SORGHUM AS A FORAGE IN WISCONSIN

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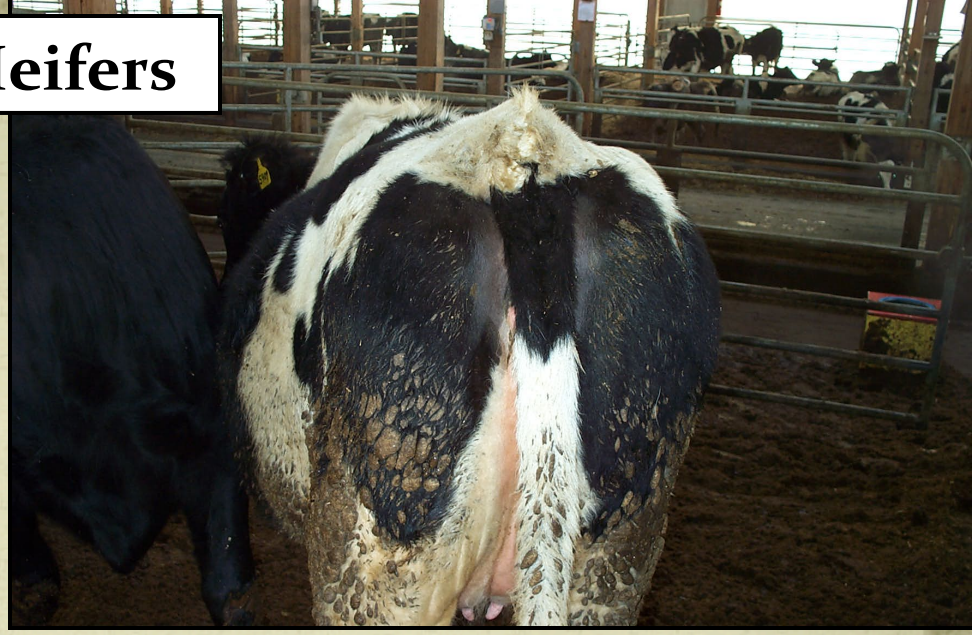
Dairy Heifer Feed Cost and Energy Needs

- Feed costs are about 50% of heifer raising costs (Zwald et al., 2007)
- Corn silage is a primary forage for heifers
  - High yielding and low cost per ton
  - Higher energy content than needed
  - Avg 72% TDN, DM
  - Dairy heifers require: 60 – 68% TDN, DM
- Excess energy causes over-conditioning and calving problems

Problem: Over-conditioned Heifers



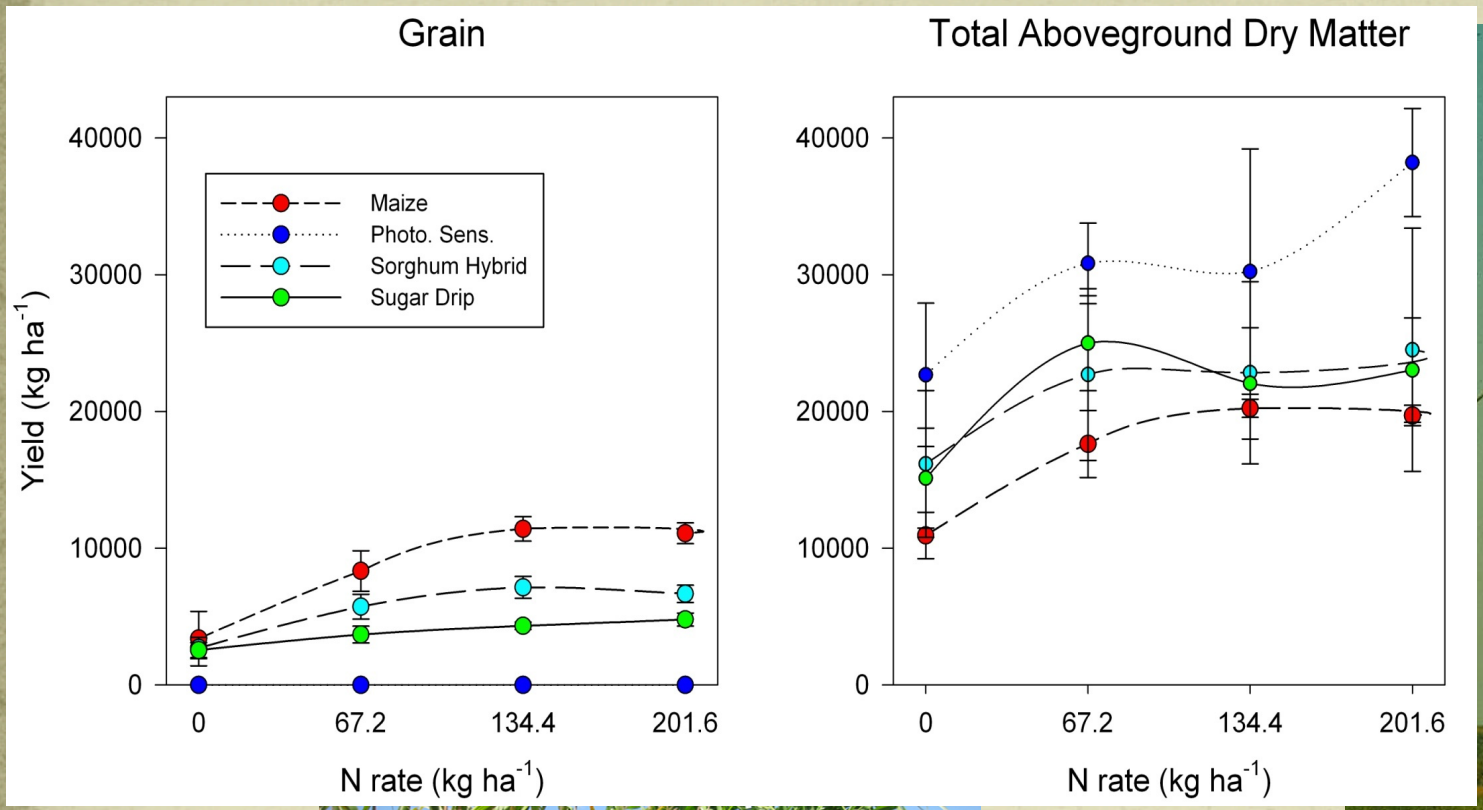
Bodyweight, lbs	Energy Requirement, TDN, %	---------- % of Dietary DM ---------- Corn Silage (72% TDN)	Alfalfa Silage (60% TDN)	Cutter Forage (48% TDN)
300	68.0	50	50	Grain
600	66.0	50	50	0
900	63.3	43	43	15
1200	62.3	39	39	22

