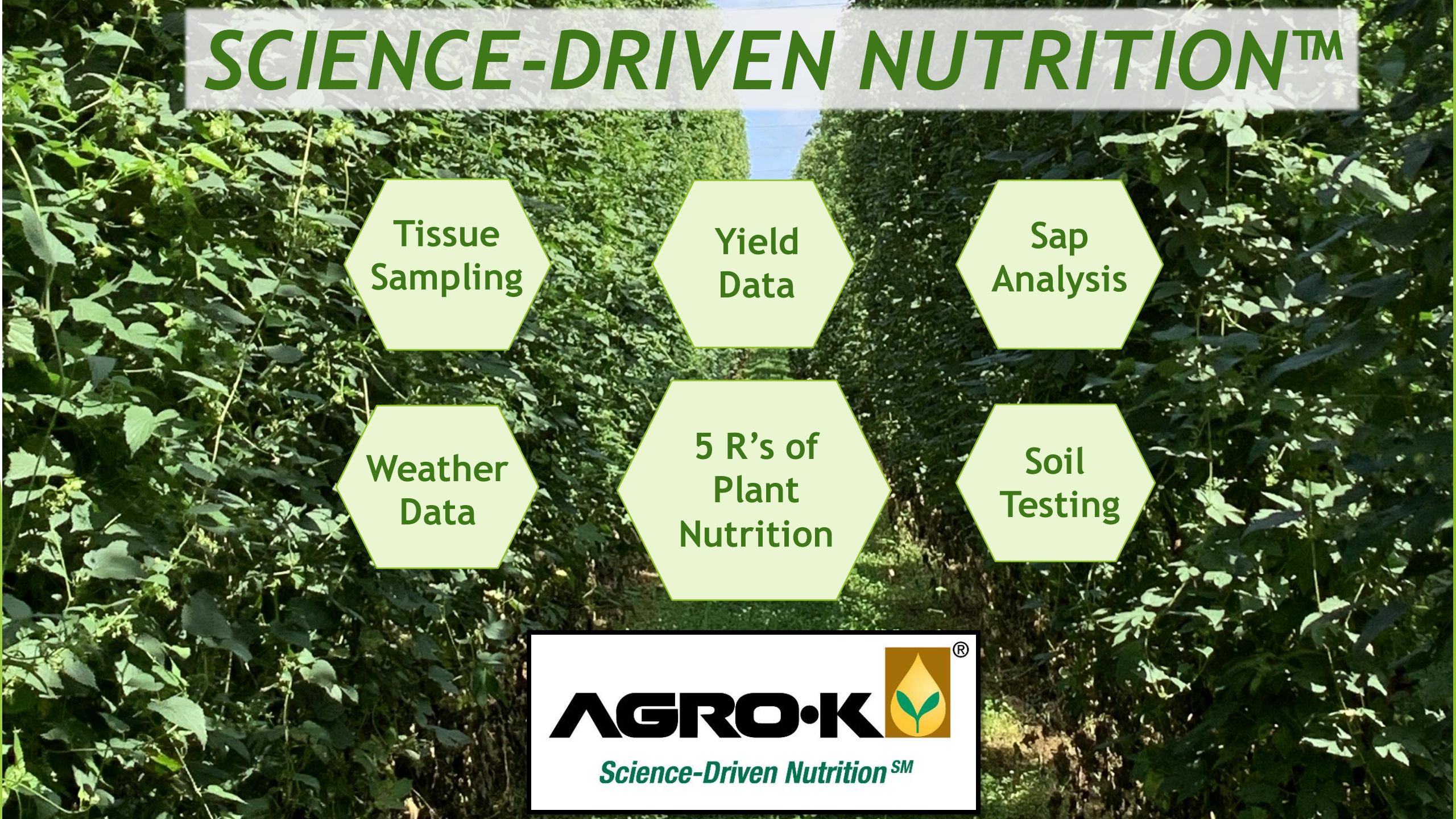
AGRO·K®

Science-Driven Nutrition℠

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
AGRO·K®
Science-Driven Nutrition℠

