

Impact of Planting BMR-6 Forage Sorghum with Corn on Silage Yield in the Mid-Atlantic Region of the United States

INTRODUCTION

- Corn silage yield is sensitive to temperature and water stress
- Forage sorghum has a higher level of drought tolerance
- Mixtures of corn and forage sorghum may reduce risk of low silage yield in dry years



Figure 1. Short-term drought and temperature stress can significantly reduce corn silage yield.

OBJECTIVE

To evaluate the impact planting corn alone or in a mixture forage sorghum on yield of late planted corn silage.

MATERIALS AND METHODS

- Conducted near Blackstone, VA in 2010 and 2011
- RCB with seven reps
- Corn planted alone and with 2.25, 4.50, 6.75, and 9.00 kg ha⁻¹ of BMR brachytic dwarf forage sorghum var. 'AF7401' from Alta Seeds
- Planted in 76 cm rows in late May 2010 and 2011
- Received P and K according to soil test and 168 kg N ha⁻¹
- Harvested when the forage sorghum reached soft dough

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SUMMARY

- In 2010, total yield ranged from 10.9 to 27.3 Mg ha⁻¹ at 35% DM
- In 2011, total yield ranged from 12.0 to 38.2 Mg ha⁻¹ at 35% DM
- In 2010, a dry year, adding as little as 4.5 kg ha⁻¹ of forage sorghum optimized yield
- In 2011, a year with better moisture, adding 9.0 kg ha⁻¹ of forage sorghum optimized yield
- Planting 6.75 kg ha⁻¹ of forage sorghum with late planted corn should stabilize silage yields in the mid-Atlantic region

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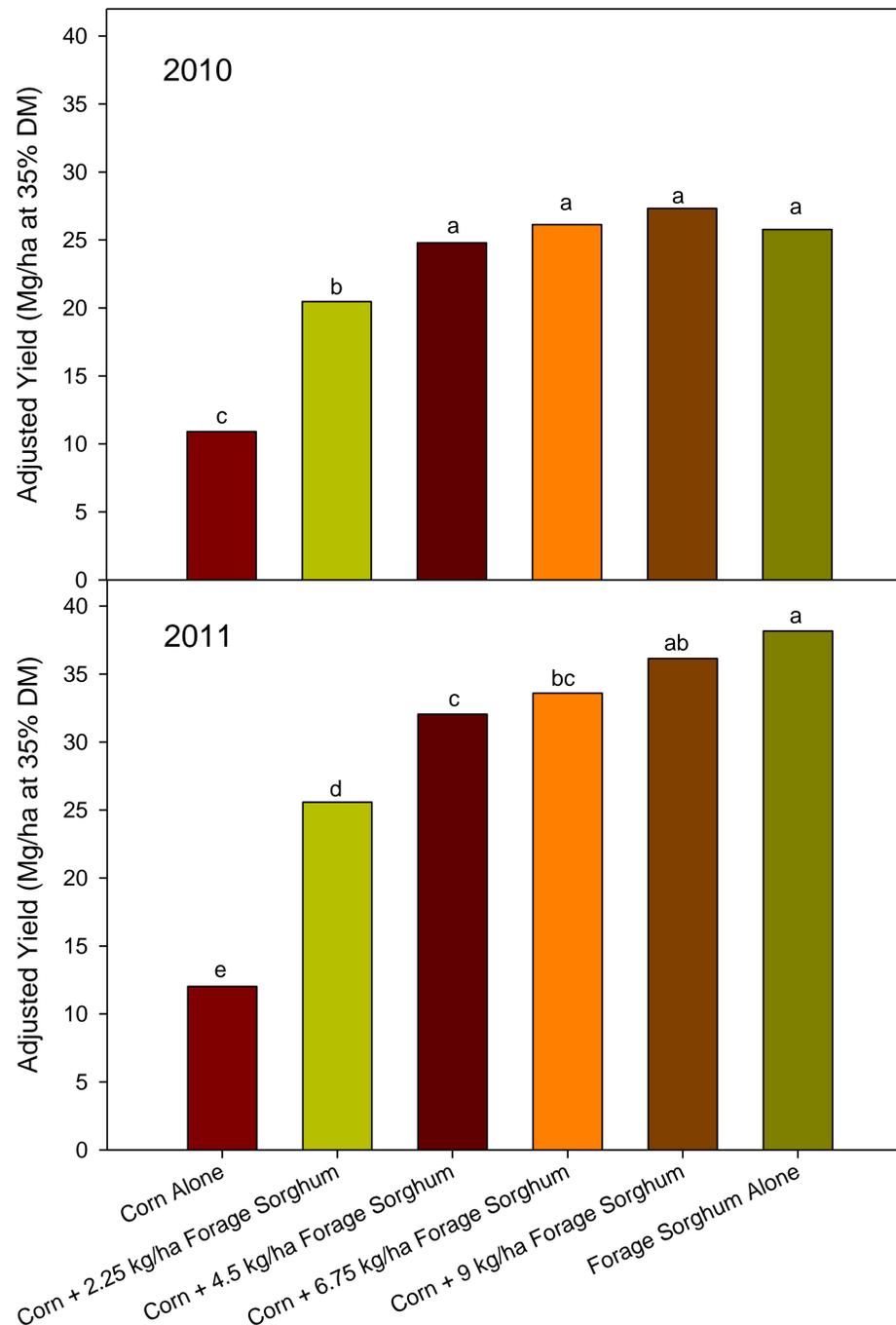


Figure 2. Adding as little as 2.25 kg ha⁻¹ of forage sorghum to late plant silage corn doubled silage yields in both 2010 and 2011. The optimal planting rate will likely be 6.75 kg ha⁻¹ of forage sorghum.



Figure 3. Corn and forage sorghum mixtures were planted with a 2-row cone seeder (left).

Figure 4 Plots were harvested with a modified one row chopper and Swift forage harvester. (right).



Figure 5. Drought stressed corn and forage sorghum in the 2010 trial (left), and late planted corn and forage sorghum and timely planted corn (right).

