



# Exceed The Seed – 2015

## Do We Re-Define Seed Quality

**Tim Eyrich**

Director Agronomy Services

**AGRI-TREND**

505-977-2314

[teyrich@agritrend.com](mailto:teyrich@agritrend.com)



@EyrichD



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THE POWER TO PERFORM

# AGRI-TREND

**OUR MISSION** Our mission is to help farmers allocate scarce resources to produce a safe, reliable and profitable food supply in an environmentally sustainable manner

**OUR VISION** To build the world's most credible, independent agricultural network by providing profitable leadership to our clients

**OUR PURPOSE** We make farmers more profitable by providing: Innovative, agricultural leadership Unbiased, independent advice Confidence to make better decisions Our services revolve a ground working with growers to GROW the crop, SELL the crop and MANAGE the money. - See more at: <http://www.agritrend.com/About-us.aspx#history>

If You Try to Ban The Future it  
Will Just Happen Somewhere  
Else



# Things We Need to Ask Ourselves

1. Is seed quality keeping pace with genetics.
2. Do we understand Seed Nutrient Density and manage for it in season.
3. Are we creating the right seed treatments
4. Are our seed quality testing attributes obsolete



# Influence of Seed Zn Content on Growth of Bread Wheat on a Zinc-Deficient Soil in Central Anatolia

0.36  
 $\mu\text{g Zn seed}^{-1}$

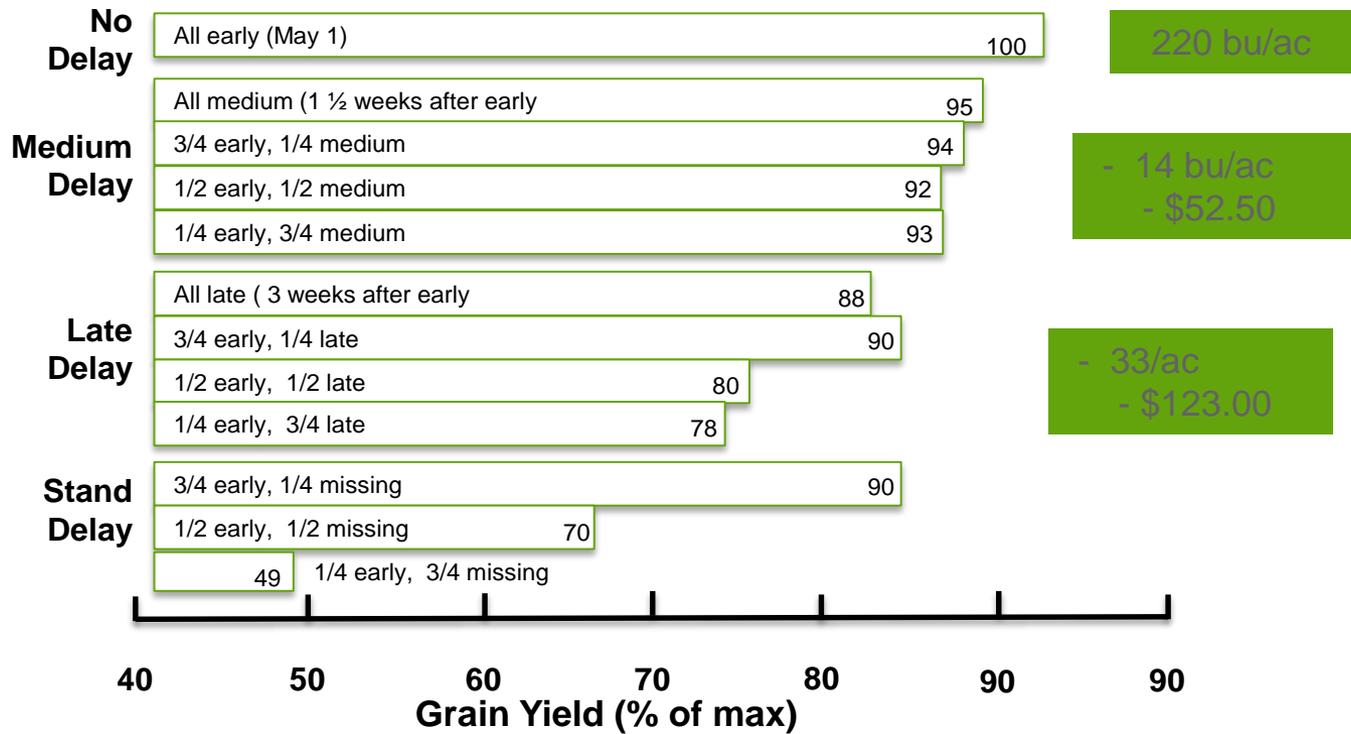
0.80  
 $\mu\text{g Zn seed}^{-1}$

1.47  
 $\mu\text{g Zn seed}^{-1}$

Source: Ekiz et al., 1998, J. Plant Nutr.

# It's About Uniformity

**Planting Time and Within-row Pattern**



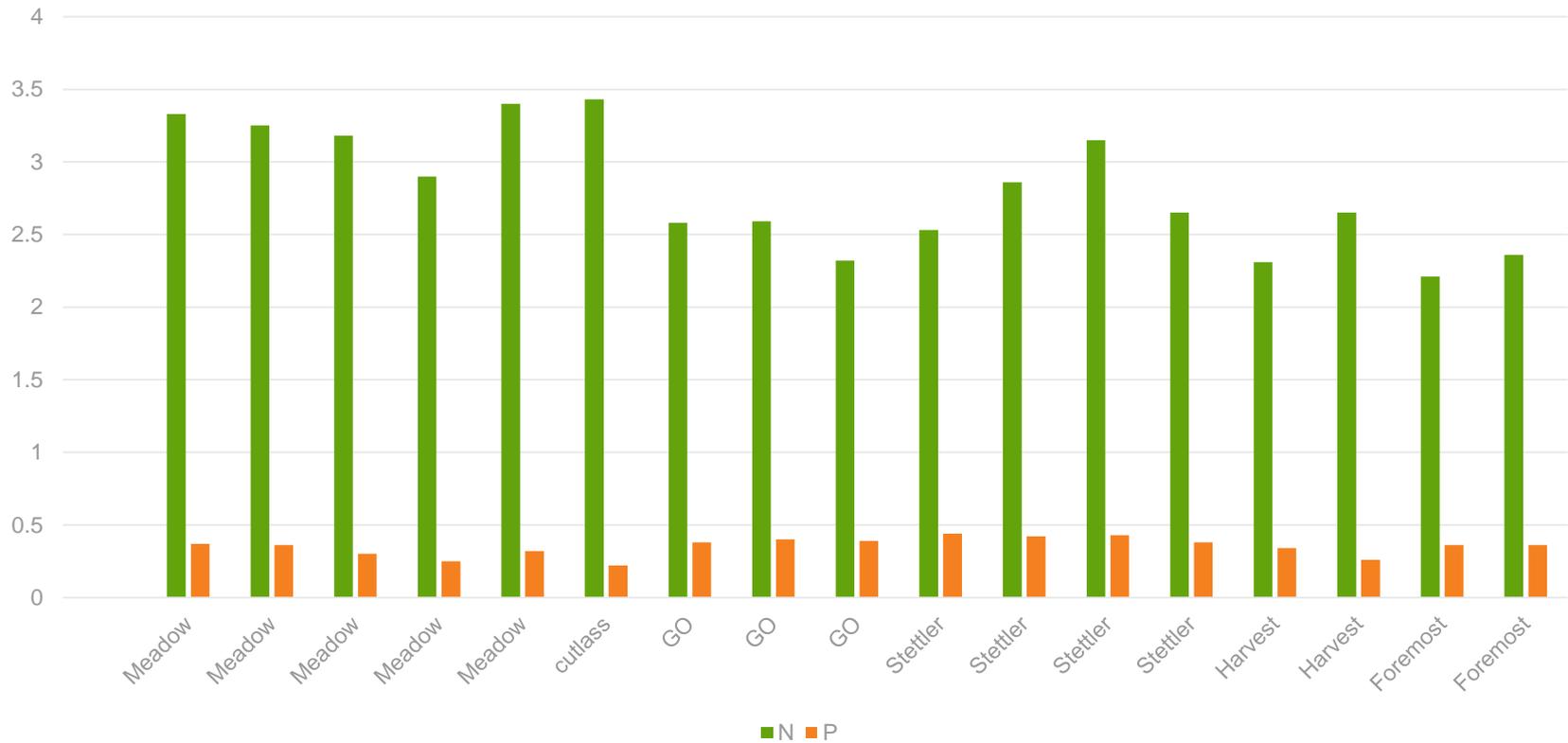
# The Importance of Uniform and Vigorous Emergence

