

# Best Management Practices Grant

**MicroEssentials® SZ On corn**

- Previous crop corn.
- Fall 2007 the field received 1.4 Loads of manure per acre (5800G/acre or 26460 L/acre)
- It received no manure in 2009
- May 17,2008 We took soil samples for P and K and micro nutrients.

- MicroEssentials® SZ Typical Analysis:

- Total Nitrogen 12%

- Total P2O5 40%

- Total Sulphur 10%

- Sulphur as Sulphate 5%

- Sulphur as elemental S 5%

- Total Zinc 1%

# Actual Nutrients applied in Lbs/acre

<b>treatment</b>	<b>Actual N</b>	<b>Actual P2O5</b>	<b>Actual Sulphur</b>	<b>Actual Zinc</b>
<b>Mix 1 (Urea, Ammonium Sulphate, MAP + Zn)</b>	<b>28</b>	<b>19</b>	<b>4.7</b>	<b>0.47</b>
<b>Mix 2 (MESZ)</b>	<b>29</b>	<b>20</b>	<b>4.9</b>	<b>0.50</b>
<b>Mix 3 (check)</b>	<b>None</b>	<b>None</b>	<b>None</b>	<b>None</b>
<b>soil test recommendation before manure application</b>	<b>110</b>	<b>77</b>		<b>0.00</b>



