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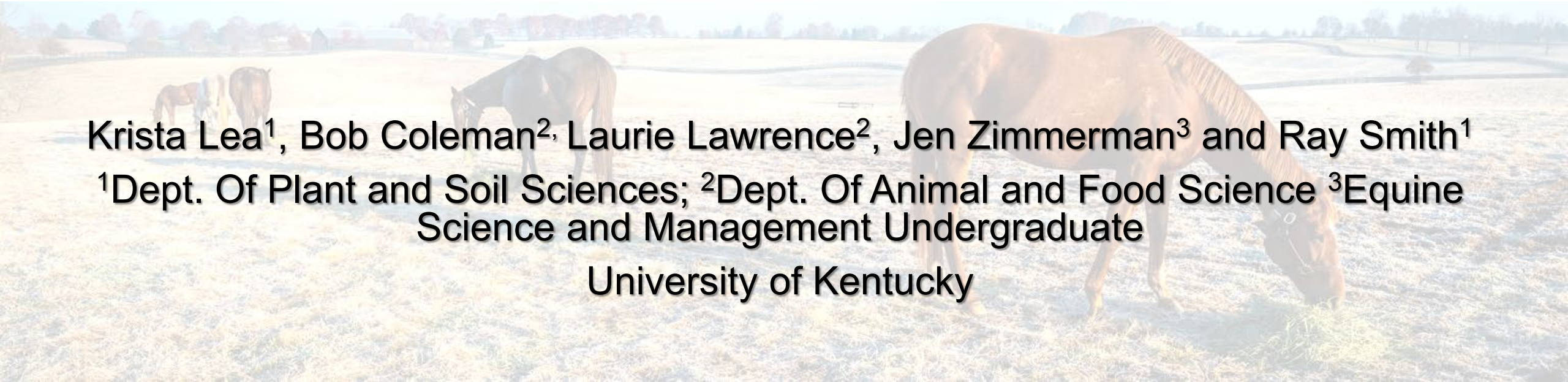
Producer & Consumer Survey: Increasing Alfalfa Hay Sales to Horse Owners



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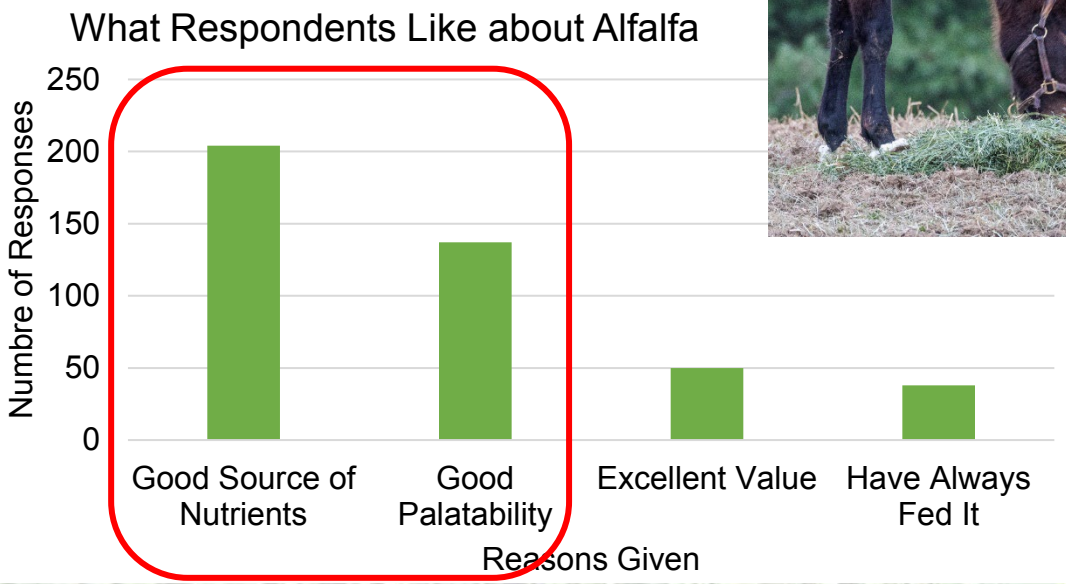
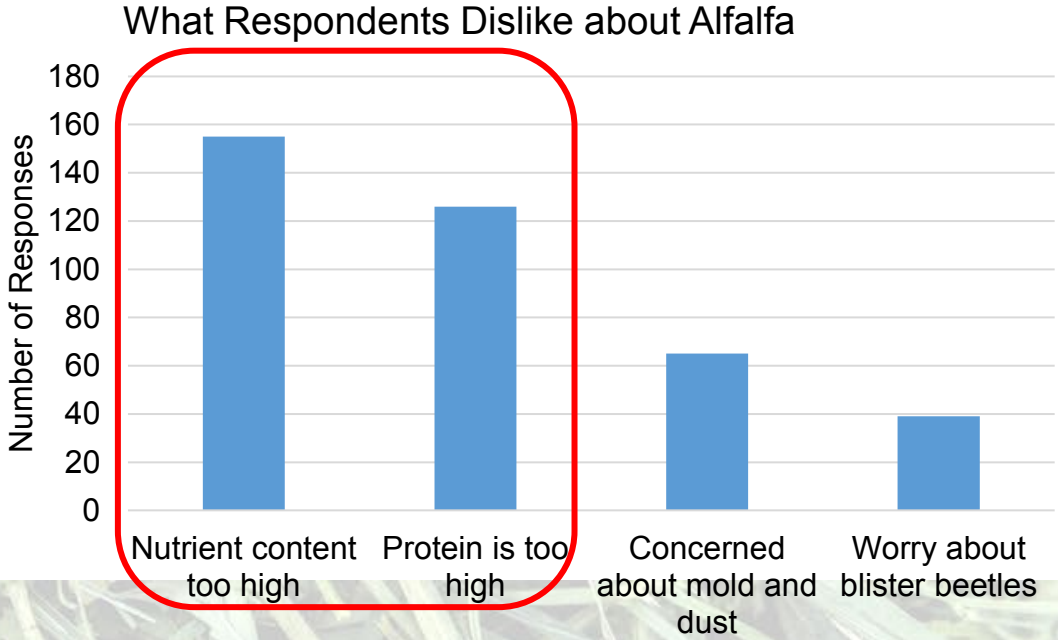
Why feed alfalfa?





