

2022 World Alfalfa Congress

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Alfalfa Planting Date

Influences Forage Nutritive Value

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Treatments and Management

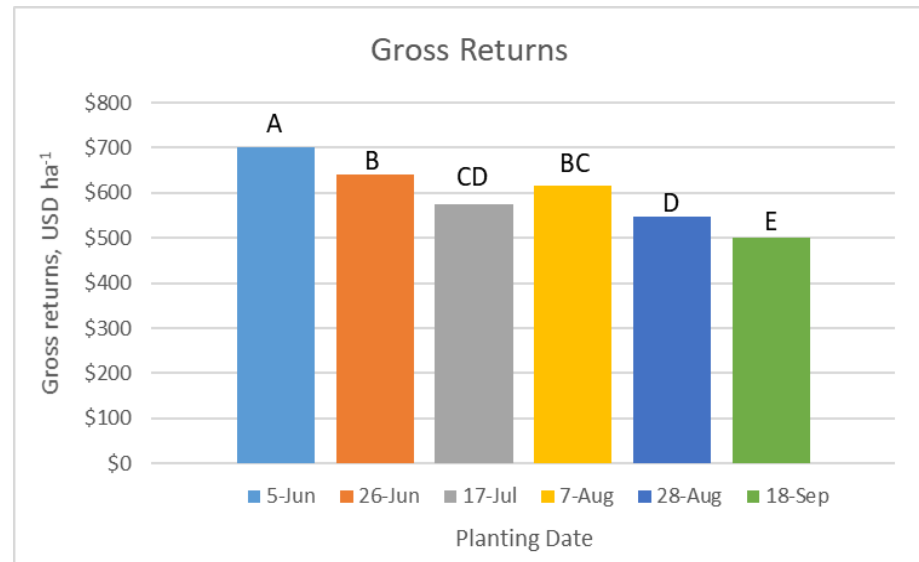
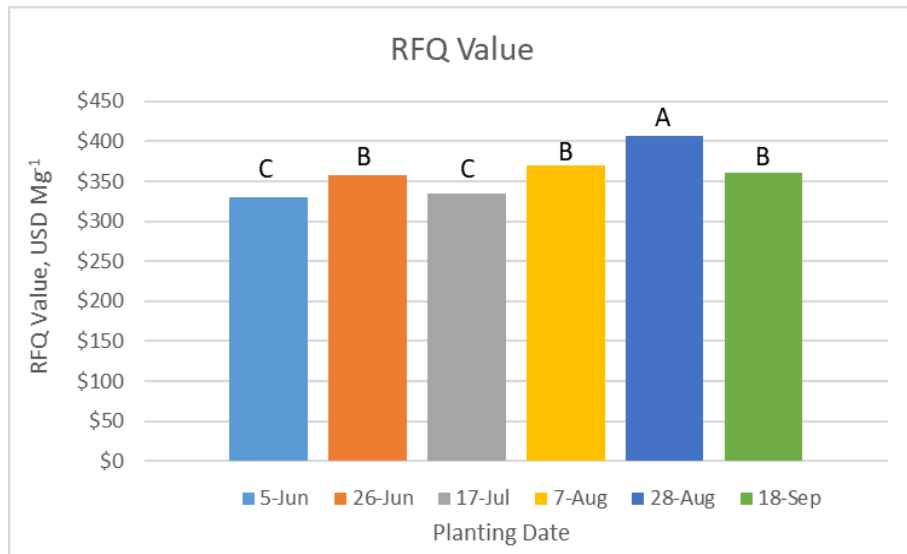
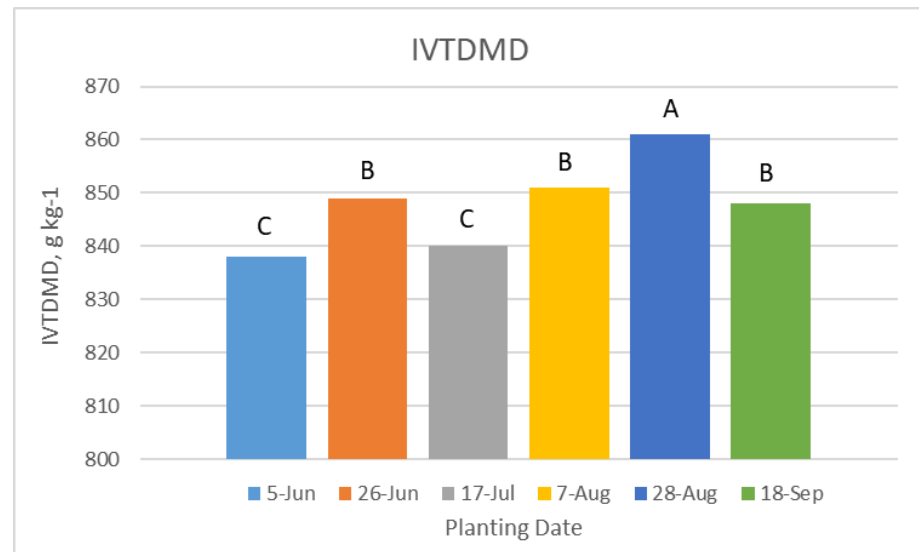
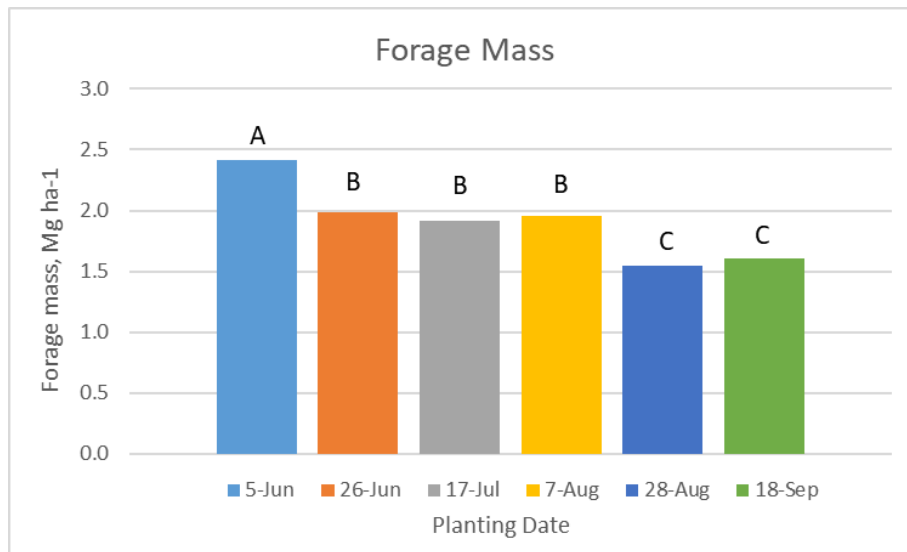
- WL 424HQ.RR , FD = 7, sown at 22.5 kg ha⁻¹ (20 lb/ac) at Tucumcari, NM USA (35.20°, -103.69°; elev. 1246 masl = 4081 ft)
- Planted every three weeks in 2013 and 2014: 6/4, 6/25, 7/16, 8/7, 8/27, and 9/18, approximately
- Sprinkler-irrigated twice-weekly with ~18 mm (3/4-inch) using Class 1B treated municipal wastewater

