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 P_2O_5 40%
- Total Sulphur 10%
- Sulphur as Sulphate 5%
- Sulphur as elemental S 5%
- Total Zinc 1%

Actual Nutrients applied in Lbs/acre

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

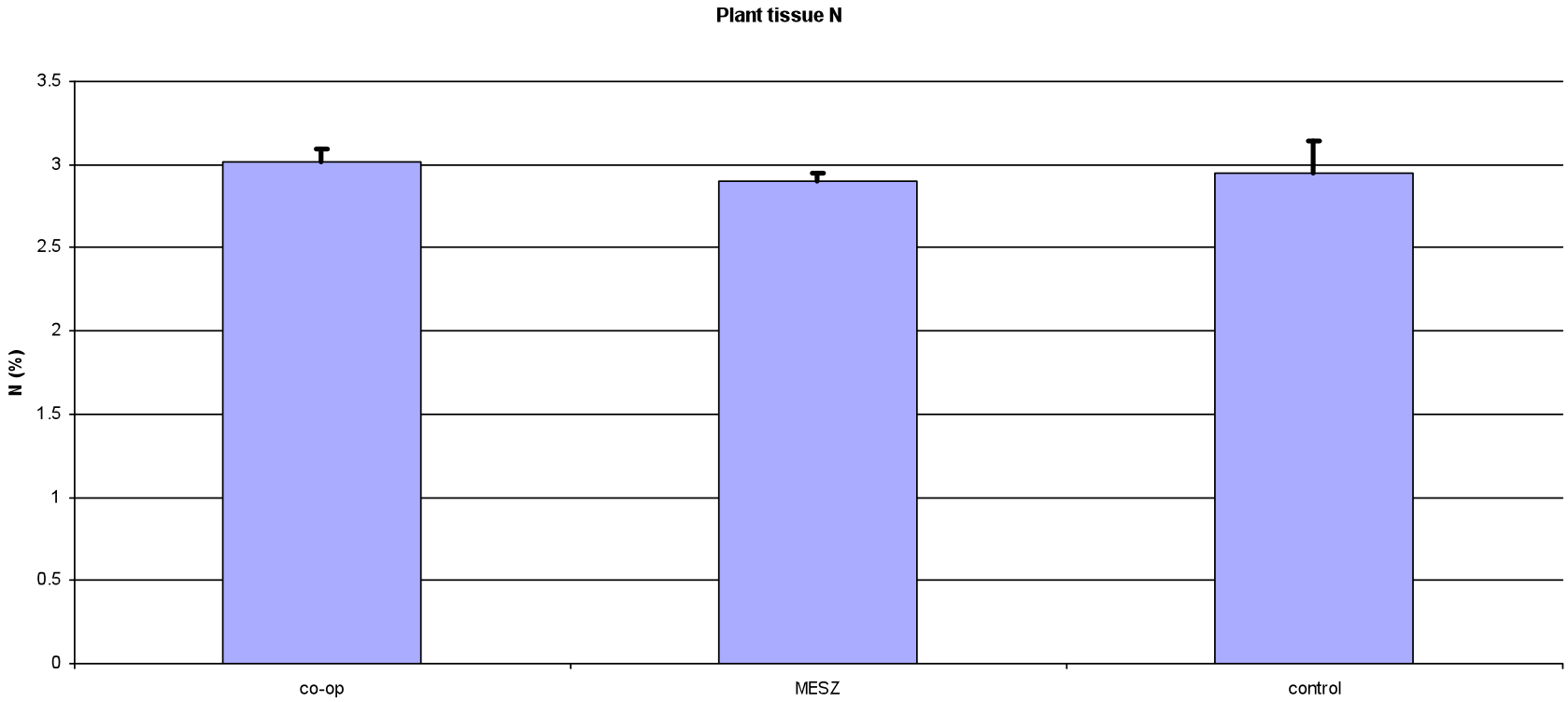
Layout of the trial

Rep 1	Rep 2	Rep 3	Rep 4	Rep 4	Rep 3	Rep2	Rep1
3 2 1	1 2 3	3 2 1	1 2 3	3 2 1	1 2 3	3 2 1	1 2 3

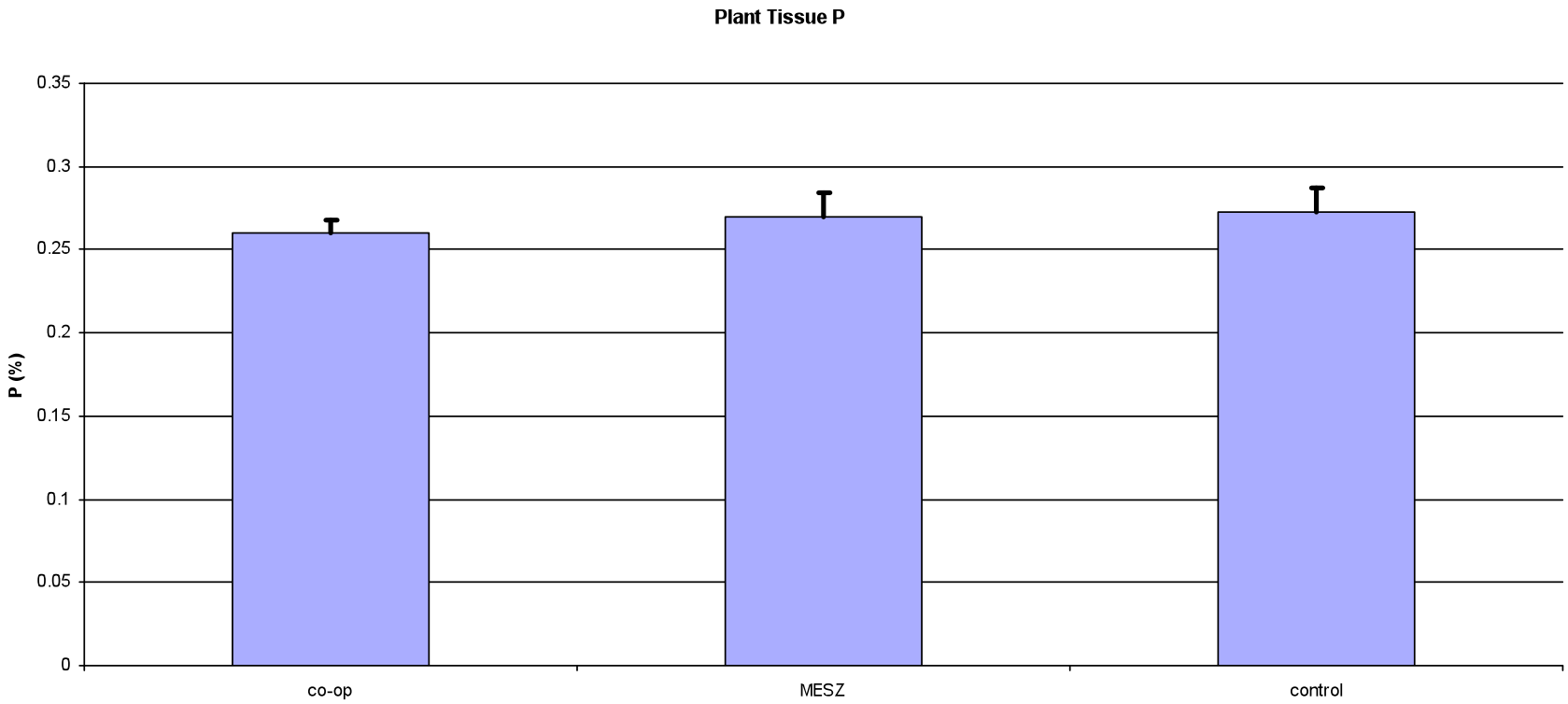
Calibrating and Planting
May 20, 2009 variety used
DEKALB 26-79

