



Add life to your product portfolio.

Vivid Life Sciences is taking a new look at plant physiology, searching the globe and vetting technologies that offer relevant and practical solutions to meet growers' needs. By focusing on three main areas of plant physiology, seed treatment, enhanced nutrition and advanced biologicals, we're bringing brighter ideas to plant performance. And, we're helping customers add life to their product portfolios. Learn more online at VividLifeSci.expert.



VividLifeSci.expert | Brighter ideas in plant performance.

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**BRIGHTER IDEAS IN
PLANT PERFORMANCE.**

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Mission

Vivid's Mission is to help farmers enhance yields profitably by providing advanced nutritional, nutritional enhancement and plant physiological solutions to distributor and partners in the USA and Canada, while making crop physiology a relevant and practical solution.



Seed Nutrition's Evolving Role in Early Seed Development

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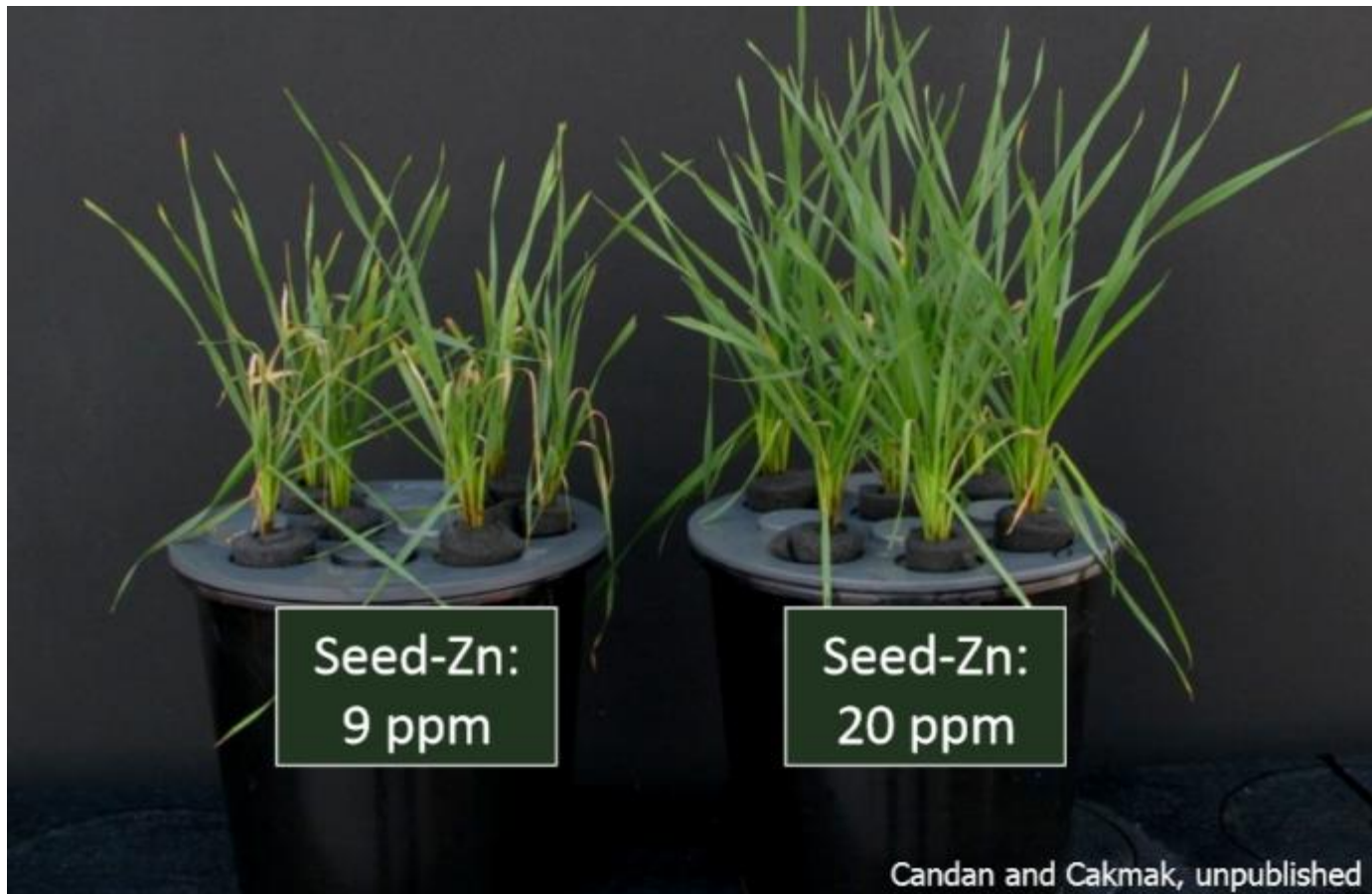