Measurements

- Whole plot harvests in 2015 and 2016 were taken with a self-propelled forage plot harvester when the alfalfa was 1-10% bloom with at least a 42-day interval between the last two harvests
- Fresh weights measured in the field and subsamples collected to determine dry matter (DM) concentration and for nutritive value analysis
- Nutritive value estimated by near infrared spectroscopy using the universal alfalfa equation
- Gross returns ha⁻¹ were calculated for each plot at each harvest as Mg DM ha⁻¹ x {109.97USD + [(RFQ-100) x 1.51USD]}, where 109.97USD = the value per Mg DM ha⁻¹ of RFQ100 alfalfa hay and 1.51USD is the recommended value for each RFQ point above 100

Statistical Analysis

- Harvest DM yield, IVTDMD, RFQ value Mg⁻¹ (about 2200 lb), and gross returns ha⁻¹ (about 2.47 ac) were analyzed using the mixed procedure of SAS procedures to compare seeding year, calendar year, harvest, and planting date and all possible interactions
- Rep x seeding year and residual mean squares were considered random
- Protected ($P \leq 0.05$) least significant differences were used for means separation



Conclusions

- Producers should plant for greatest overall yield potential and harvest for greatest nutritive value for the target class of livestock
- This phenomenon of a planting date effect on subsequent year alfalfa nutritive value is not well-understood as it has not been previously reported



Weevil Damage, %

5-Jun	87.50	A
26-Jun	71.25	B
17-Jul	42.50	C
7-Aug	45.00	C
28-Aug	33.75	D
18-Sep	8.75	E



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