June 30, 2009

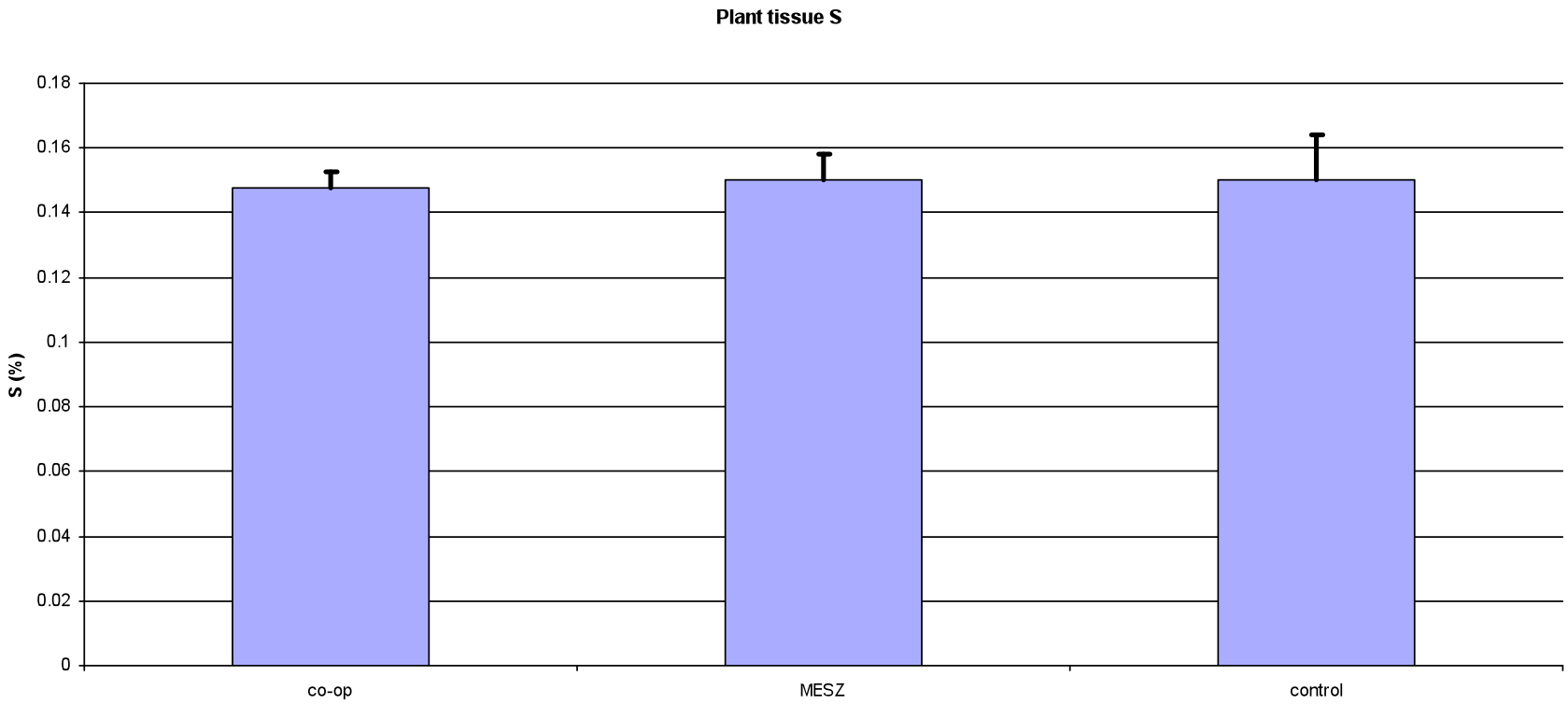
Tissue samples taken August 20, 2009
N concentration