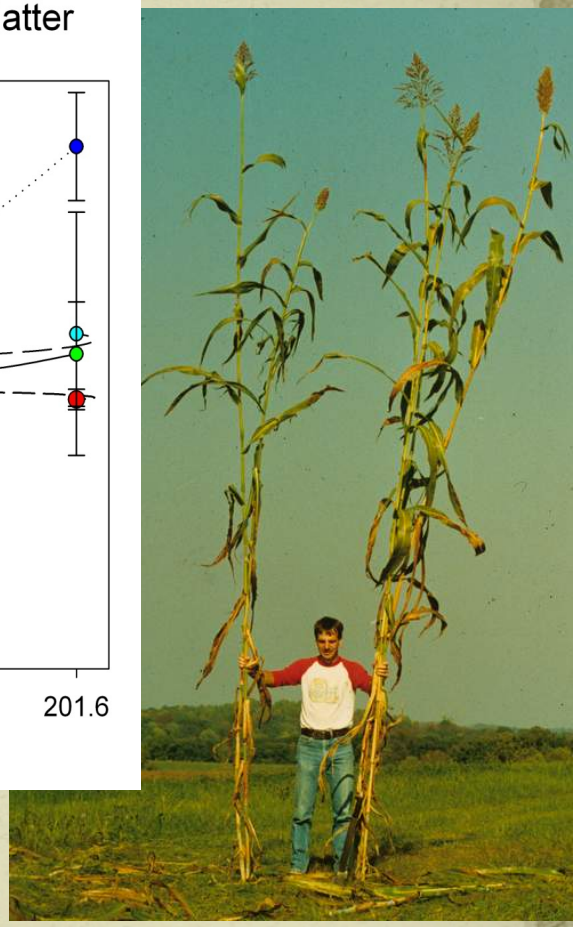
Source: P. C. Hoffman, University of Wisconsin

Options to lower energy intake

- Limit feeding – facilities/management?
- Harvest later maturity grasses/legumes
- Replace corn silage with:
  - Straw – bedding needs; purchasing?
  - Lower energy forages (Many incl. Sorghums)

Forage Sorghum





Jeff Volenec, Purdue Univ

Evaluation of forage sorghum management in Central Wisconsin

- Plots in Marshfield and Hancock
  - 7 sorghum and sorg/sud varieties and 1 corn
    - 3 BMR (1 PS) and 4 non-BMR (2 PS) varieties
  - 2 planting dates
    - 1st: June 2 and 4 2nd: June 16 and 19
  - 2 harvest schedules
    - Single fall harvest
    - Multiple harvests
      - August 10 or 12 and October 15 or 19