- Plant populations can also influence the relative yield of late-emerging plants.
  - A Minnesota study found that when
    - **1/2 of the plants emerged 2 weeks late**
    - within final plant populations greater than **30,000 plants/acre**,
    - the late-emerging plants **made a much smaller contribution to total yield** than those occurring in final stands of **24,000 plants/acre** or lower.
- Uneven stands typically yield lower than even stands due to direct competition of plants at two different stages of growth next to one another.
  - Older plants out-compete younger plants for light, water, and nutrients.
  - In some cases, late-emerging plants are more vulnerable to silk clipping by corn rootworm beetles.
  - Severe silk clipping that occurs early in the pollination process can interrupt pollination and reduce kernel set on the ears.

# Seed Nutrient Density

## N and P

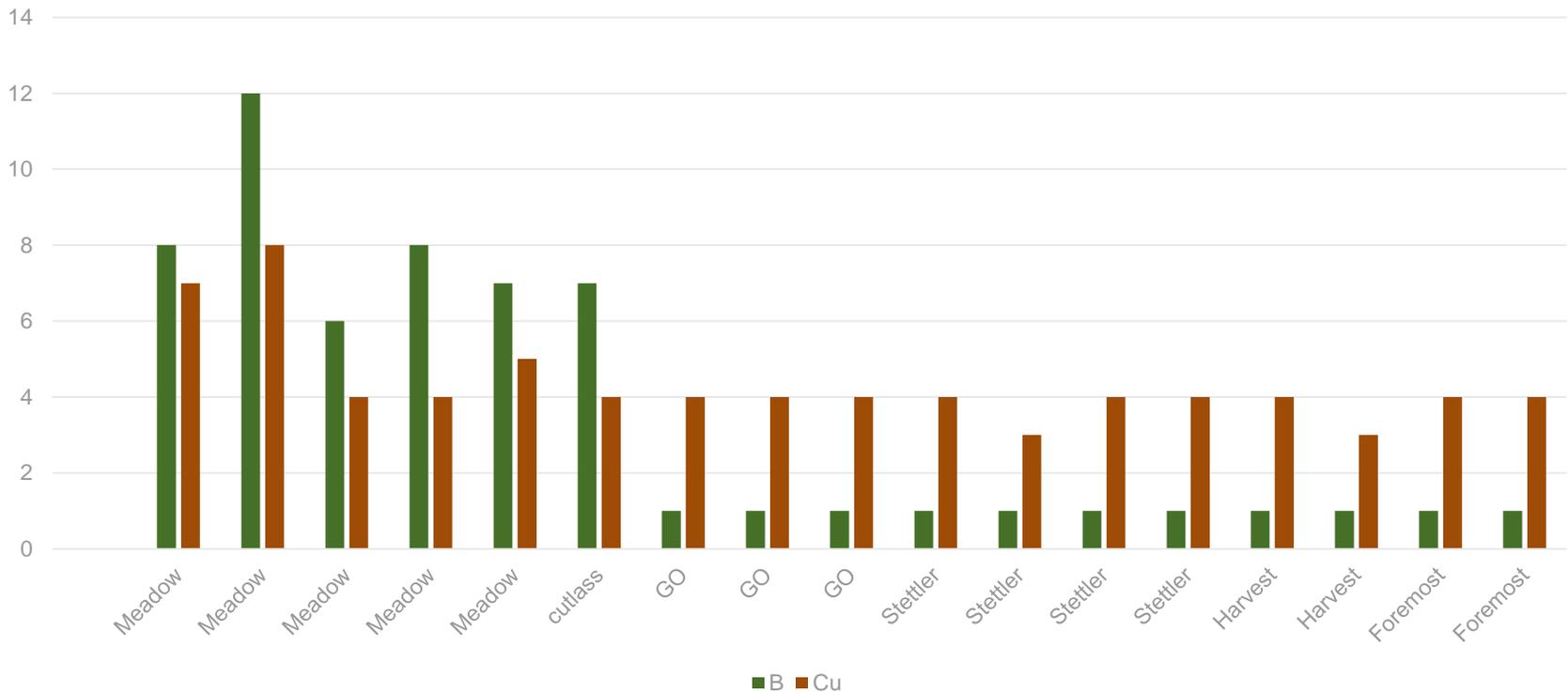
Chart Title



# Seed Nutrient Density

## B and Cu

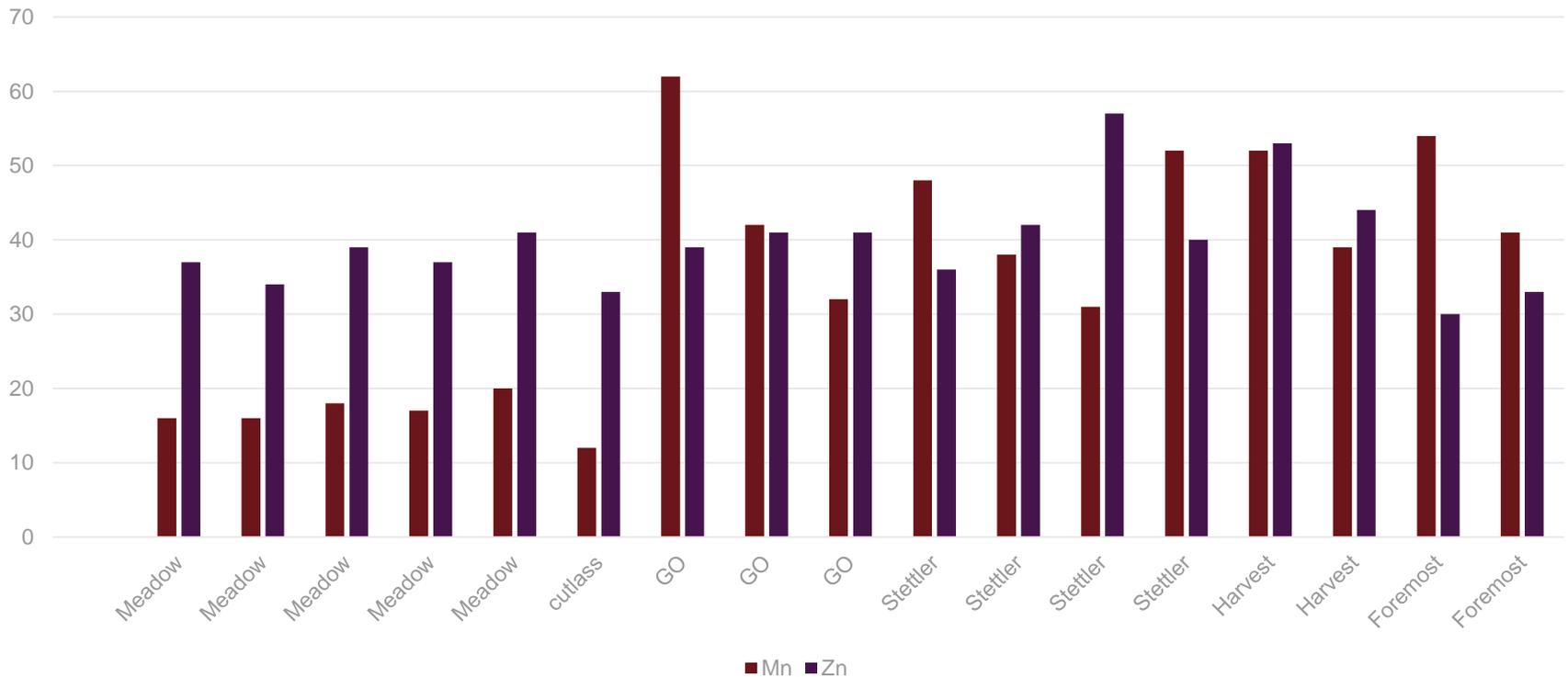
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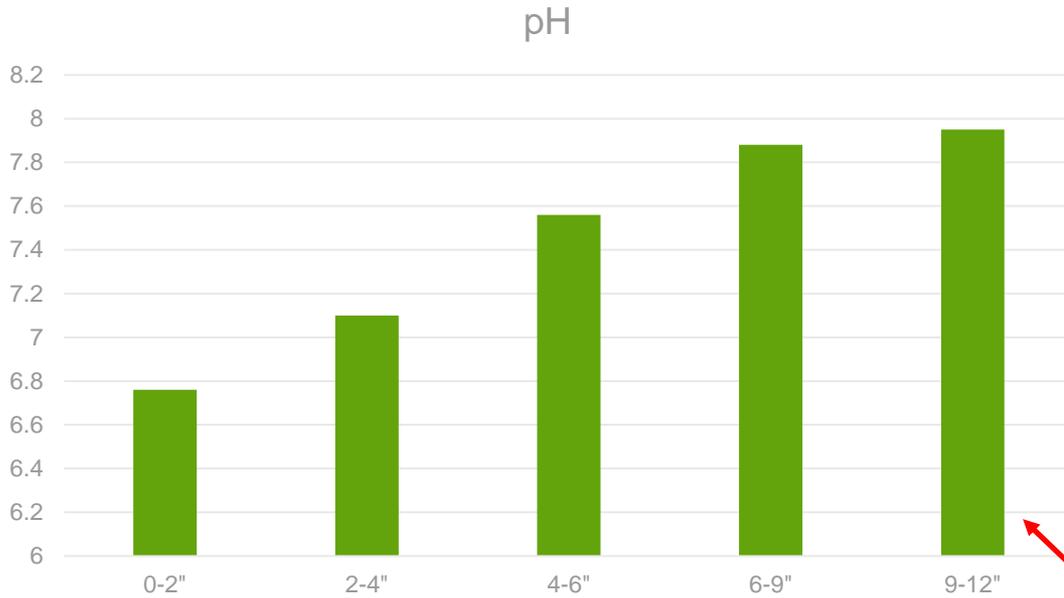