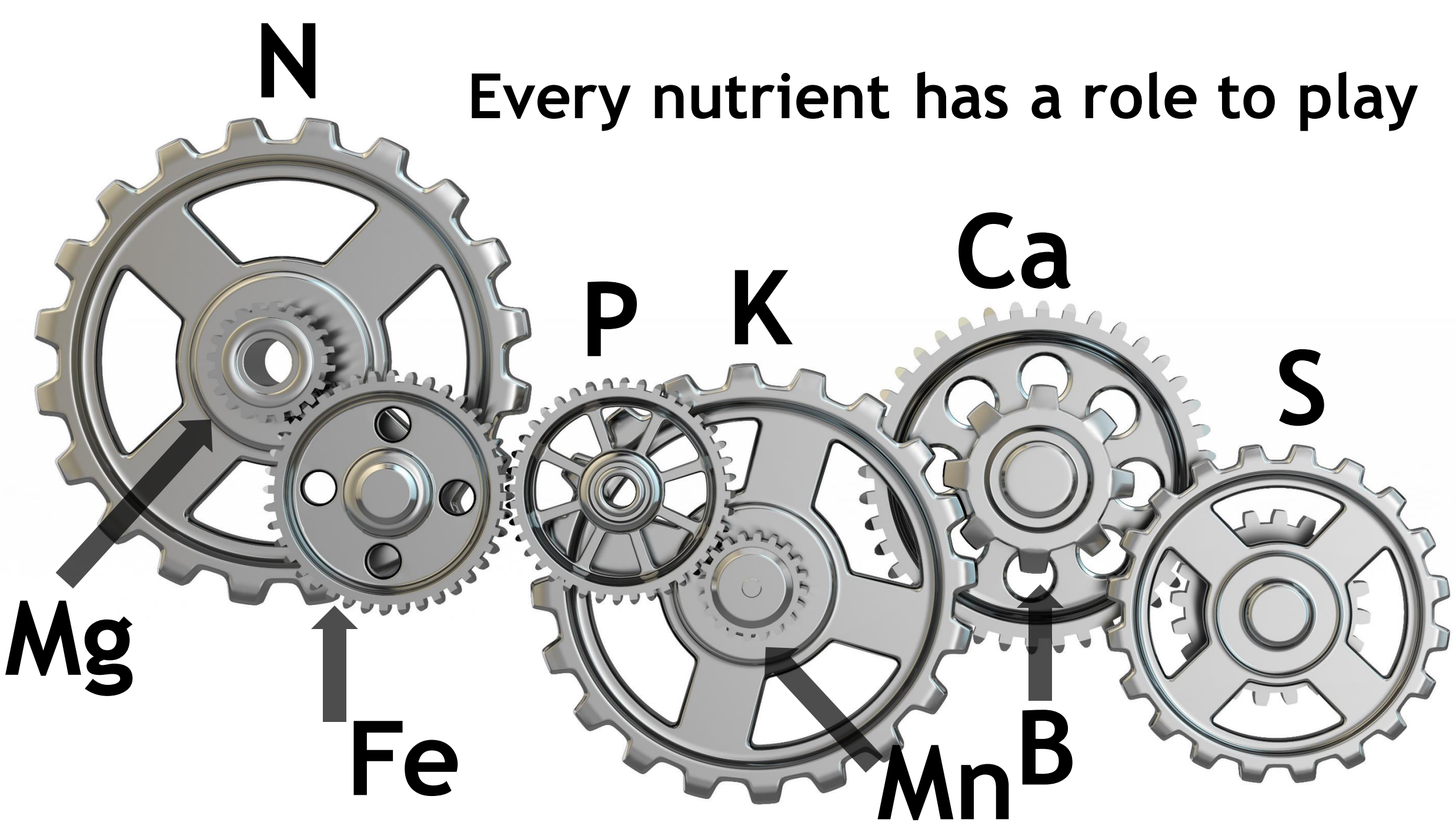
Agro-K's 5 R's

Right Nutrient
Right Time
Right Mix
Right Form
Right Place

Building A Strong Fertility Program

The Right Nutrient

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.)