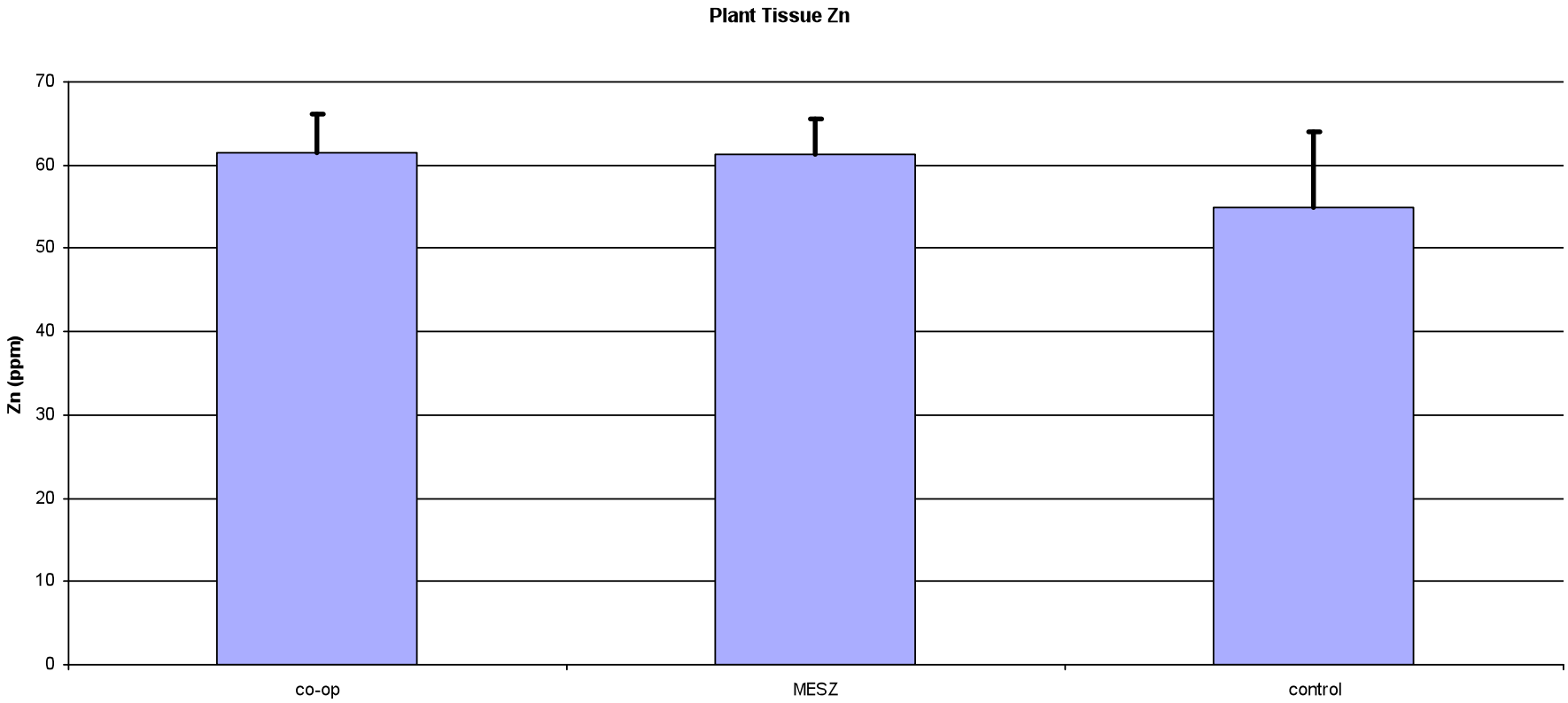
P2O5 concentration



Sulphur concentration

