DEVELOPING AN ALFALFA HAY EXPORT MARKET IN THE HUMID EASTERN United States

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Introduction

- Hay exports doubled in the last decade
- 95% of hay for export produced under irrigation in arid western U.S.
- Increasing competition for water
- Production systems in humid eastern U.S. are rain fed

Figure 1. Baling alfalfa hay in July 2015.

Figure 2. Containerizing hay in August 2015.

Objective

To evaluate the impact of preservatives on the stability of hay containerized in the humid eastern United States.

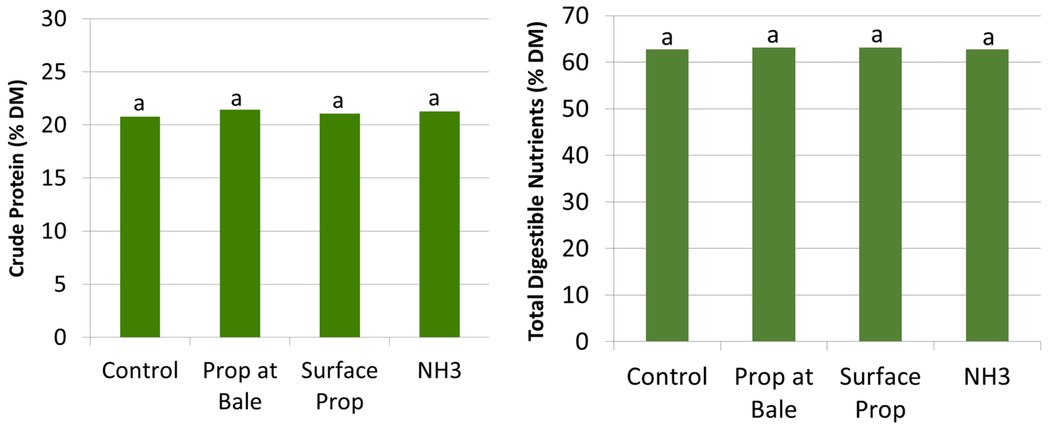

Figure 7. Forage quality results post containerization. Means with the same letter are not significantly different (LSD 0.05).

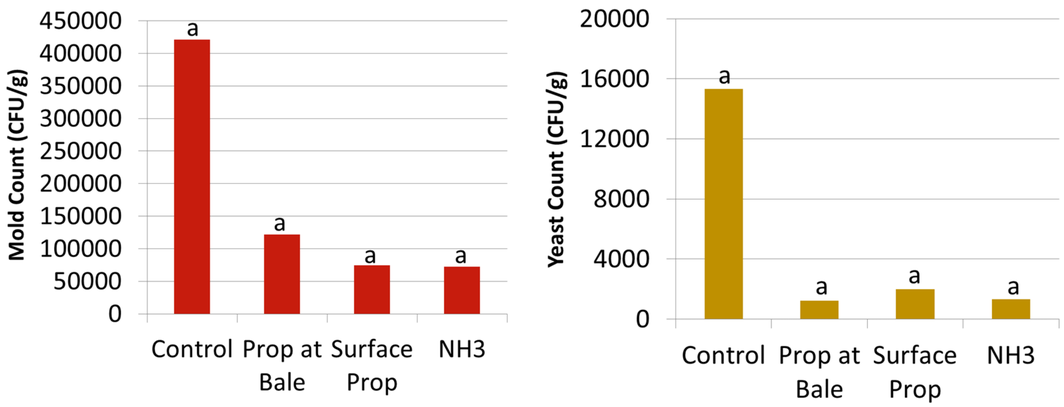

Figure 8. Mold and yeast counts post containerization. Means with the same letter are not significantly different (LSD 0.05).

Materials & Methods

- Hay cut at 1/10 bloom and baled at a target moisture of 18% (Fig. 1)
- Stored 4-6 weeks to stabilize
- Bales double-compressed (Fig. 6) and containerized for 45 days
- Treatments consist of:
  1) No preservative control
  2) Propionic acid (PA) at baling
  3) PA at baling + surface application of PA at containerization (Fig. 5)
  4) PA at baling + Anhydrous NH3 after containerizing

Summary

- After containerization, NDF, ADF, CP, and TDN were not significantly impacted by treatments (P > 0.05)
- Post containerization mold counts did not differ between treatments or the control (P > 0.05)
- High quality hay can be produced in the humid eastern U.S.
- Hay below 14% moisture can be successfully containerized in humid eastern U.S.

Figure 3. Hay after 45 days in containers.

Figure 4. Sampling bales after 45 days in containers.

Figure 5. Surface application of propionic acid.

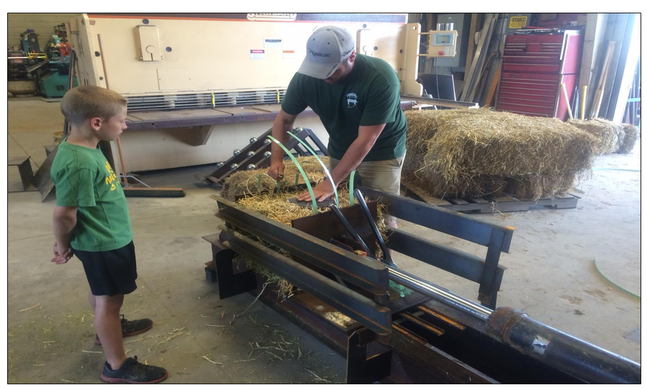

Figure. 6 Double compressing and re-banding alfalfa bales.

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