Seedling Vigor = Optimum Stand = Yield

- Reduces disease intensity
- Promotes larger root systems; Increases plants ability to acquire water and nutrients
- Promotes uniform plant growth and maturity
 - Increases harvestable yield
 - Increases crop quality parameters

Role of Seed Zn on Growth of Wheat Plants in a Growth Medium with low Zn supply



Micronutrients Role in Early Seed Development

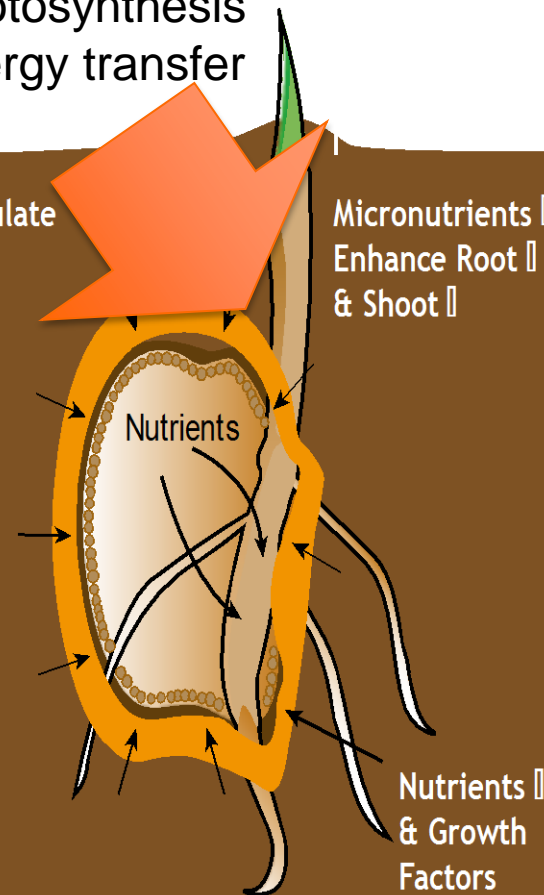
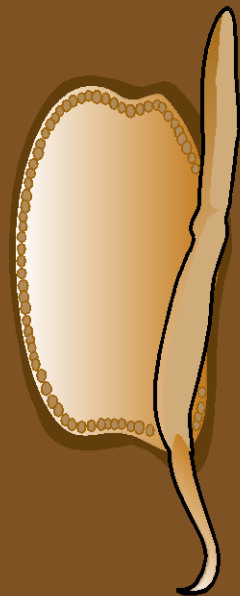
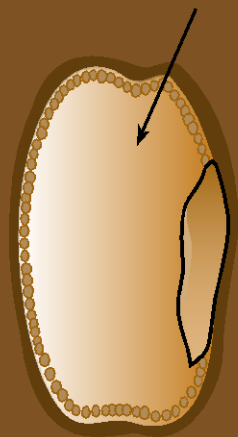
Mn: vital for photosynthesis
Cu: vital for energy transfer