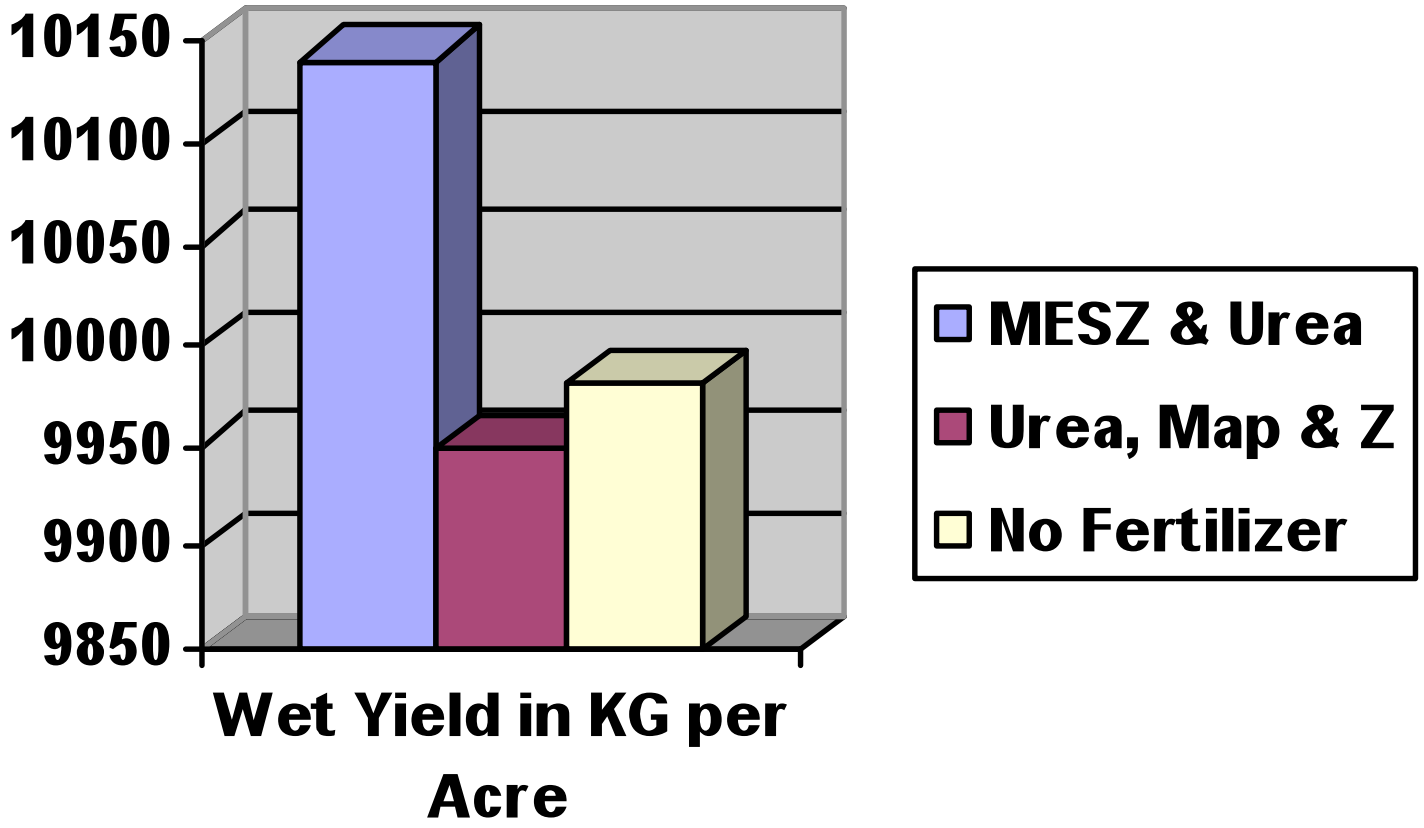


Zinc concentration

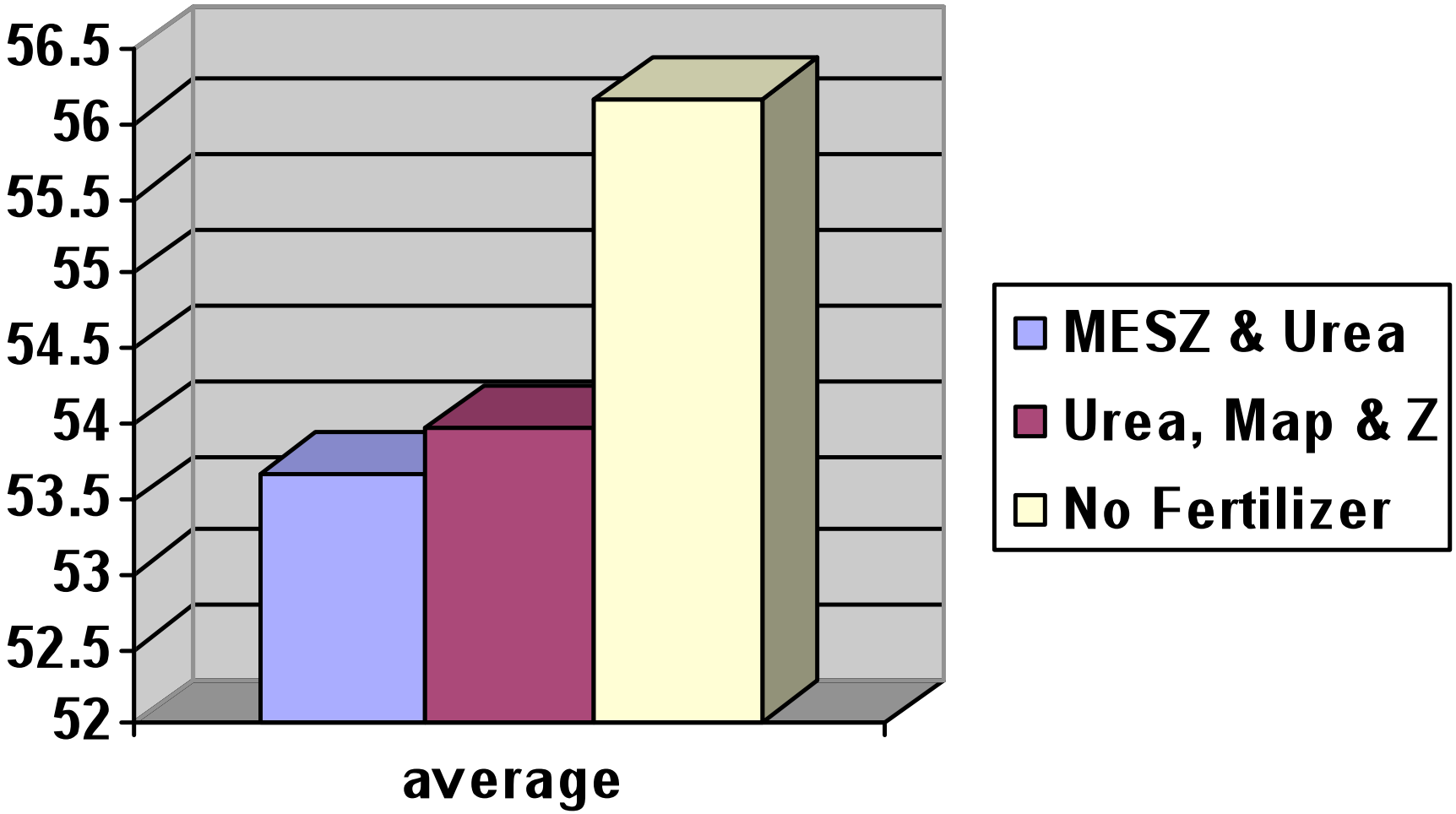


October 20, 2009