# Seed Nutrient Density

## Zn and Mn

Chart Title

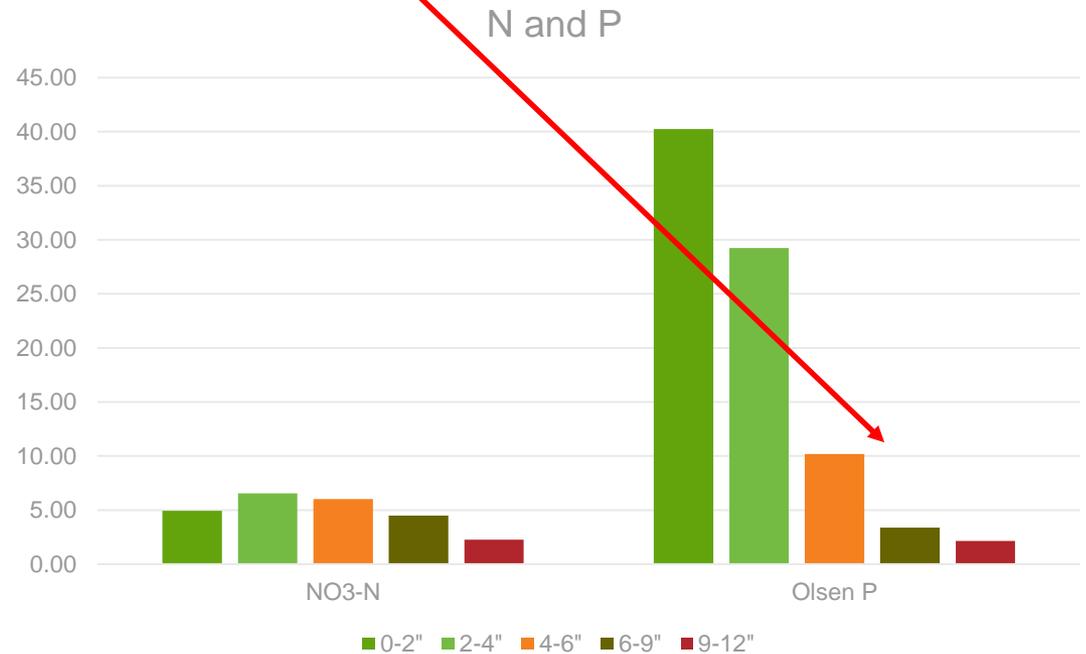




Where Are Our Nutrients During Grain Fill?