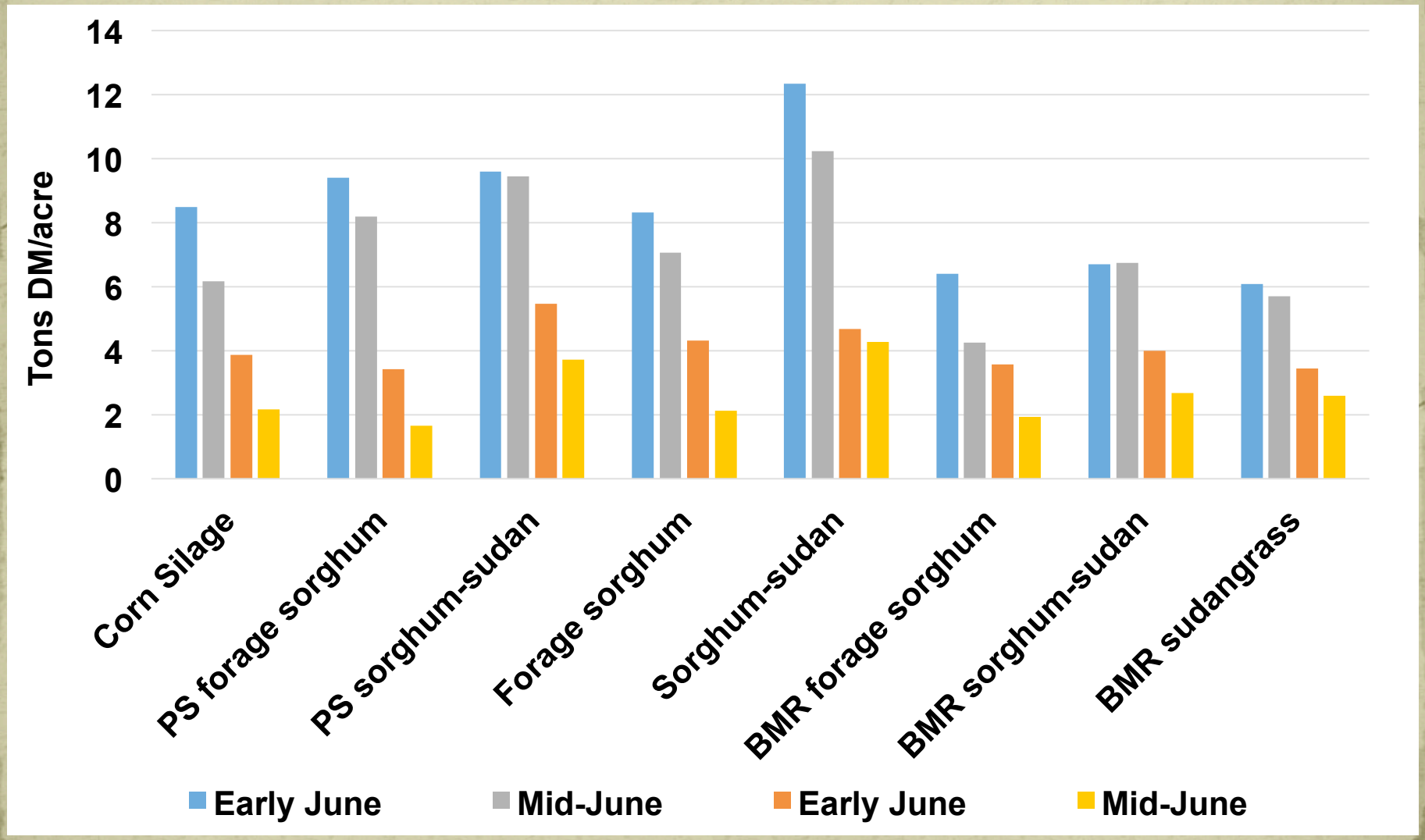
Planting and Fertilization

- Corn – 32,000 seeds/acre at 30” rows (1.5 in depth)
- Sorghums – drilled at 15” rows (1 - 1.5 in depth)
  - Forage sorghums – 100,000 seeds/acres (6-7 lb/acre)
    - Alta Seeds - AF8301; Moss Seed - 4 Ever Green (PS); Croplan Seeds - BMR 3411
  - Sorgh/sudans – 20 lb/acre
    - Alta Seeds AS5201; Moss Seed – Mega Green (PS); Croplan Seeds – Greentreat® 1731
  - Sudangrass – 15 lb/acre
    - Croplan Seeds – Greentreat® Rocket (PS)