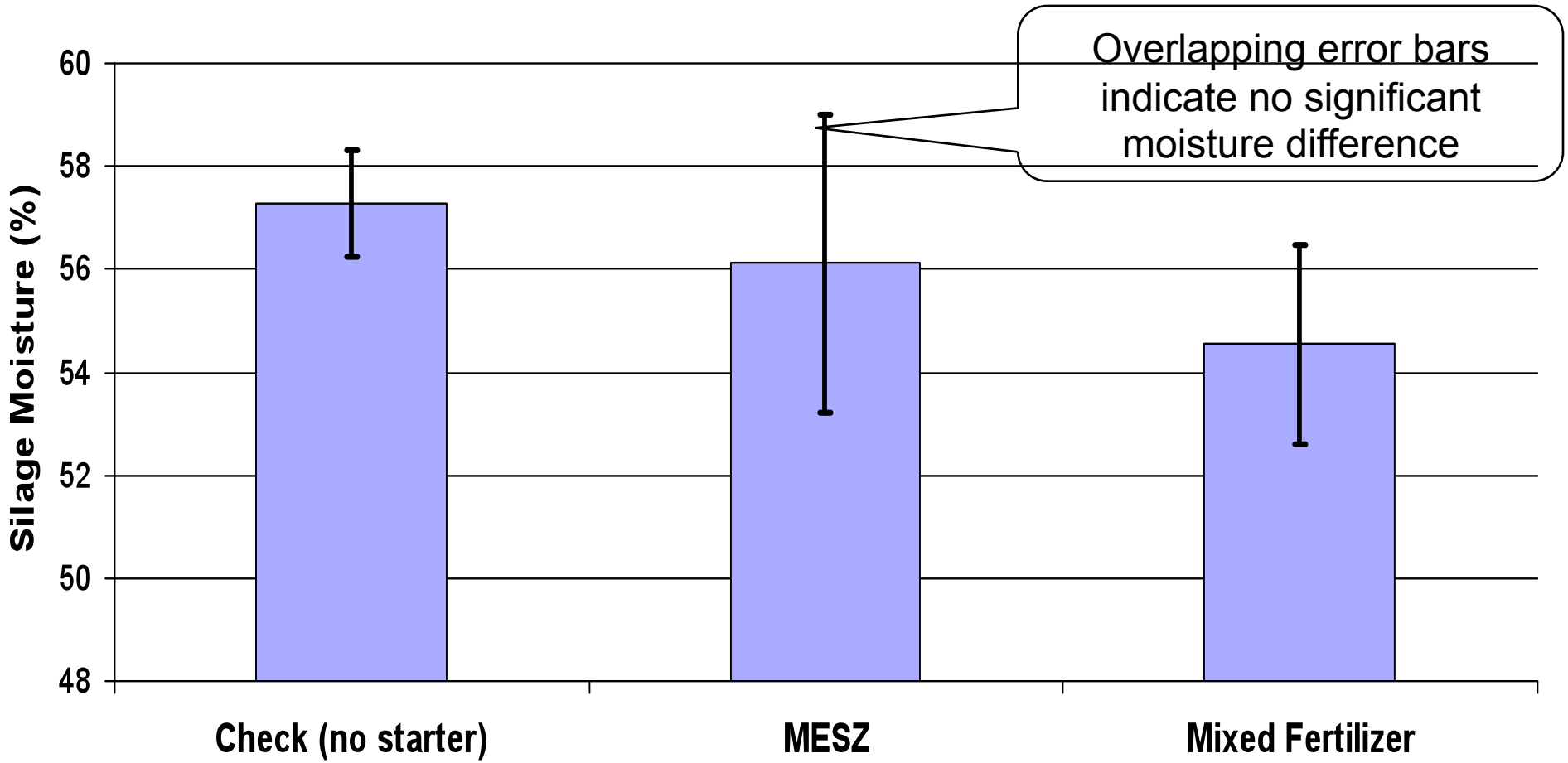
Wet Yield average in KG per Acre of the 4 reps in 2009