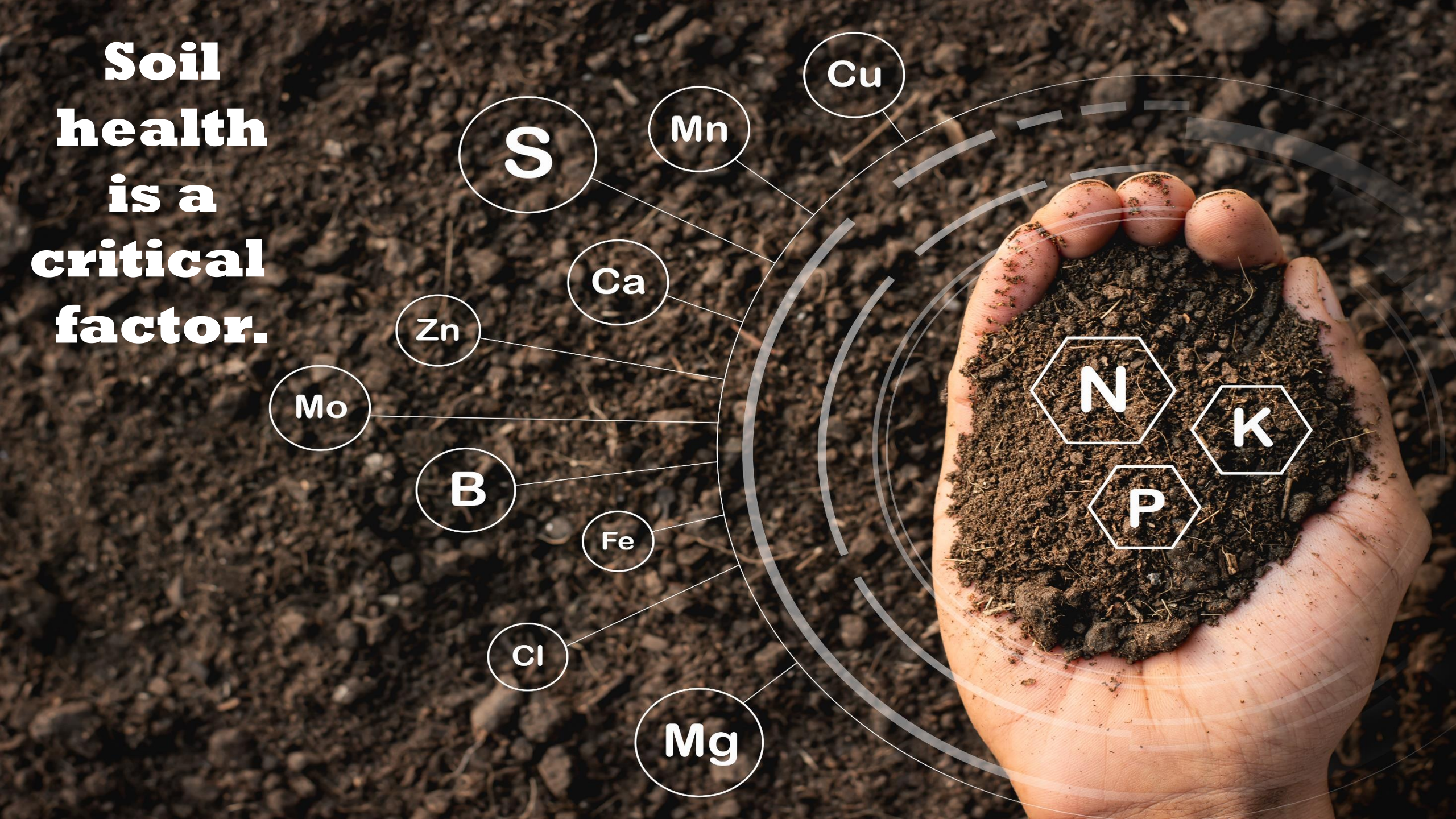
BioMax

CLEAN™

The Right Place

Leaves

Roots


Soil health is a critical factor.
S
Mn
Cu
Ca
Zn
Mo
B
Fe
Cl
Mg
N
K
P

Sap Analysis:
The Analytical Game Changer

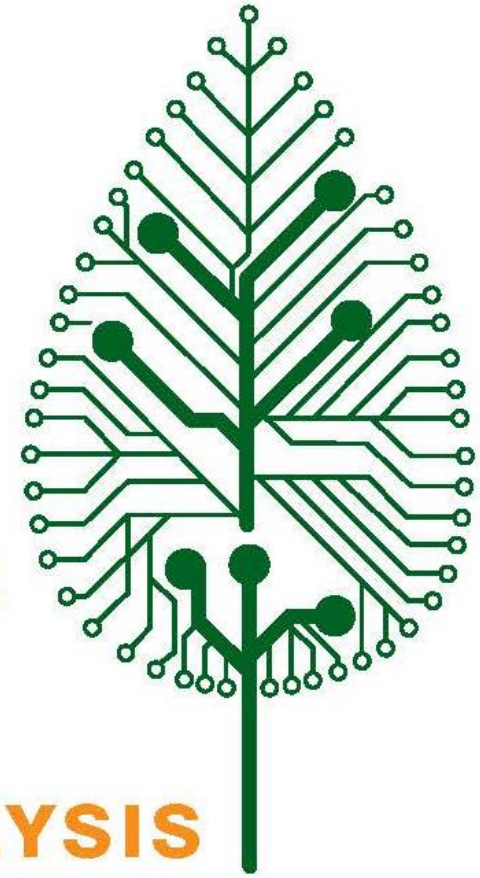
Providing greater insights into long-standing principles of plant nutrition.