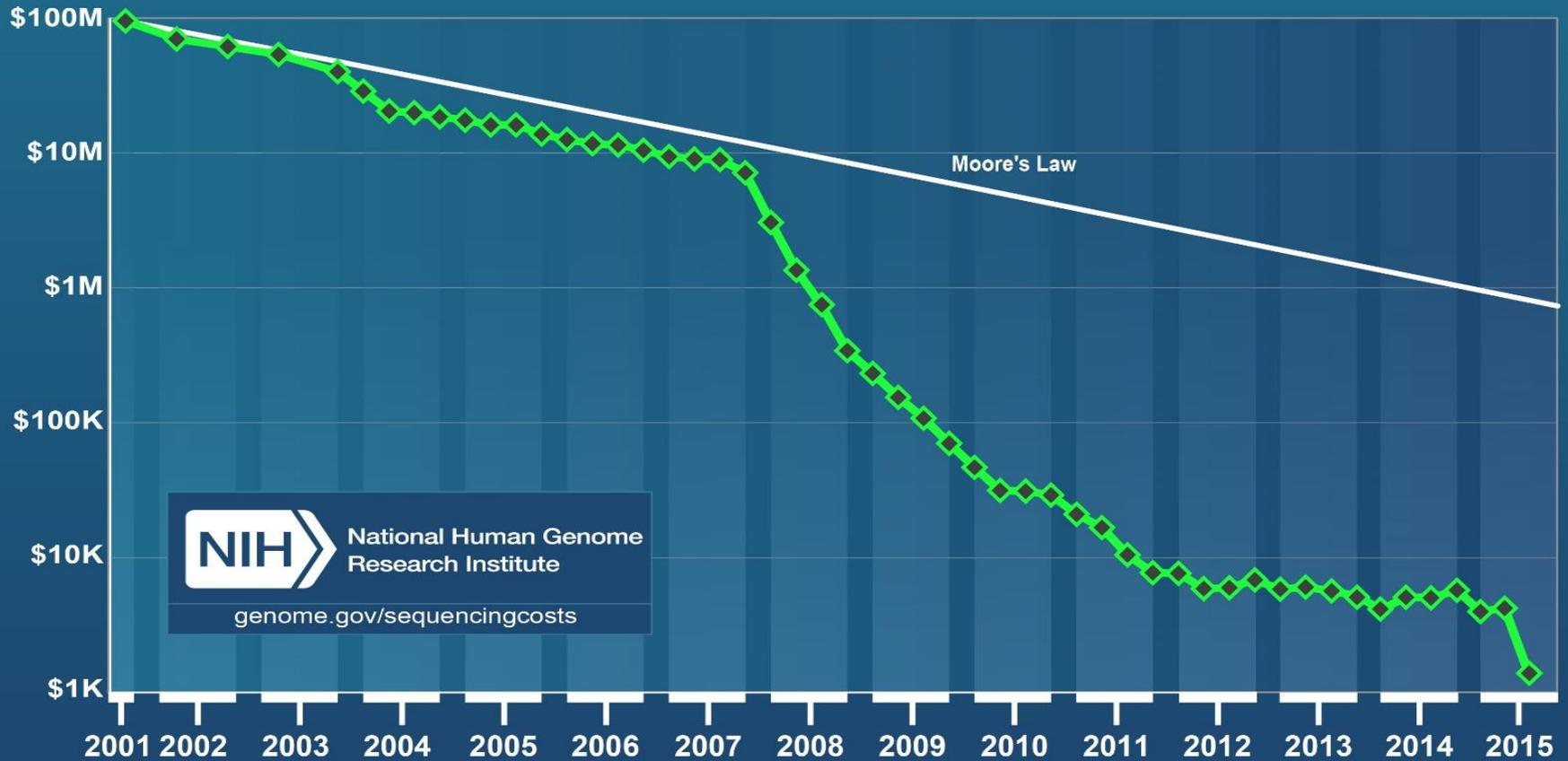
?