# Calibrating and Planting May 20, 2009 variety used DEKALB 26-79

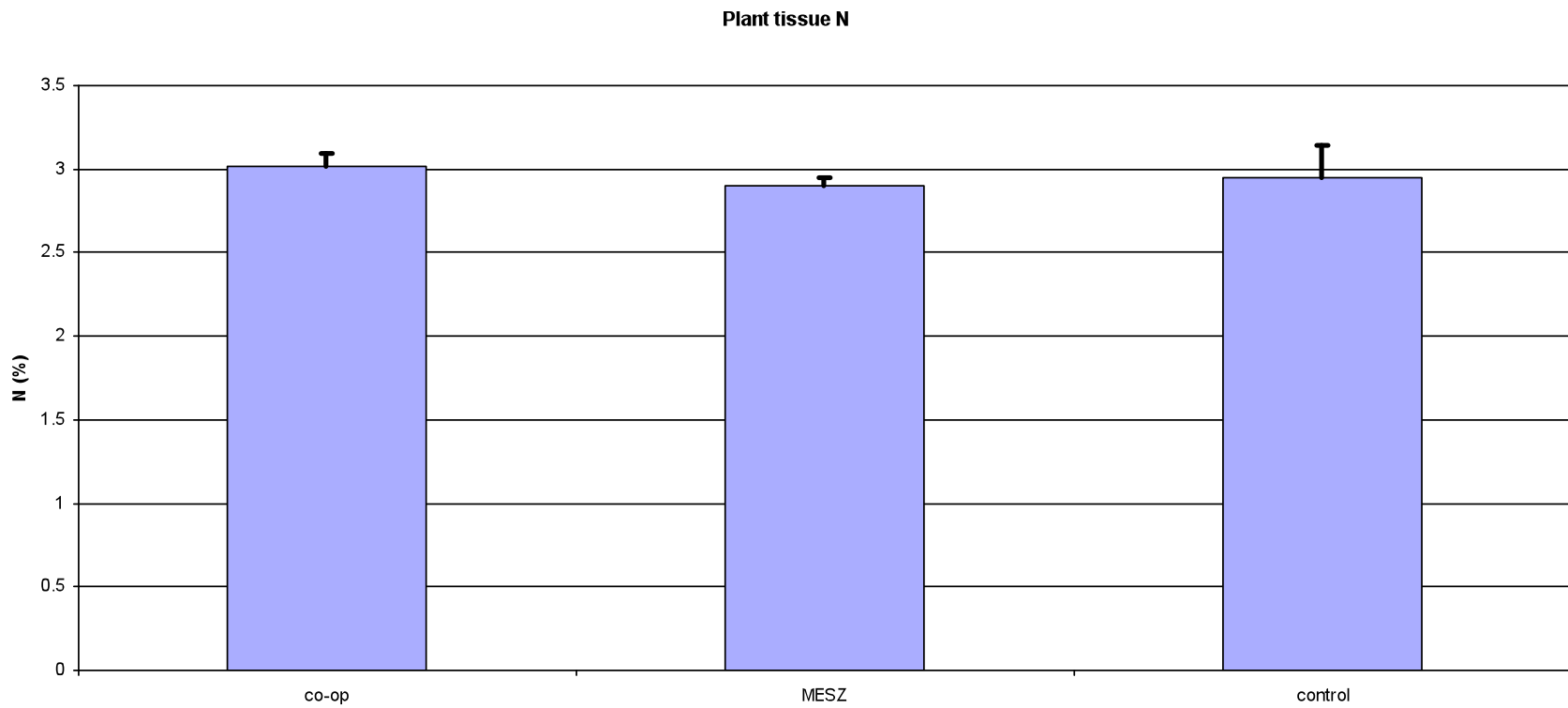


June 30, 2009

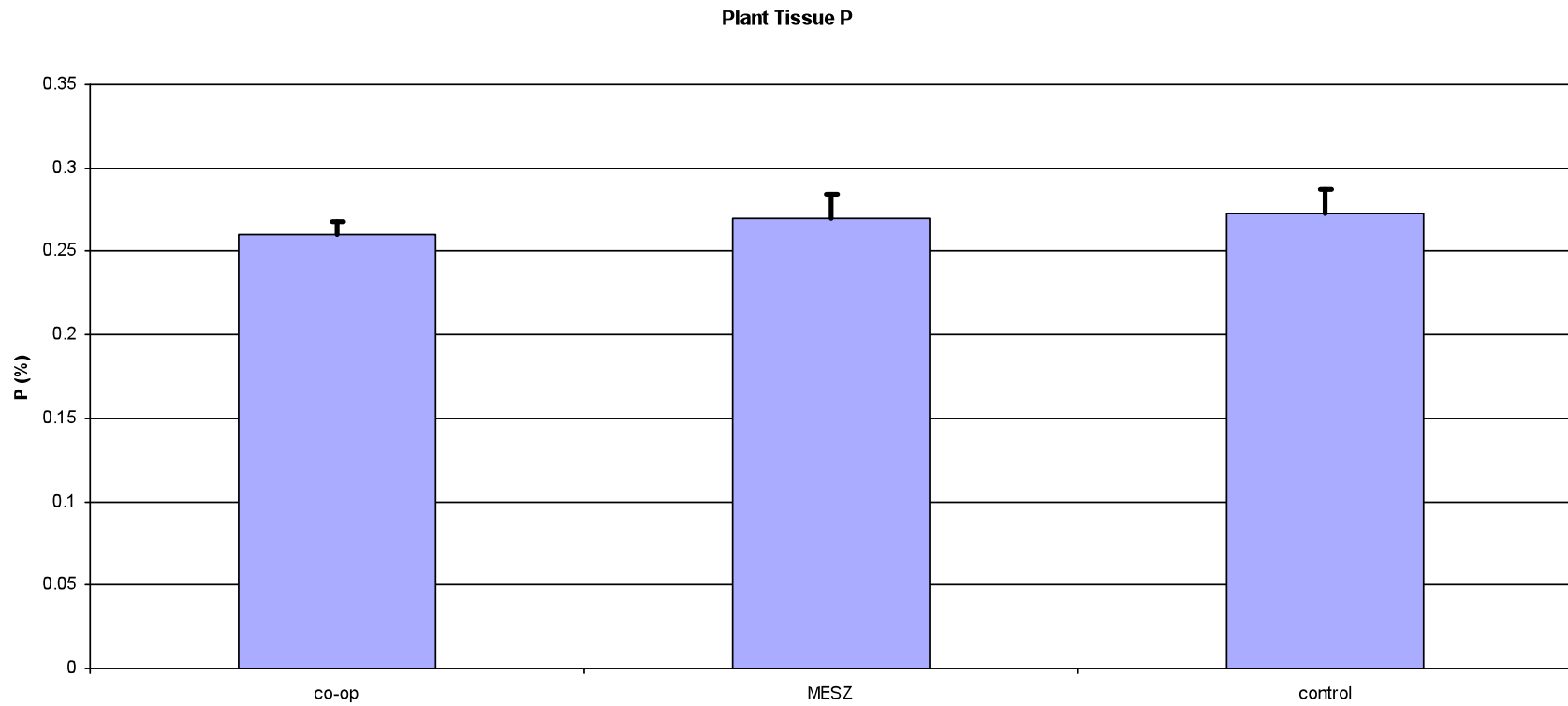