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

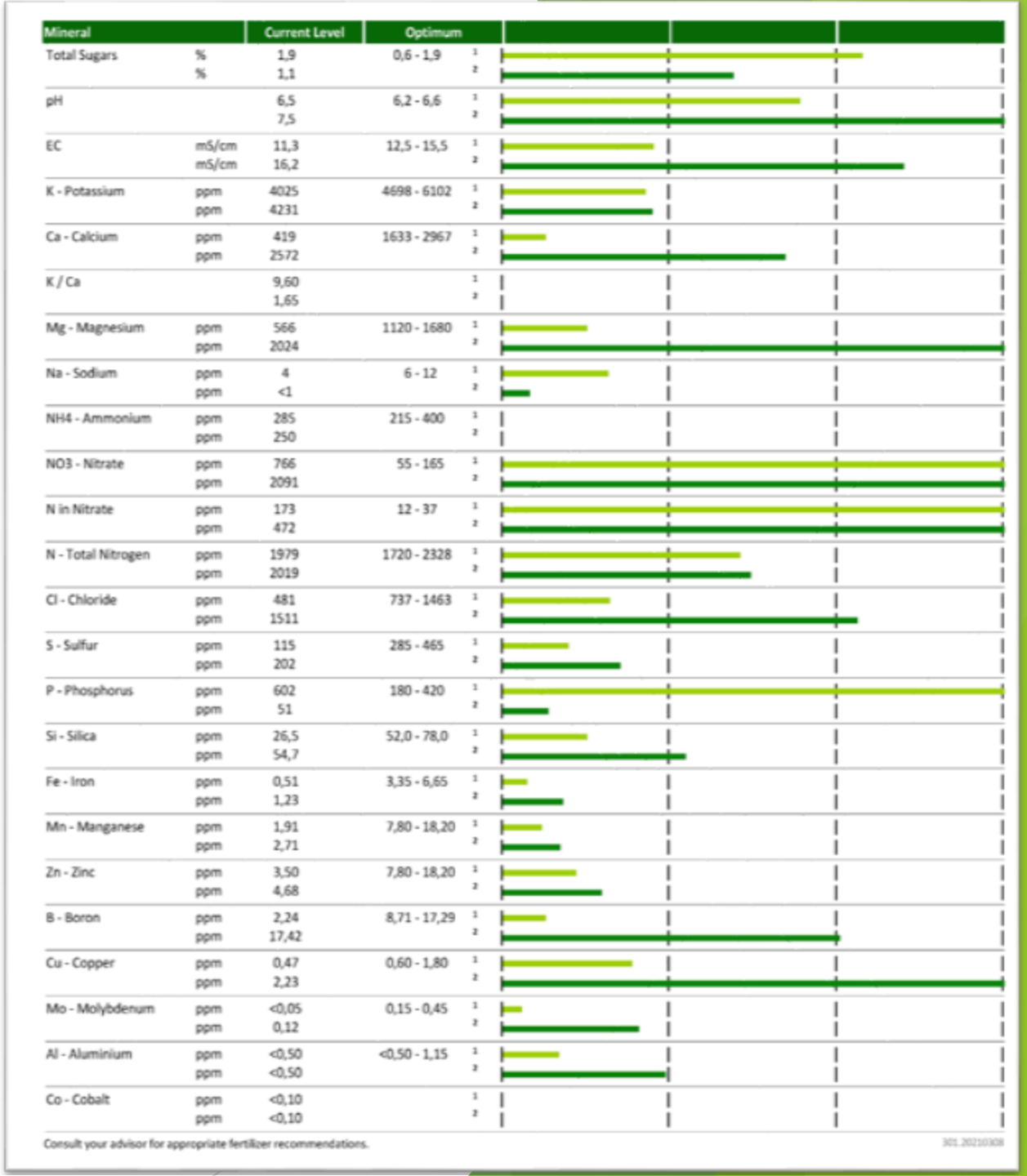
Tissue Testing

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

Consult your advisor for appropriate fertilizer recommendations.

Influence critical stages of development.

Mineral		Current Level	Optimum	
Total Sugars	%	0,5	0,6 - 1,9	1
	%	0,4		2
pH		6,5	6,2 - 6,6	1
		6,5		2
EC	mS/cm	9,7	12,5 - 15,5	1
	mS/cm	12,8		2
K - Potassium	ppm	3924	4698 - 6102	1
	ppm	2731		2
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
Na - Sodium	ppm	9	6 - 12	1
	ppm	11		2
NH4 - Ammonium	ppm	509	215 - 400	1
	ppm	464		2
NO3 - Nitrate	ppm	<20	55 - 165	1
	ppm	<20		2
N in Nitrate	ppm	<5	12 - 37	1
	ppm	<5		2
N - Total Nitrogen	ppm	3102	1720 - 2328	1
	ppm	1966		2
Cl - Chloride	ppm	166	737 - 1463	1
	ppm	919		2
S - Sulfur	ppm	118	285 - 465	1
	ppm	137		2
P - Phosphorus	ppm	1049	180 - 420	1
	ppm	222		2
Si - Silica	ppm	51,4	52,0 - 78,0	1
	ppm	48,2		2
Fe - Iron	ppm	1,35	3,35 - 6,65	1
	ppm	1,48		2
Mn - Manganese	ppm	3,02	7,80 - 18,20	1
	ppm	7,97		2
Zn - Zinc	ppm	9,02	7,80 - 18,20	1
	ppm	11,92		2
B - Boron	ppm	1,27	8,71 - 17,29	1
	ppm	7,13		2
Cu - Copper	ppm	0,40	0,60 - 1,80	1
	ppm	0,64		2
Mo - Molybdenum	ppm	<0,05	0,15 - 0,45	1
	ppm	<0,05		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