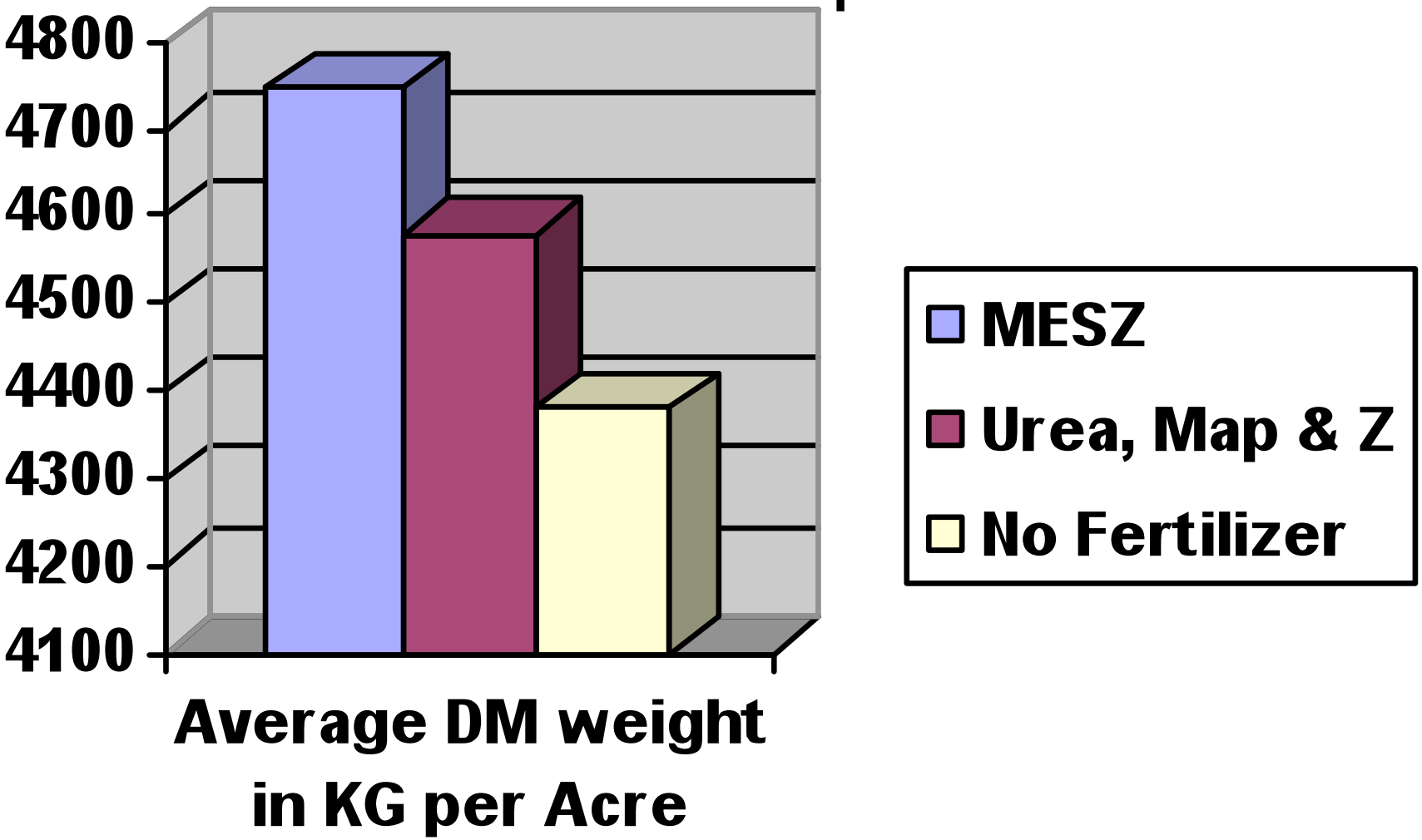
Moisture of silage in 2009



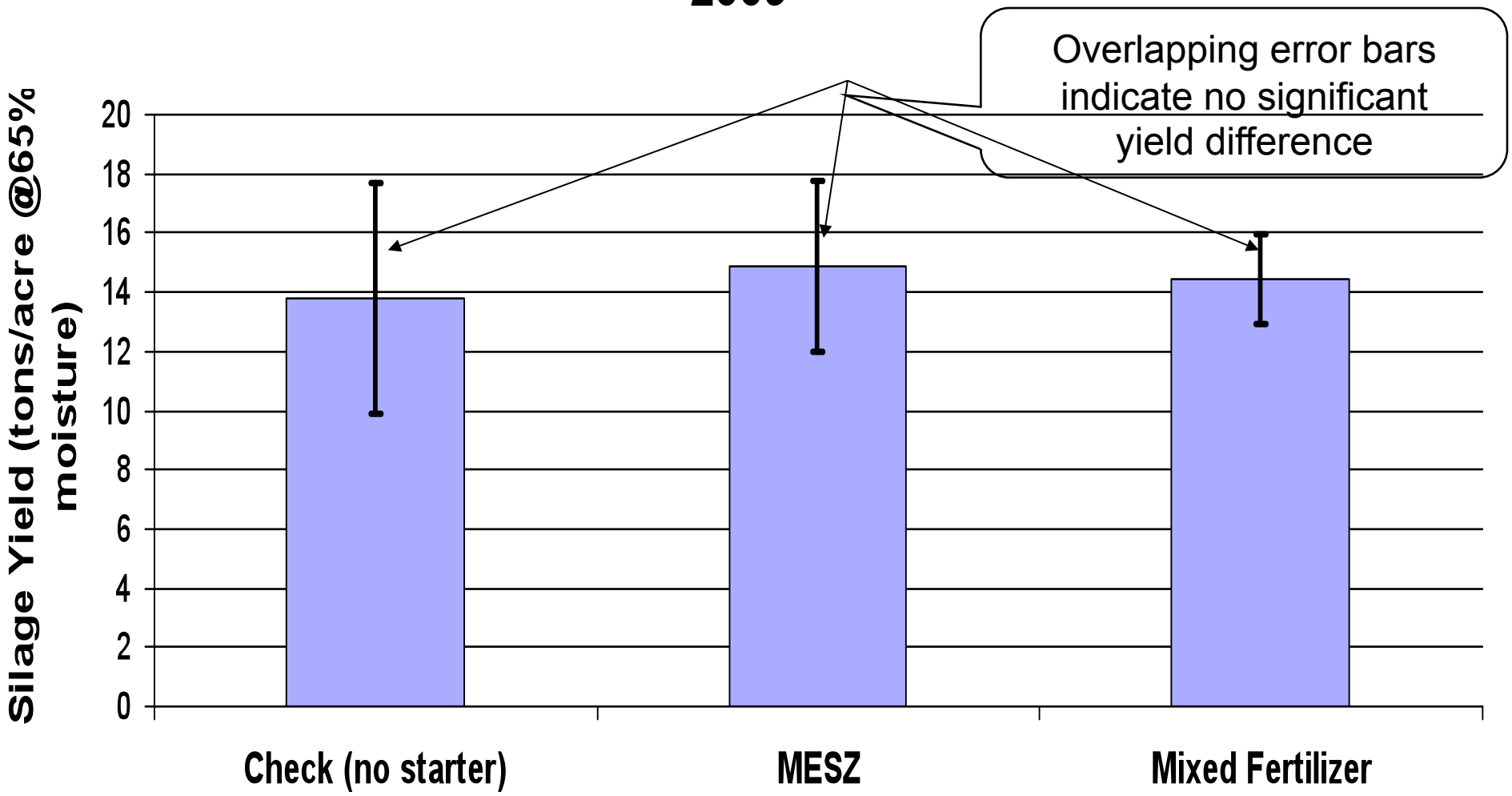
Impact of fertilizer types on corn silage moisture, 2009