# Tissue samples taken August 20, 2009

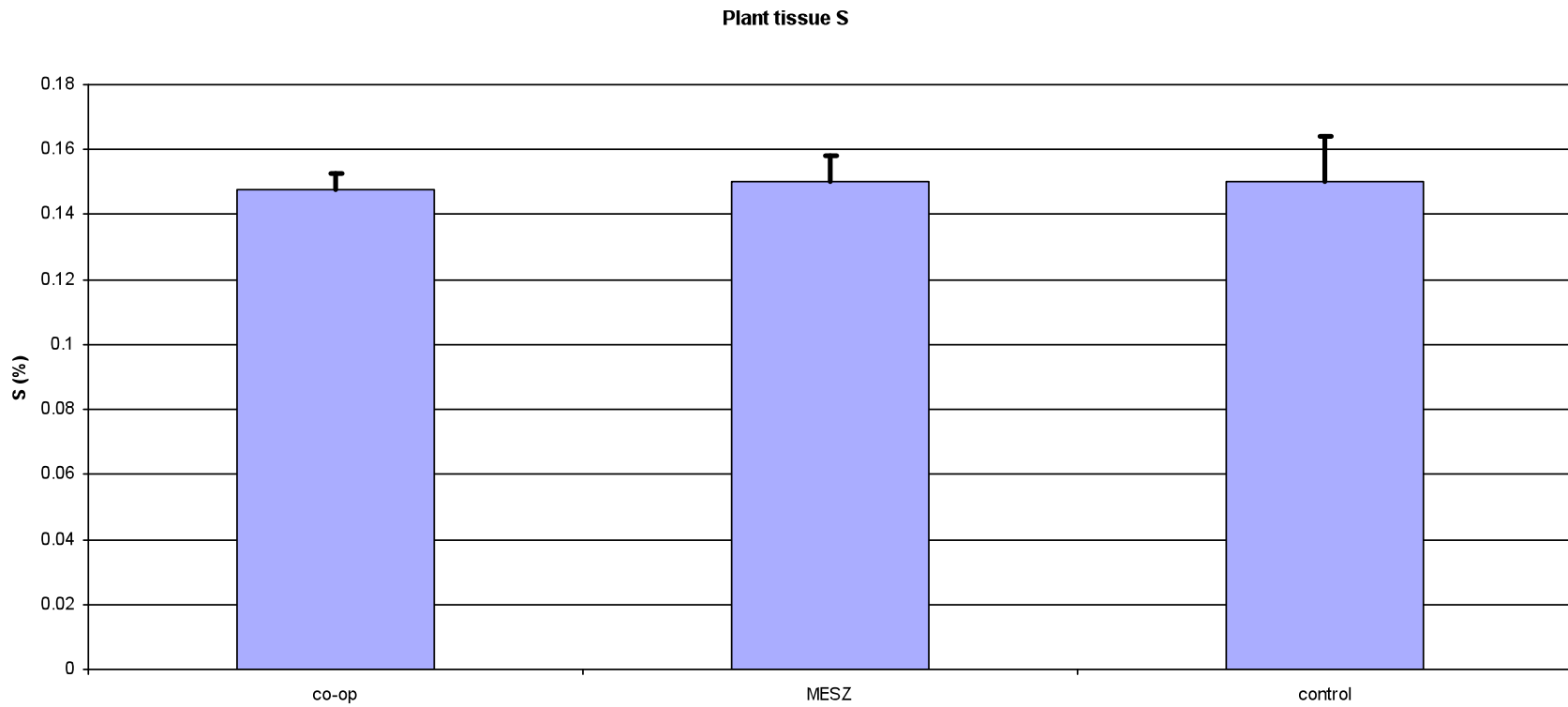
## N concentration



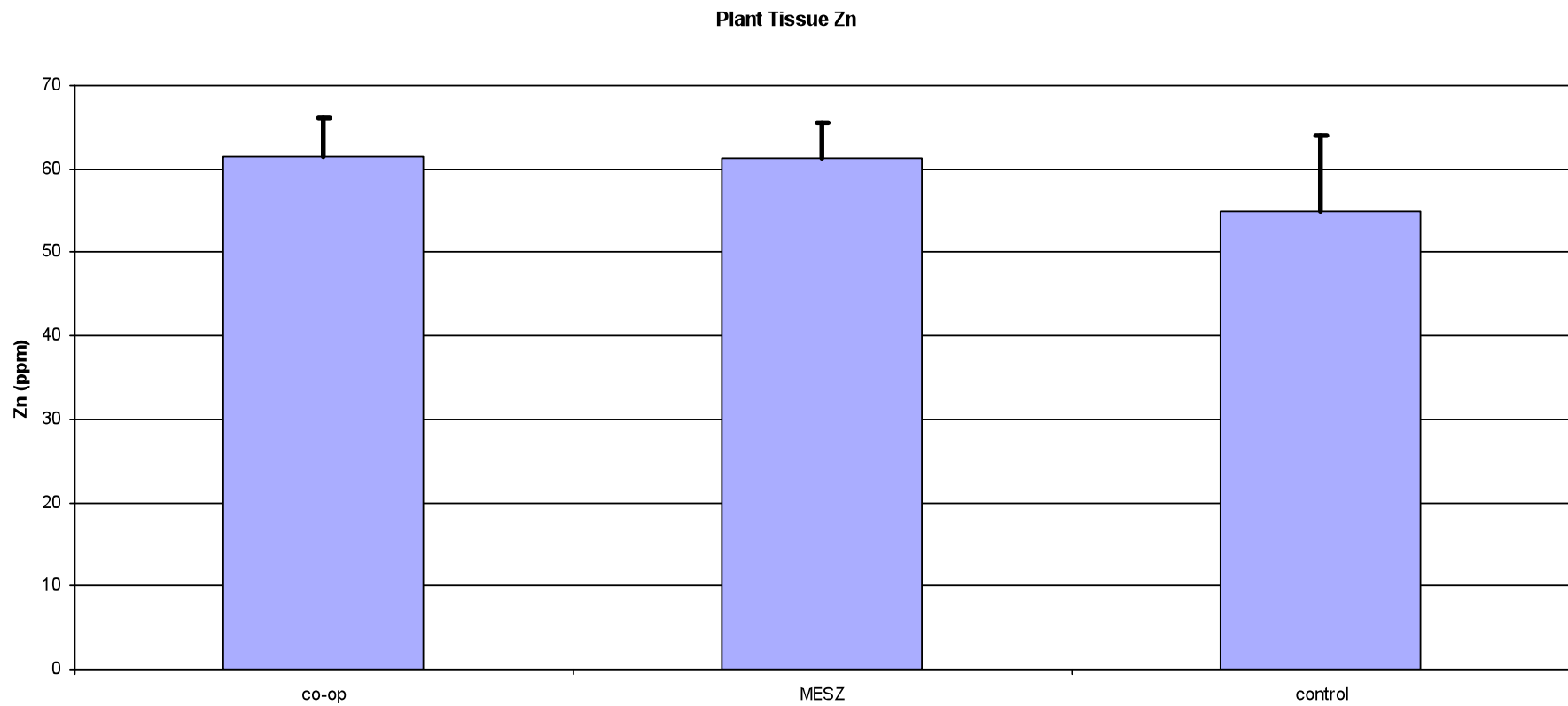