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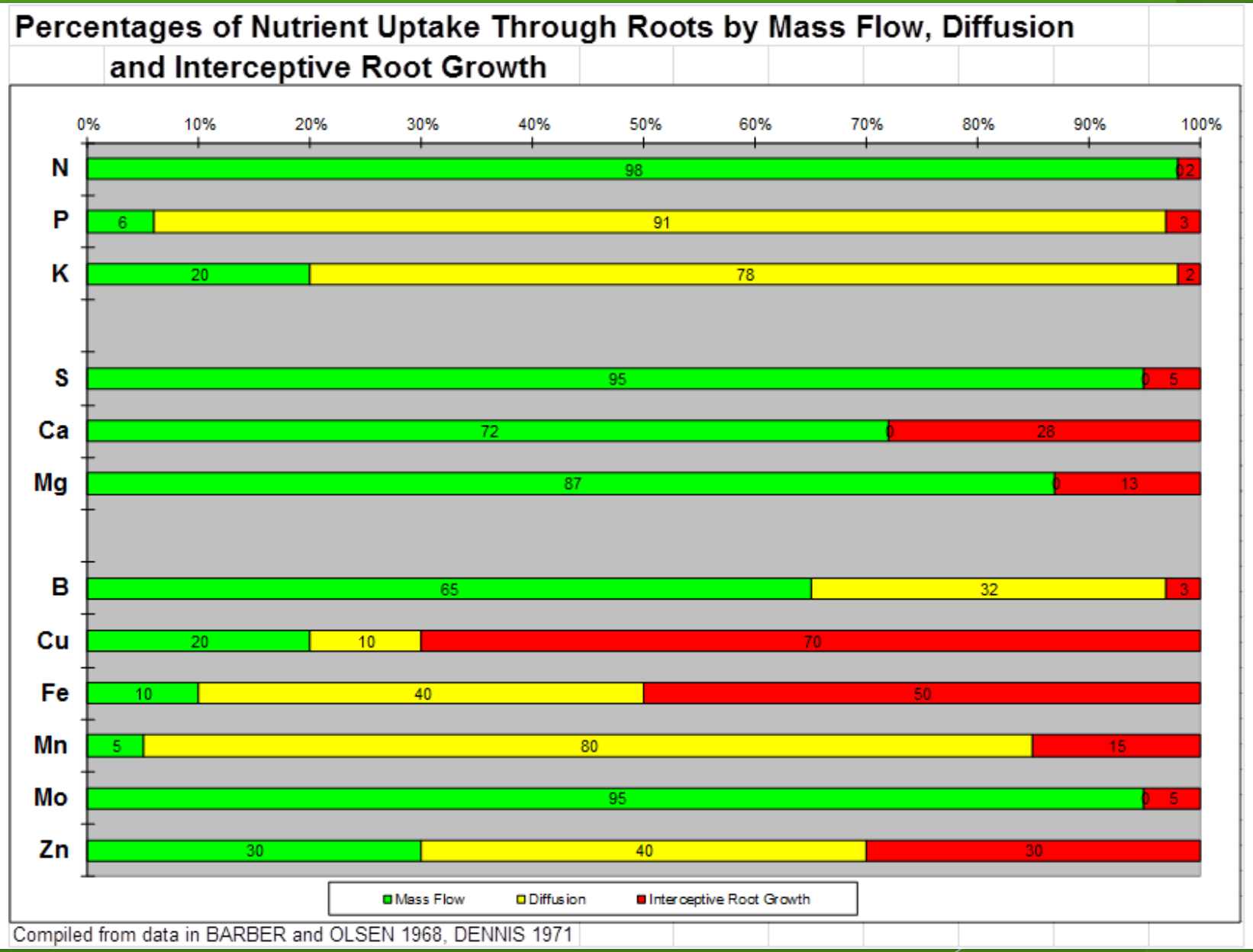
301.20210308