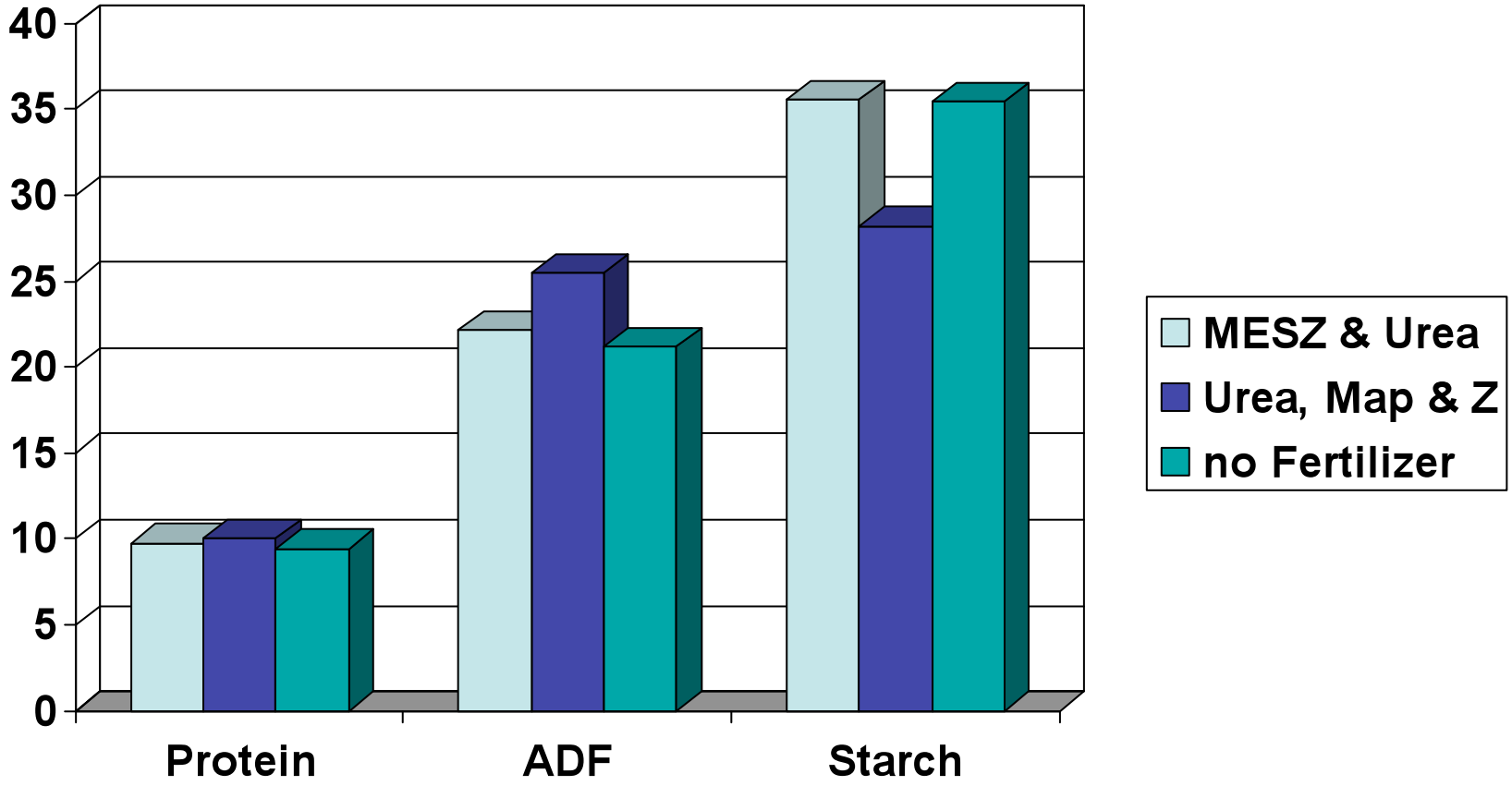
DM Yield average of the 4 reps



Impact of different fertilizer types on Corn Silage Yield, 2009



Feed analysis on Dry Basis of 2009

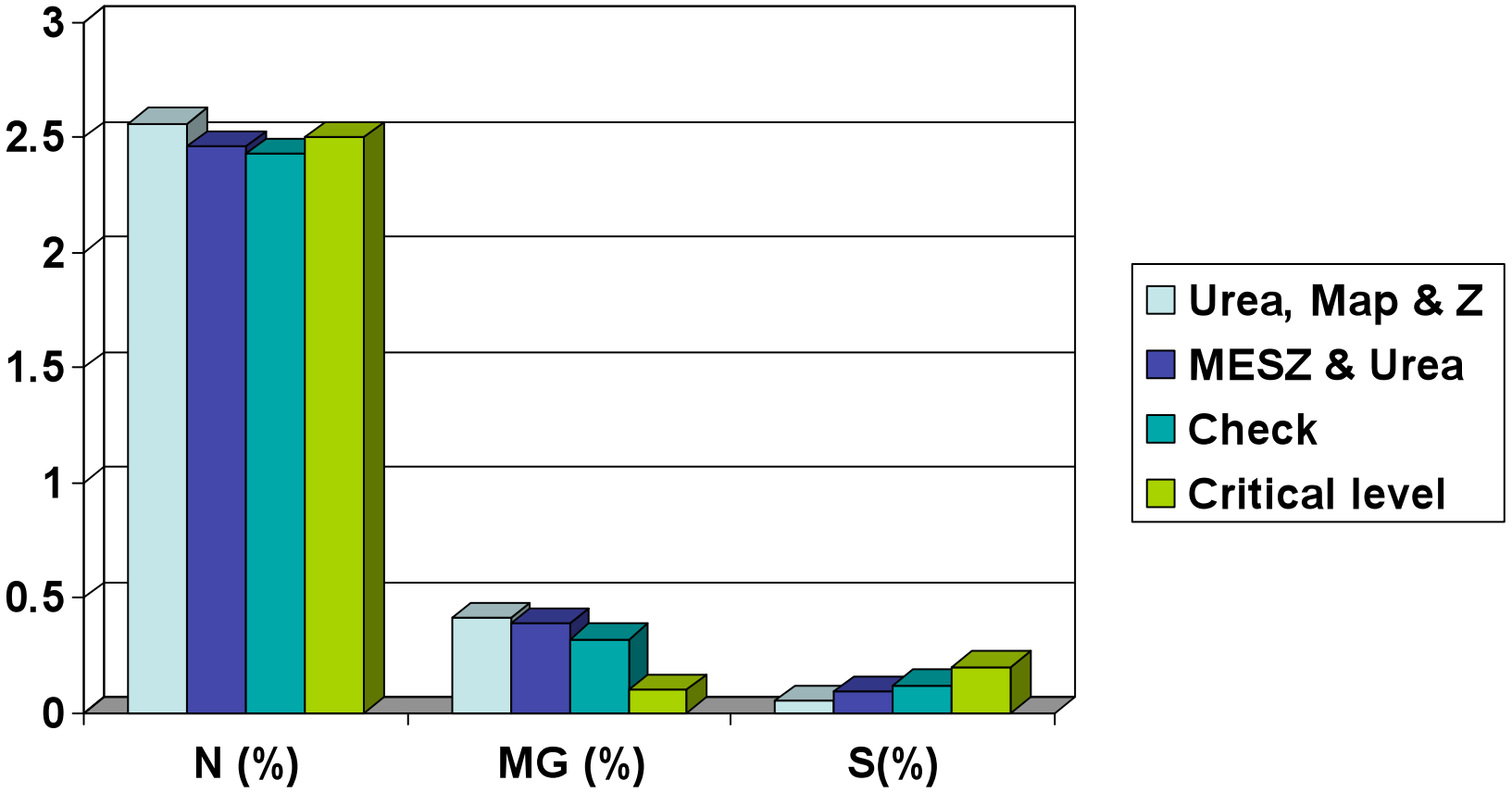


What have we learned?

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.