# P2O5 concentration



# Sulphur concentration



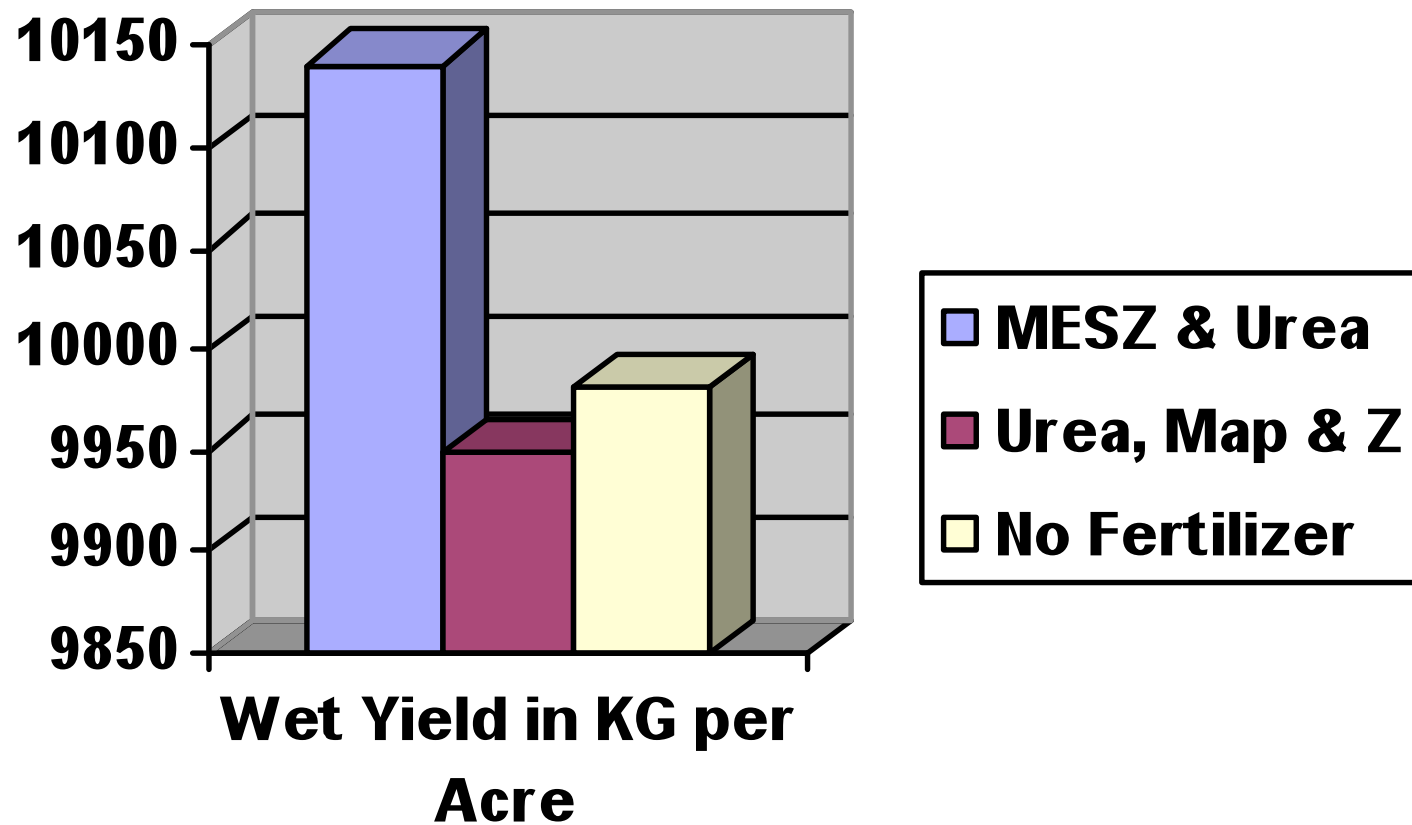
# Zinc concentration