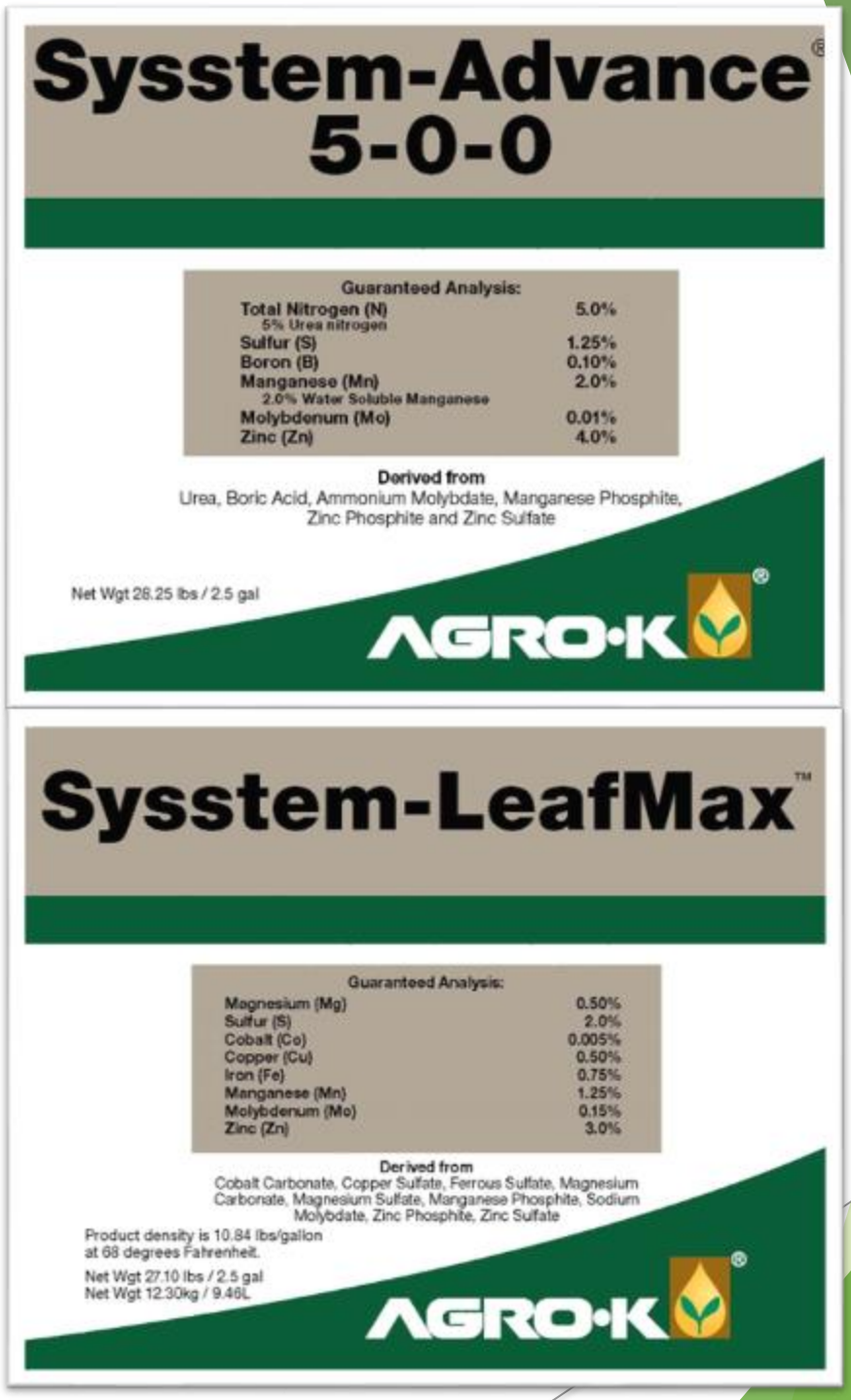
Limited Transpiration

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
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
N
98
2
P
6
91
3
K
20
78
2
S
95
5
Ca
72
28
Mg
87
13
B
65
32
3
Cu
20
10
70
Fe
10
40
50
Mn
5
80
15
Mo
95
5
Zn
30
40
30
Mass Flow
Diffusion
Interceptive Root Growth
Compiled from data in BARBER and OLSEN 1968, DENNIS 1971



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
	%	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
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	ppm	472		2
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	ppm	2019		2
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	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

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