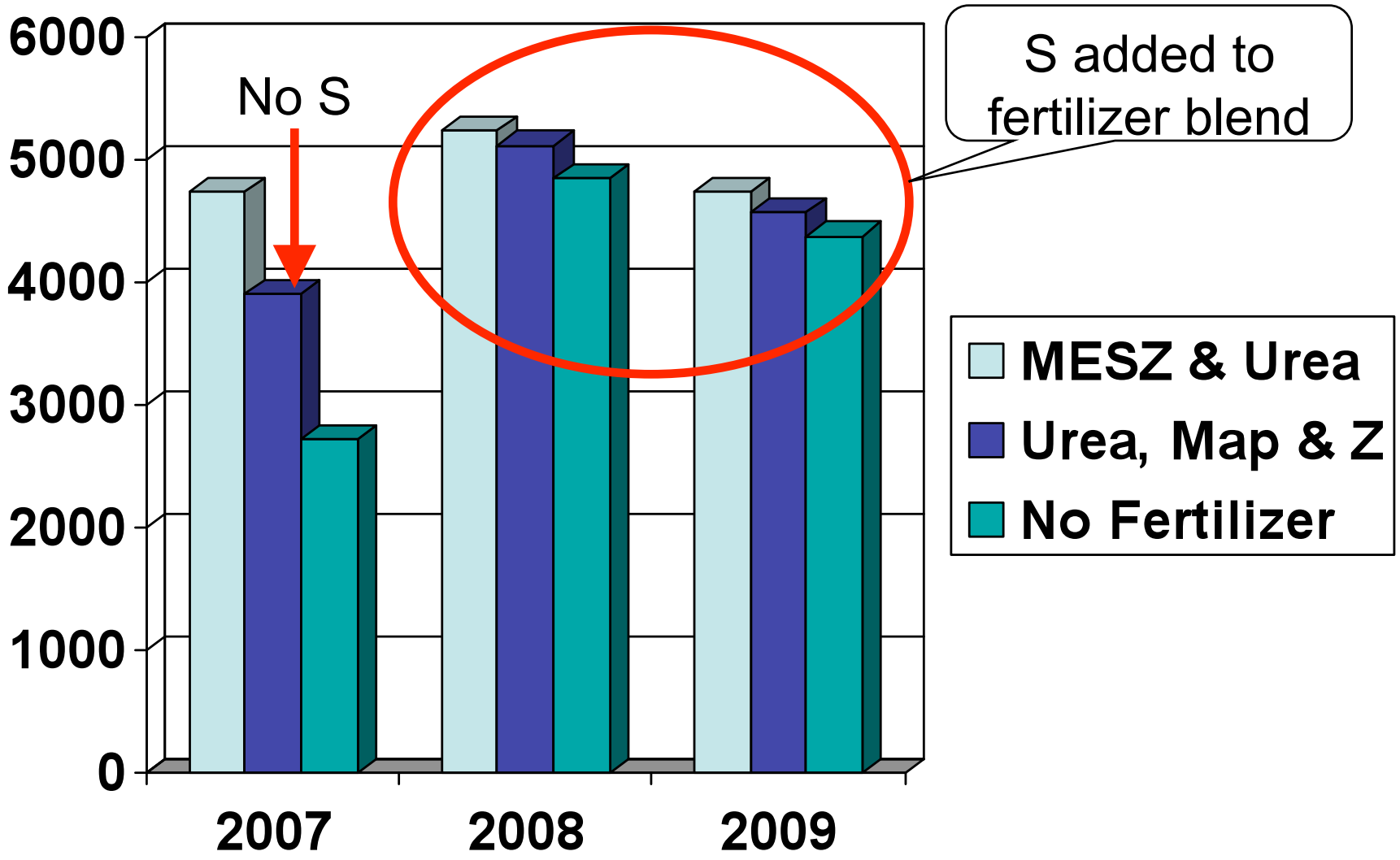


In 2008 it was very wet.

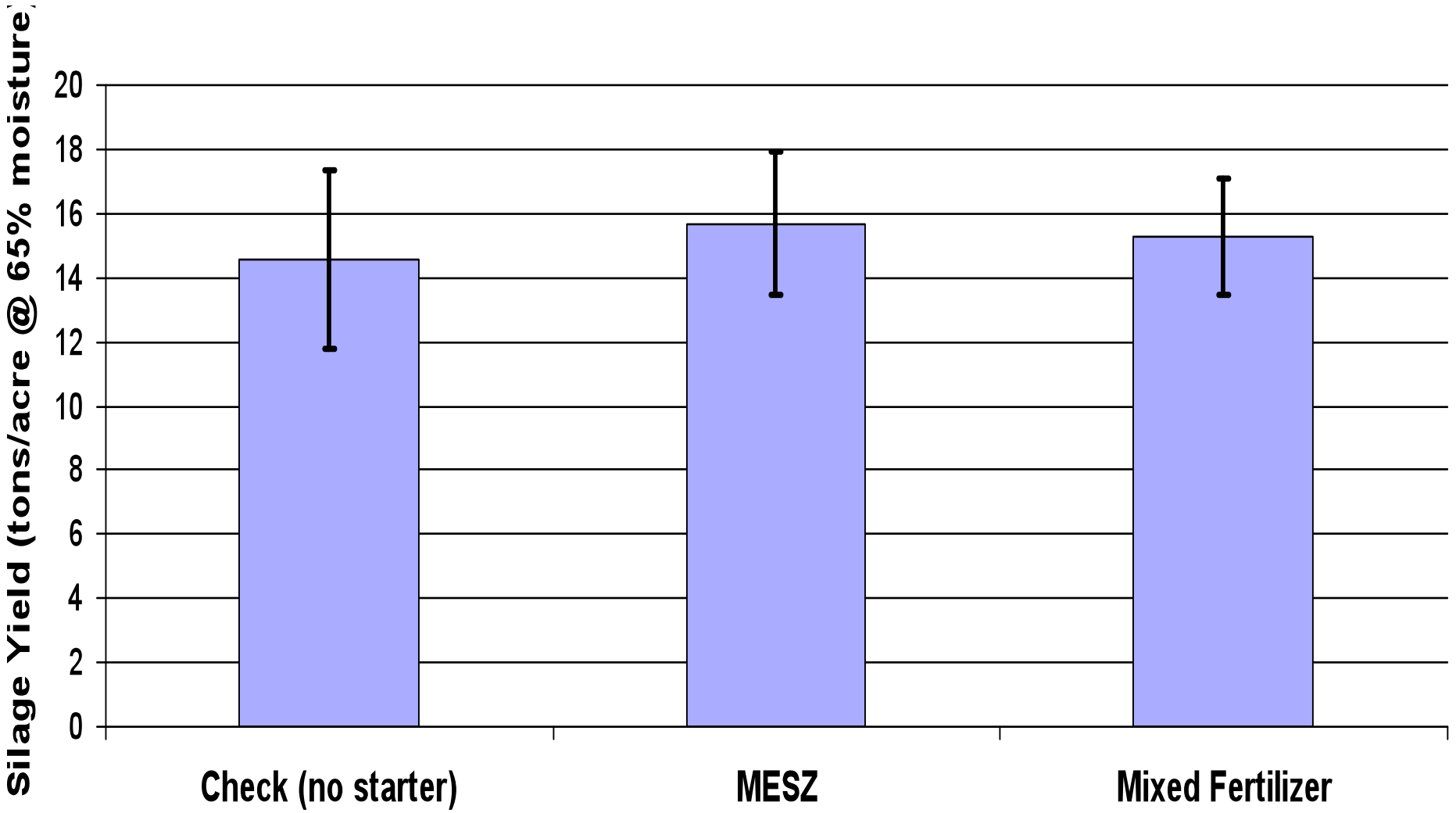
Changes were made to the fertilizer program to reflect sulphur requirements in NW Ontario

- 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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