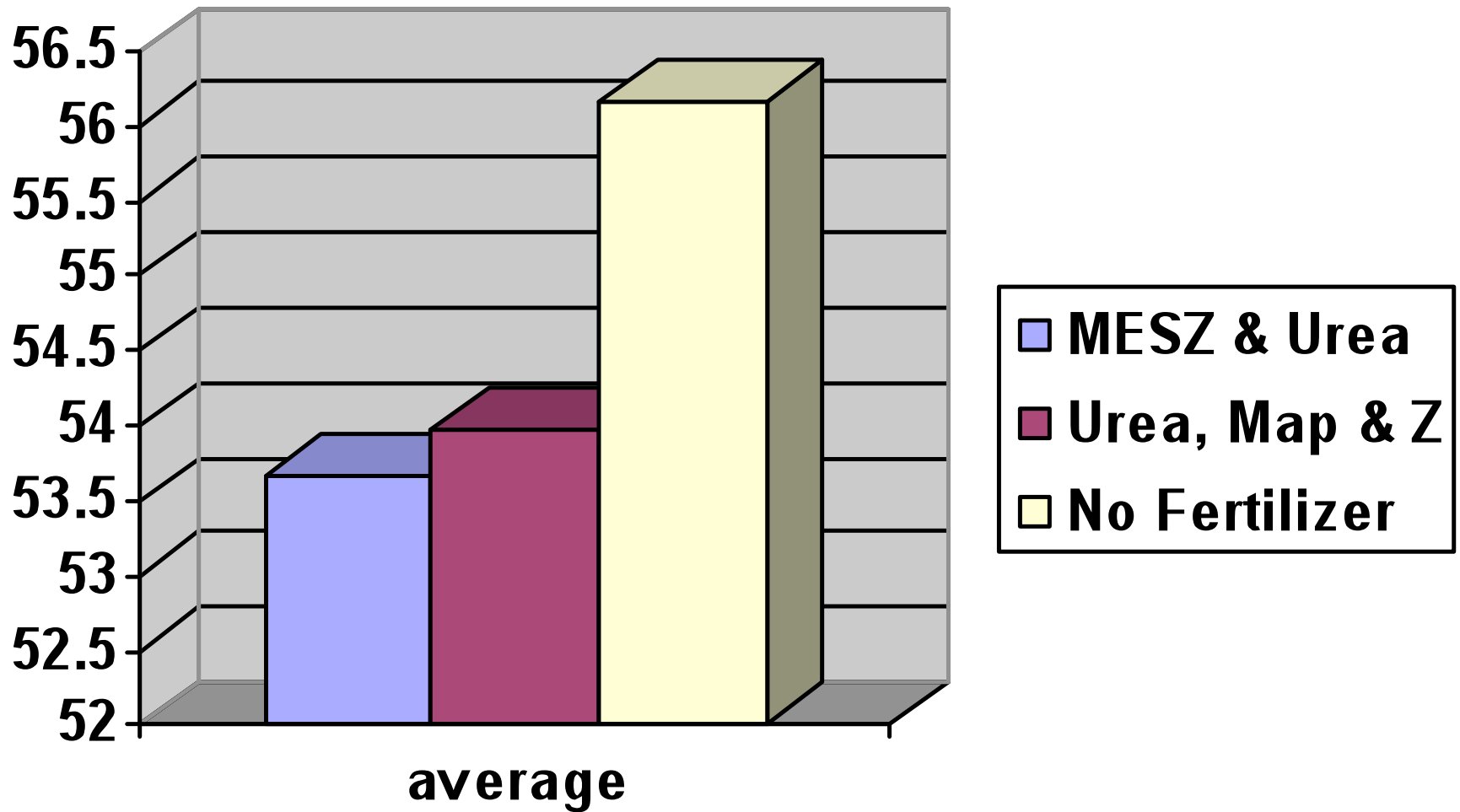
# October 20, 2009



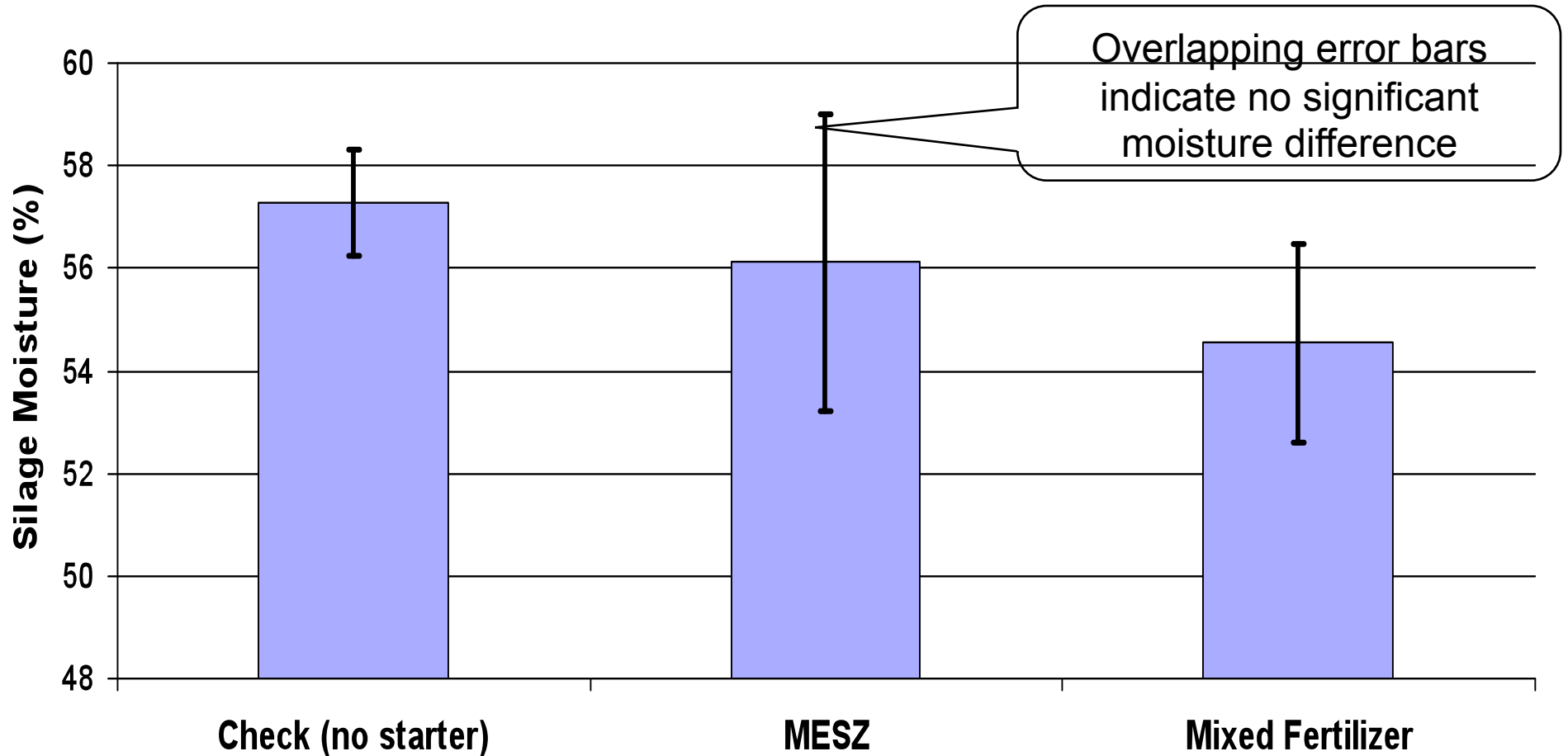
# Wet Yield average in KG per Acre of the 4 reps in 2009