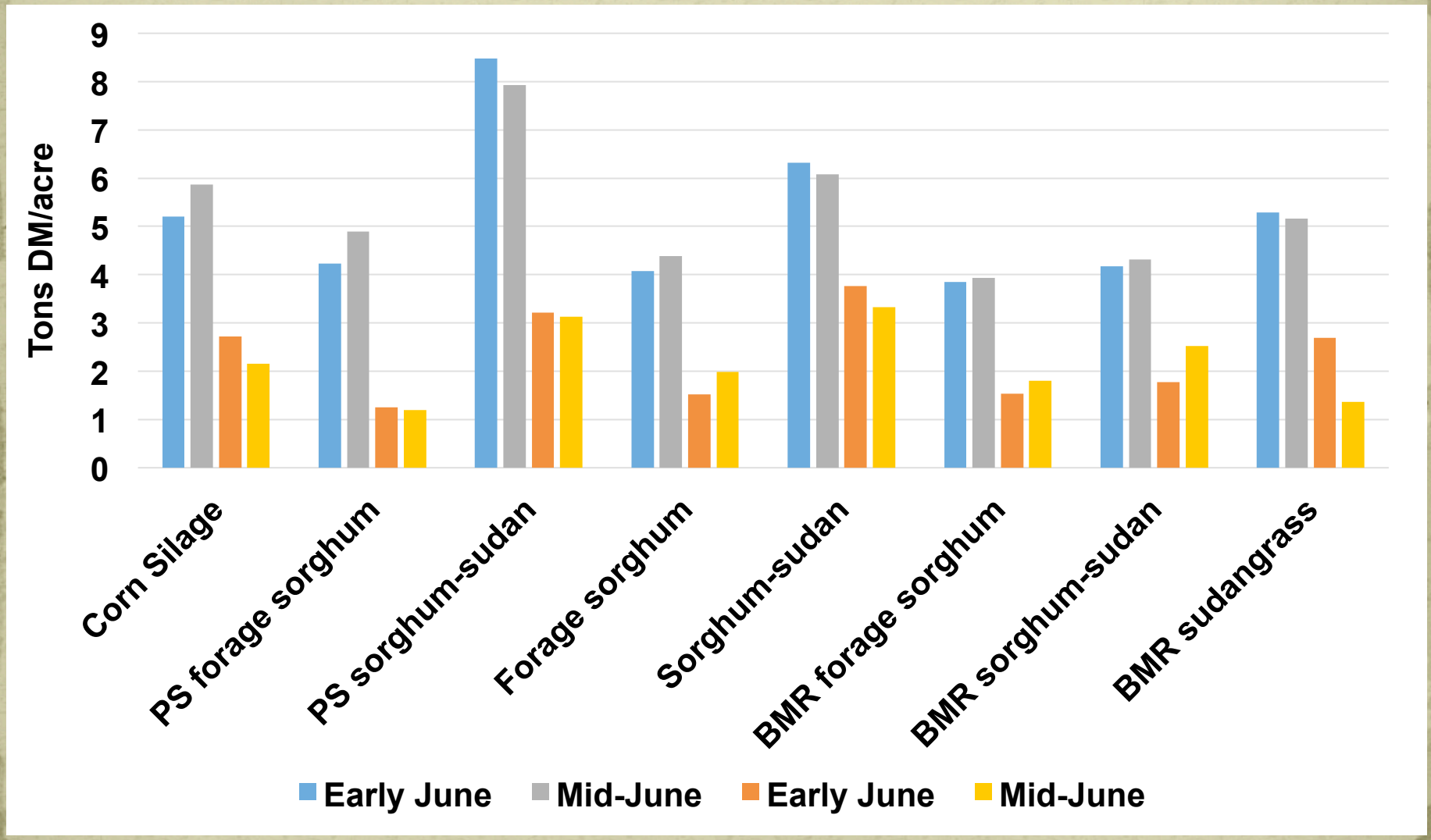
Observations/Results

- Planting issues
  - Drilled at 1 – 1.5 inches
  - Poor spacing of forage sorghum (low seed rate)
- Good early growth at Hancock for both plantings
- Slow early growth at Marshfield for 1st planting
  - Wet soils / Poor emergence
  - Weed pressure
- Better growth in Aug/Sept with dry, warm weather

Hancock Results



Marshfield Results



Lodging

BMR forage sorghum lodging

Fall Harvest Issues?

Potential problems harvesting vegetative sorghums in fall?

Summary

- Forage sorghums had comparable yield potential to corn in Central WI
- Proper planting management and soil conditions needed for good start
- Later planting reduced yield at Hancock but not Marshfield (better soil condition at 2nd planting)
- Single-cut system yielded 2-3 times multi-cut
  - Nutrient content data still to come

Later research…

- Reduced irrigation and fertilizer
- Heifer feeding trial
- Nitrate & prussic acid contents

Thank You!
Questions?

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