Seed Struggles to Extract Nutrients

Germination & Establishment is Slowed

Growth Factors Stimulate Germination

Micronutrients Enhance Root & Shoot



Germination Without Broadacre Seed Dressing

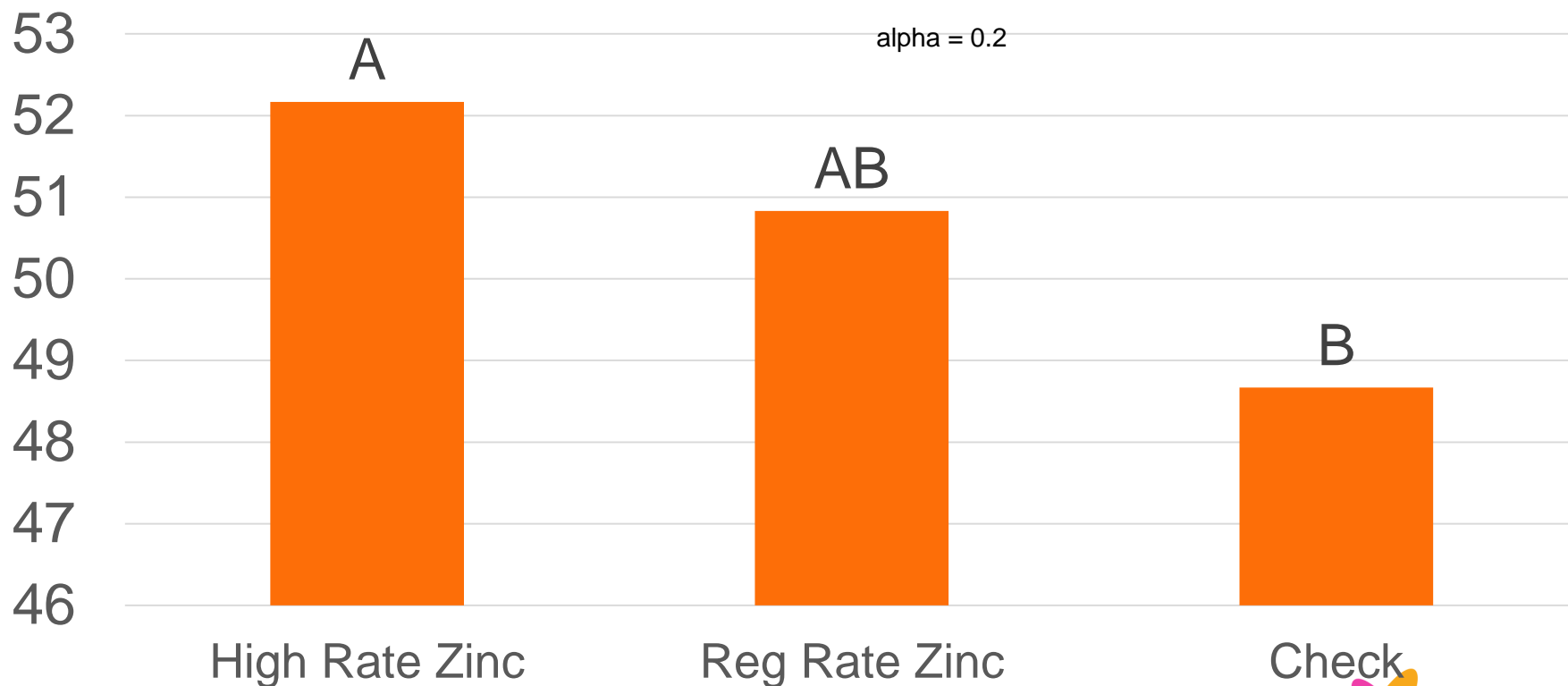
Germination With Broadacre Seed Dressing

Zn: Activates genes and mobilize enzymes involved in germination, synthesis of auxins

Early Crop Vigor – Zinc Usage in Corn

Vigor as measured by NDVI

GS - Vigor, St Cloud, MN



Early Crop Vigor – Zinc Usage in Corn

Early Crop Vigor Scores

	IN	SD	MN	OH	MO	WI	AVG
Untreated	4.50	3.17	5.00	4.00	3.30	2.67	3.77
Regular Rate Zinc	4.33	3.83	5.00	4.00	3.40	4.17	4.12
High Rate Zinc	4.50	3.83	5.00	4.17	3.30	4.50	4.22

Micronutrients Create Greater Consistency

2

Nutriseed[®] micronutrient seed treatment products create more consistent emergence and larger, more vigorous roots early in the plant's life.



Untreated vs. treated
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Micronutrients Seed Treatment Create Bigger Roots

	Plant Height mm 4 DAP	Plant Height mm 10 DAP	Root Length 10 DAP	Shoot Dry Weight mg 10 DAP	Root Dry Weight mg 10 DAP
Check	19.4	228.02	313.65	111.02	71.65
Regular Rate Zinc	20.9	231.56	317.69	112.13	74.79
High Rate Zinc	20.33	232.1	325.15	110.6	78.19

2015 Vivid Life Sciences Trial Data
 Corn Growth Chamber Study (SGS) 8 Corn Hybrids, 98-112 RM
 Product: Nutriseed® Zn

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Nutriseed[®] Zn

Control



Photo: Nutriseed Zn vs. Control

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Nutriseed® Zn/Mn Control

Photo: Nutriseed Zn/Mn vs. Control

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Micronutrients Placement is Essential

3

The closer we place the nutrient in proximity to the seed, the greater we enhance its ability to leverage essential micronutrients early in the life of the seed.



Untreated vs. treated

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Micronutrients Placement is Essential

If it is not in the root zone, the plant cannot use it.



Untreated vs. treated



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