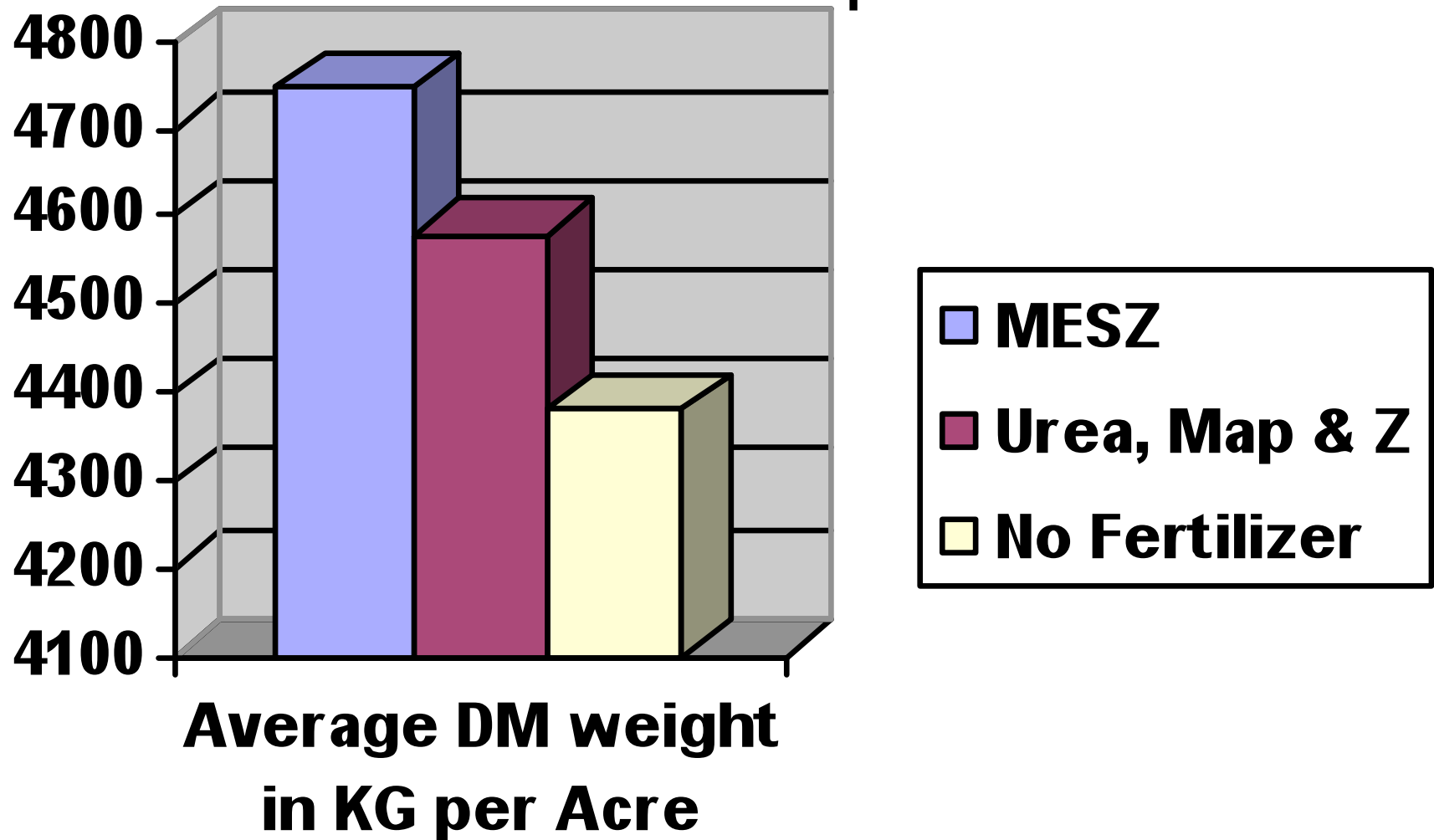
# Moisture of silage in 2009



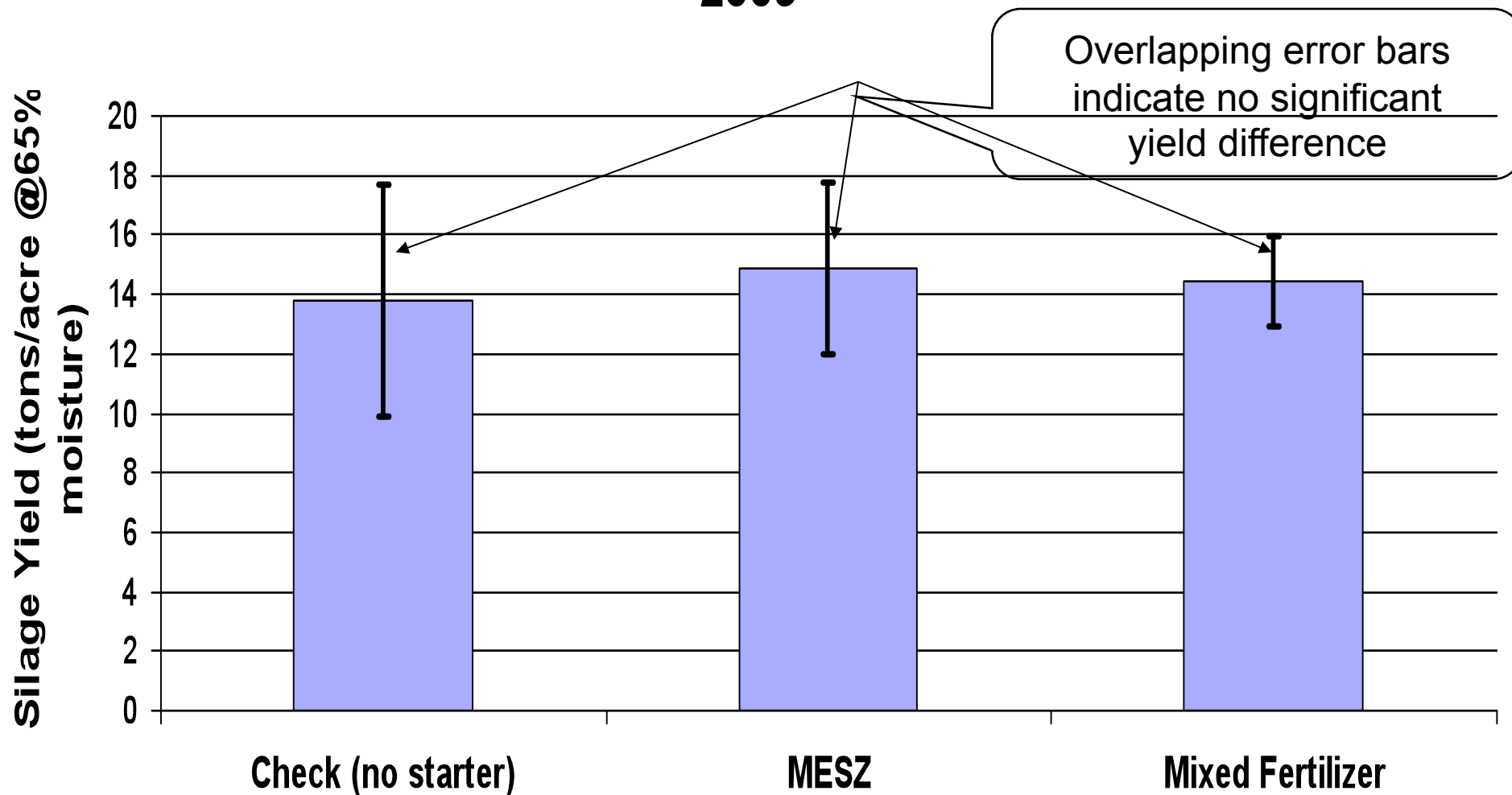
## Impact of fertilizer types on corn silage moisture, 2009