When Is the Highest P Uptake and Why



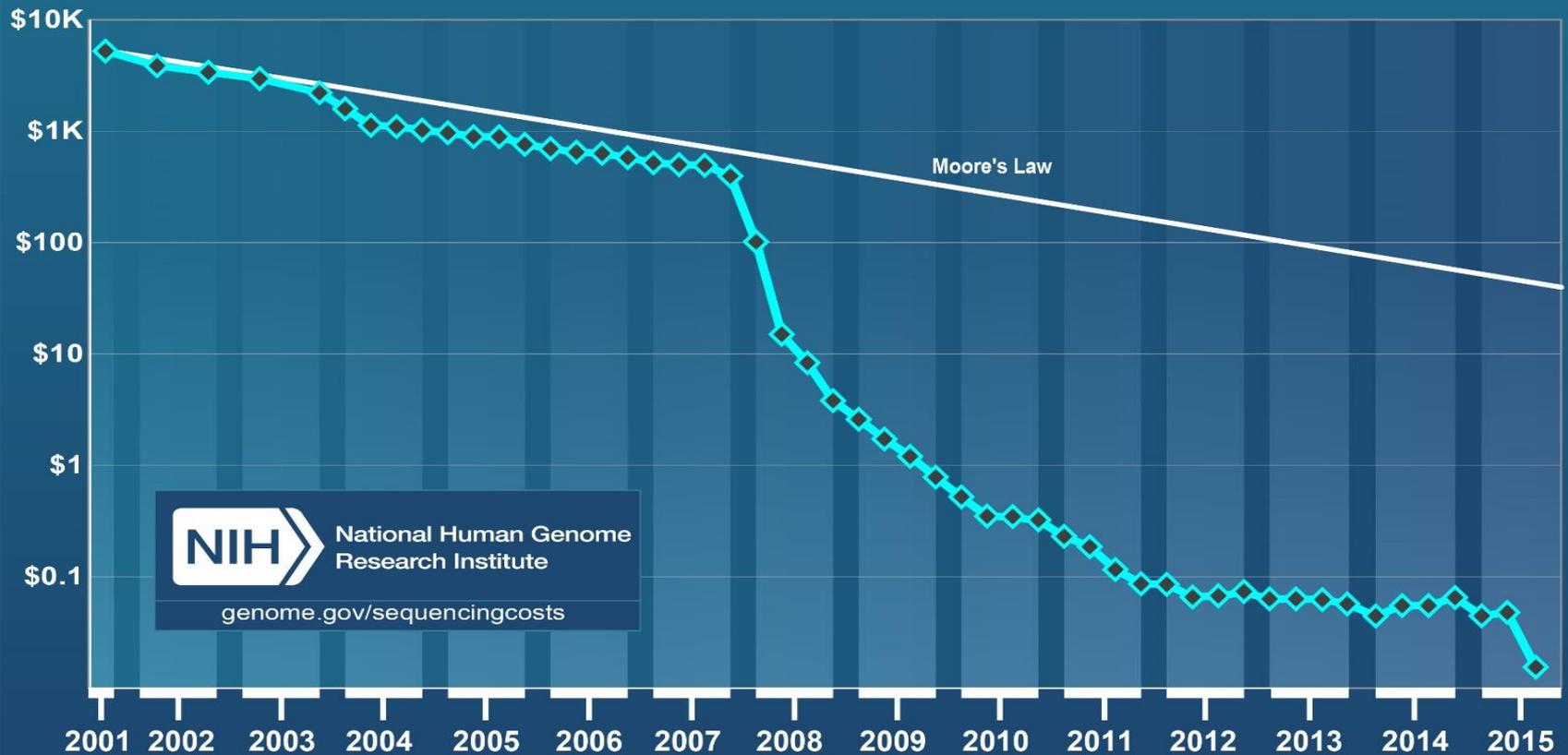
# A World of Opportunities

## Cost per Genome



# A World of Opportunities

## Cost per Raw Megabase of DNA Sequence



# Innovation

Do We Need to Look at Seed Quality Differently



# Should We Consider

1. Different Analytics
  1. Nutrients
  2. DNA and RNA
  3. PGR's
2. TKW and Seed Sizing
3. Manage In Season



# Thank You and Questions