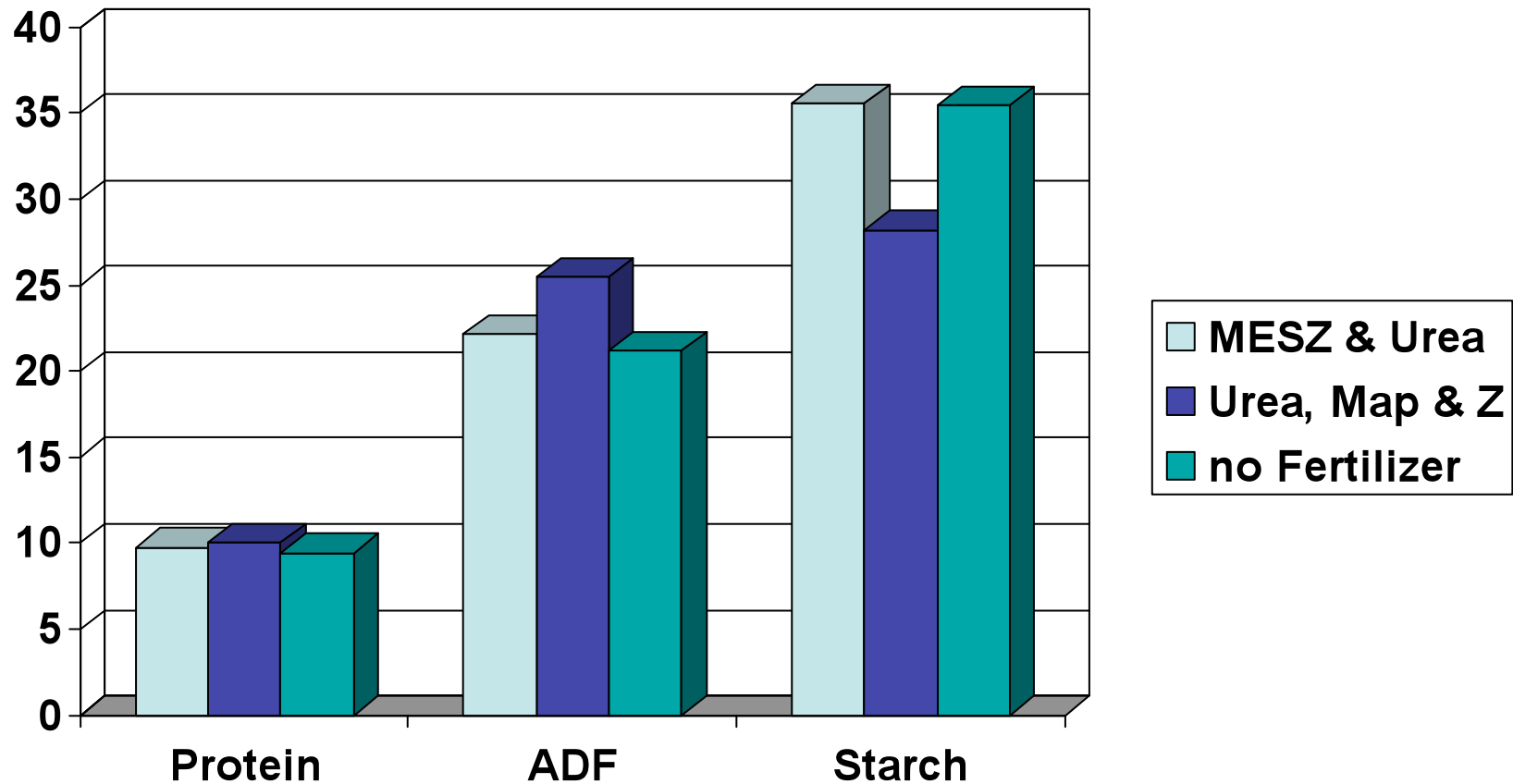
# DM Yield average of the 4 reps



# Impact of different fertilizer types on Corn Silage Yield, 2009



# Feed analysis on Dry Basis of 2009



# What have we learned?



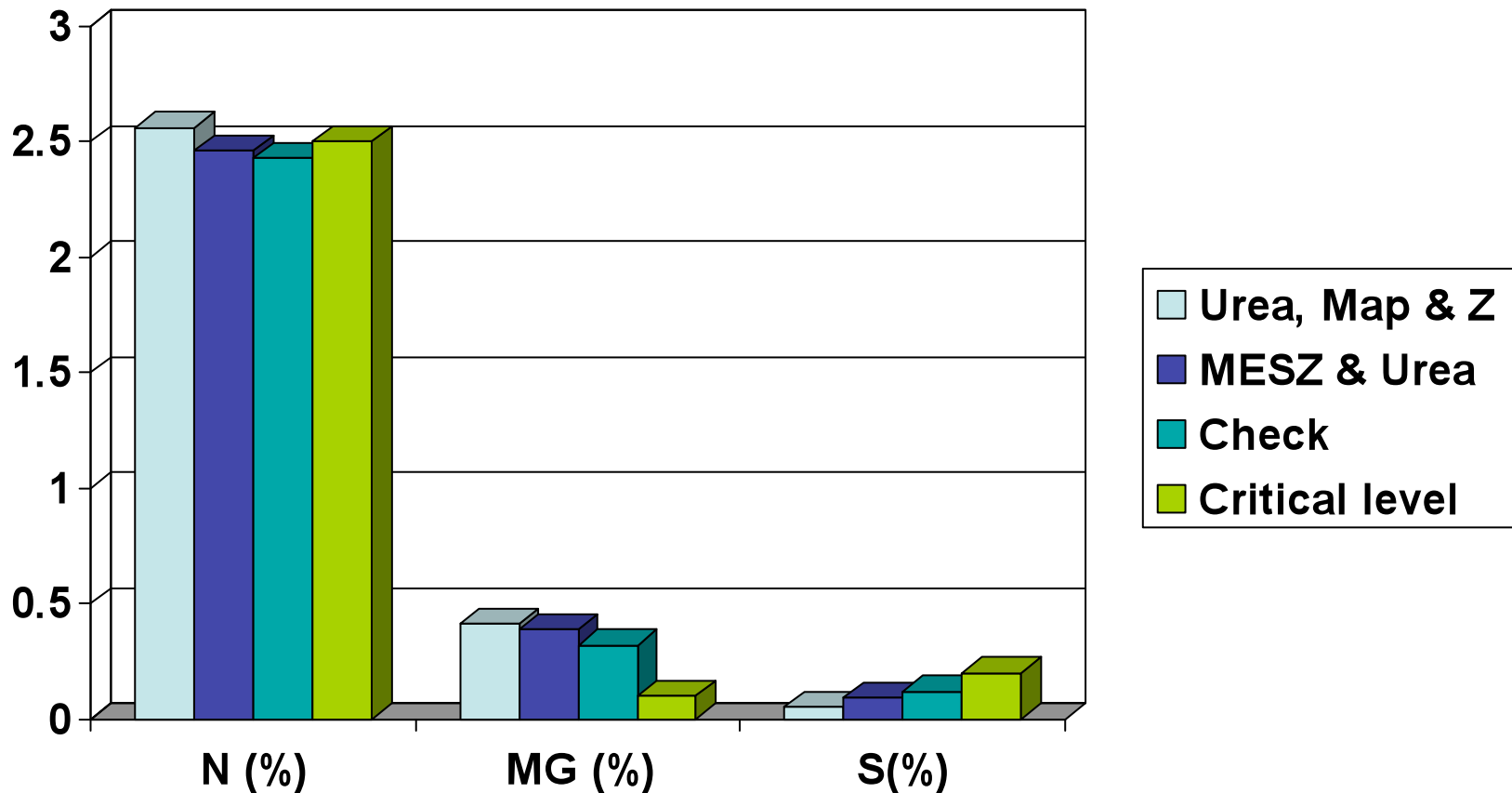
Looking back 2007 it was very dry.



In 2007 we saw a deficiency in the corn treatments of the co-op fertilizer mix and the control.



The results of the tissue samples showed us there was a deficiency of Sulphur.



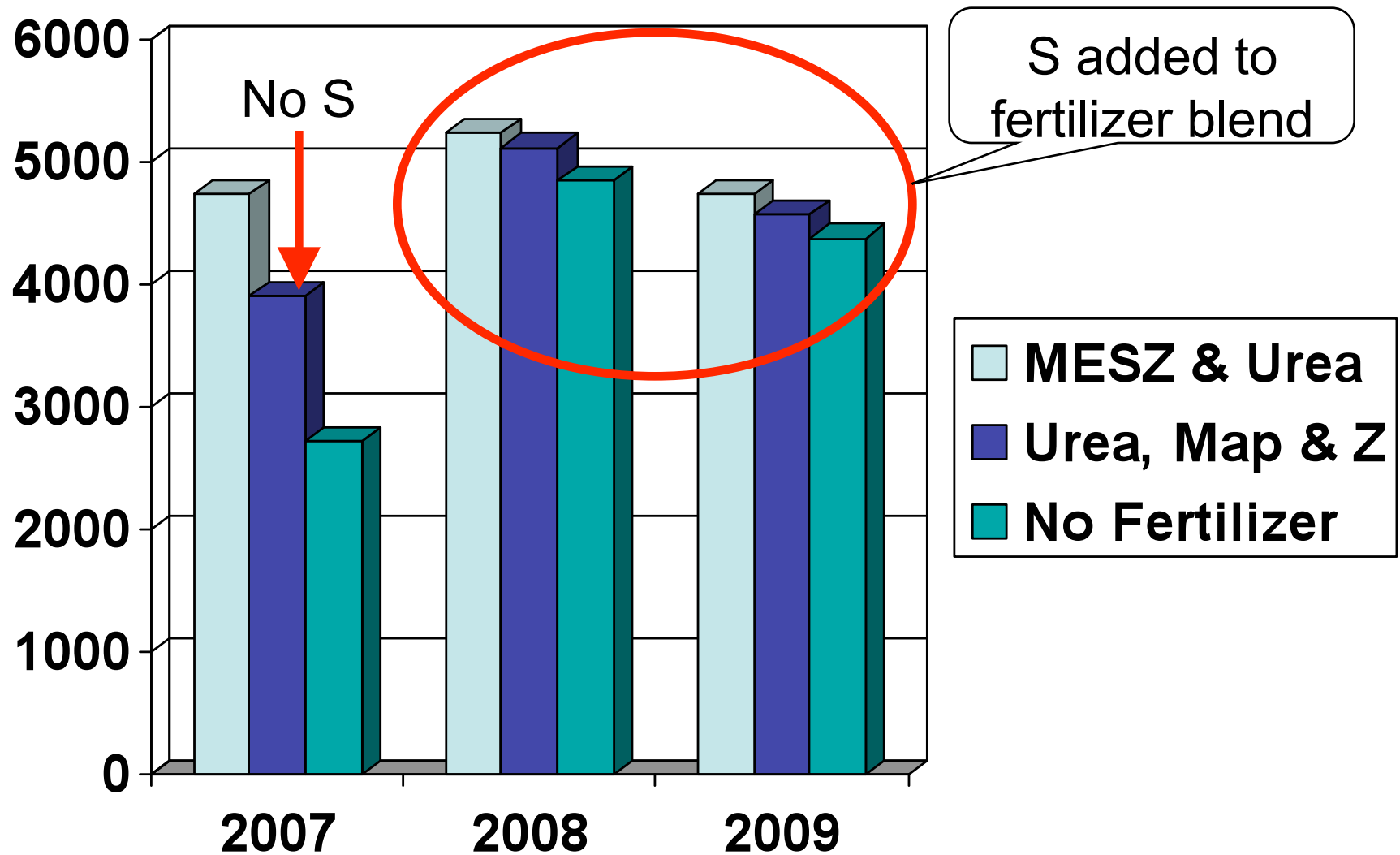
In 2008 it was very wet.



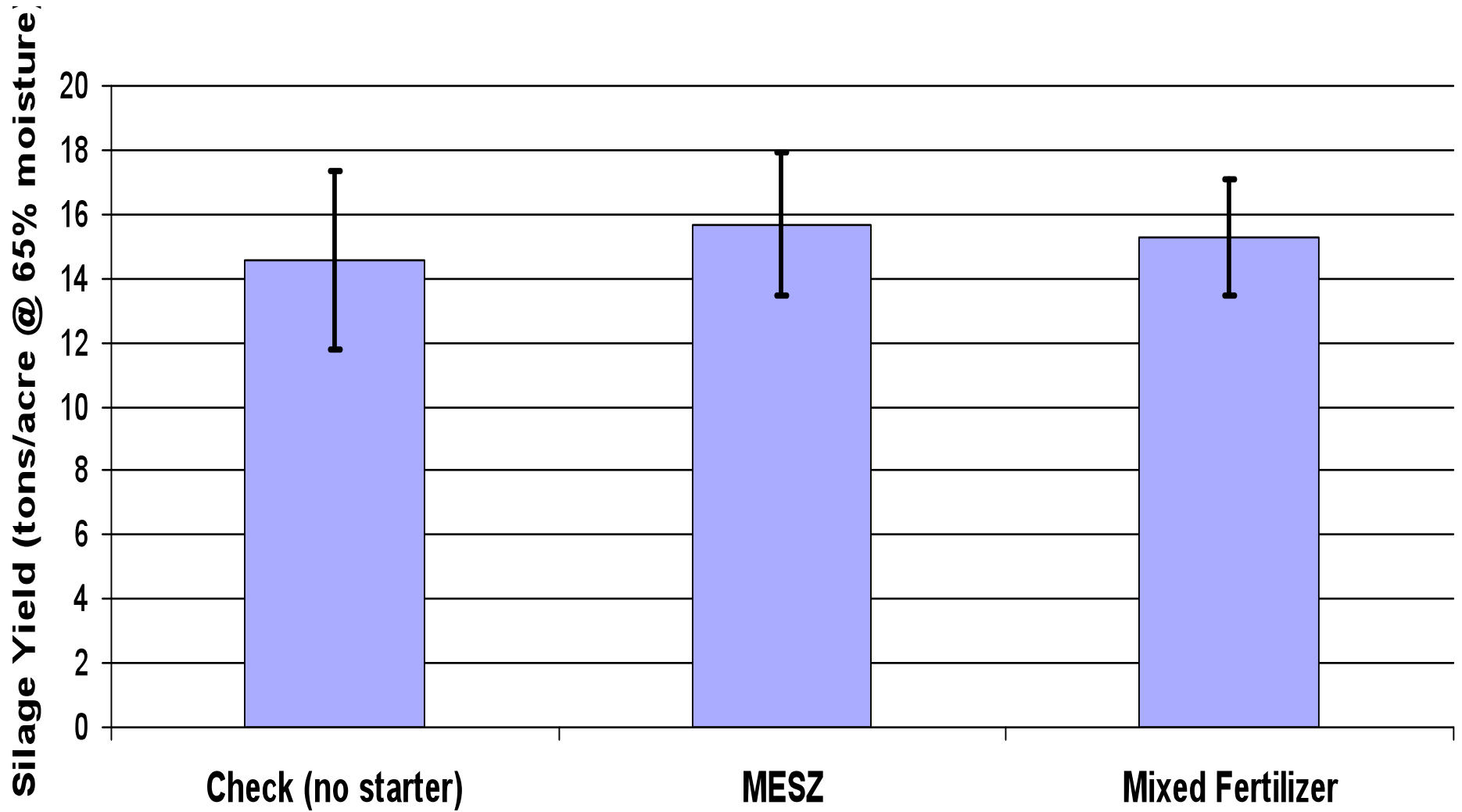
# Changes were made to the fertilizer program to reflect sulphur requirements in NW Ontario

- Sulphur was added to the mixed fertilizer starter as ammonium sulphate for 2008 and 2009
- Only difference between MESZ and mixed fertilizer treatments was whether micronutrients were in separate granules from the MAP

# Average DM yield over 3 years



# Yield Impact of different fertilizer types, 08-09



## Conclusions:

- Responses to added fertilizer (including sulphur) were much smaller than in 2007, possibly due to history of manure use.
- Could not show a statistically significant yield response to either fertilizer treatment, although the trend was MESZ > MAP blend > check
- MESZ is at least as good as the blend of MAP, AS and Zn, but we cannot say it is better. The convenience of handling a single product where all these nutrients are needed may be the greatest benefit.
- Added starter fertilizer did improve dry down and maturity.

# Thanks to

- **Jim and Wilma Mol** for doing the trial.
- **Jason Voogt** from Cargill AgHorizons in Manitoba, who introduce us to MicroEssentials® SZ.
- **Local Soil and Crop Association** For getting funding for the trials.
- **Bruce Forrest** past secretary of the Local Soil and Crop Association. For spending a lot of hours on helping me getting forms filled in and sent to the Ontario Soil and Crop Improvement Association.
- **Thunder Bay co-op** and in particular **Scott Mol**, for helping us to properly mix the fertilizer so we had no contamination from other fertilizers.
- **Keith Reid** with helping set up the trial and interpret data.
- **Agri-Food Lab** for giving us a discounted price on soil samples we sent them for this trial.
- **Harold Bosma** for doing the feed samples for 2009

# Questions