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Selecting alfalfa

1. Cost
2. **Reputation of Dealer**
3. Bale Size
4. Availability of Quality Analysis
5. Delivery Available

Information sources

- University Personnel (80%)
- **Hay Supplier (53%)**
- Extension Publications (42%)
- Internet (36%)
- Feed Store (30%)
- Farrier (21%)
- Magazine (20%)
- Veterinarian (10%)

The sky's the limit!

- 7.25 million horses in the US.*
- Over 85% of horse owners purchase hay.
- Over 35% of hay producers sell more than 75% of their hay to horse owners.

*American Horse Council, 2017 Horse economy study

Irrigation Frequency & Cutting Schedules Effect on Crop-Water Productivity & Quality of Alfalfa Variety in California's Central Valley

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United States Department of Agriculture
Agricultural Research Service

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UNIVERSITY OF CALIFORNIA

UC ANR

Flood irrigation and cutting schedules management in alfalfa production

Generally, alfalfa is irrigated once (**n**on-**f**requent **i**rrigation: **NFI**) per cut (28 days basis) with flood irrigation system because of field drying time requirement for harvesting operations.

This irrigation practice may limit alfalfa from attaining it's yield potential.

Objective:

Determine irrigation frequency by cutting schedule combination treatments effect on yield, crop water productivity (CWP) and forage quality of alfalfa variety.

Material and Methods

- **Study location:** USDA-ARS, Parlier CA; Planted in 03/18/2021.

- **Experimental design: Split-plot**. 4 reps
  - **Main plot**: Irrigation by cutting schedule combination treatments (**F**requent **I**rrigation: **FI**-28d cut, **N**on-frequent, **N**FI-28d cut, and FI-35d). NFI- one irrigation per cut (6") a week after cutting while FI treatments received irrigation weekly based on evapotranspiration (ET) values at 110% ET level. Irrigation treatments imposed after Cut 1 (06/23/2021).
  - **Sub-plot** : 10 Cultivars of 8-10 Fall dormancy (FD). HVX840RR (reduced-lignin); AFX1060, AFX960, Magna (HiGest); Nexgrow6829RR, SW10, SW6330, Saltan, QA19NTC683, CUF101 (conventional).

    Applied water use (irrigation + rainfall): 1325.5 mm (1254.8 mm + 70.7 mm) for FI-28d and FI-35d and 1206.1 mm (1135.4 mm +70.7 mm) for NFI-28d treatments.

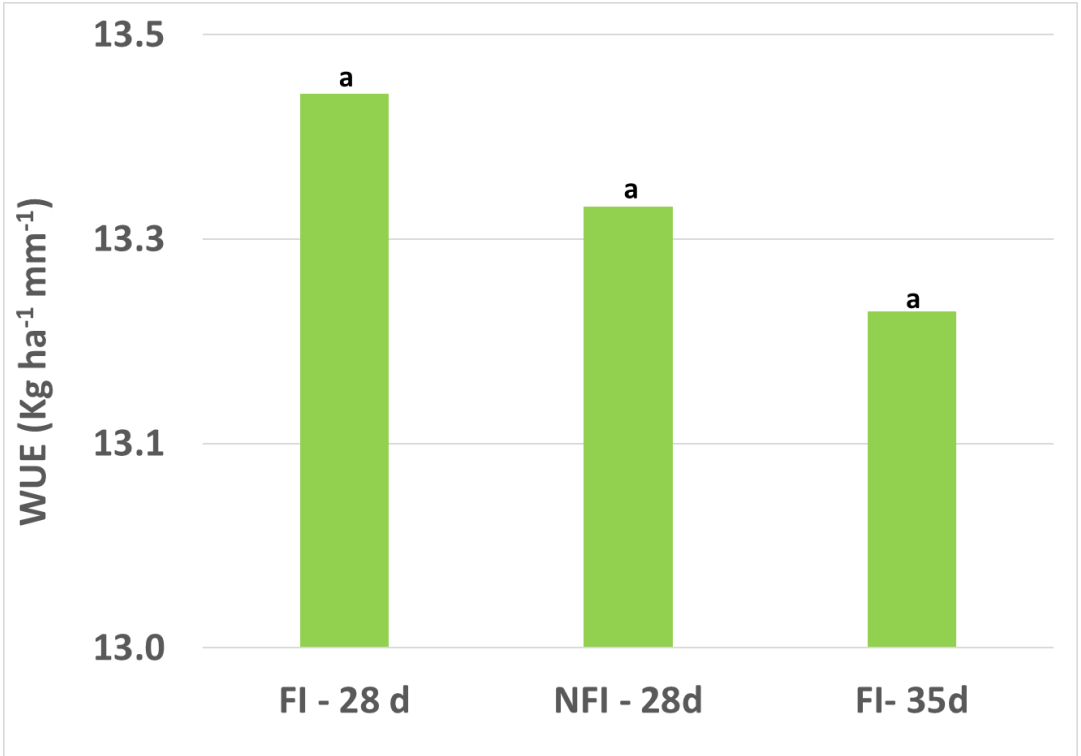
Data: Forage yield, applied water use & efficiency, and forage quality.

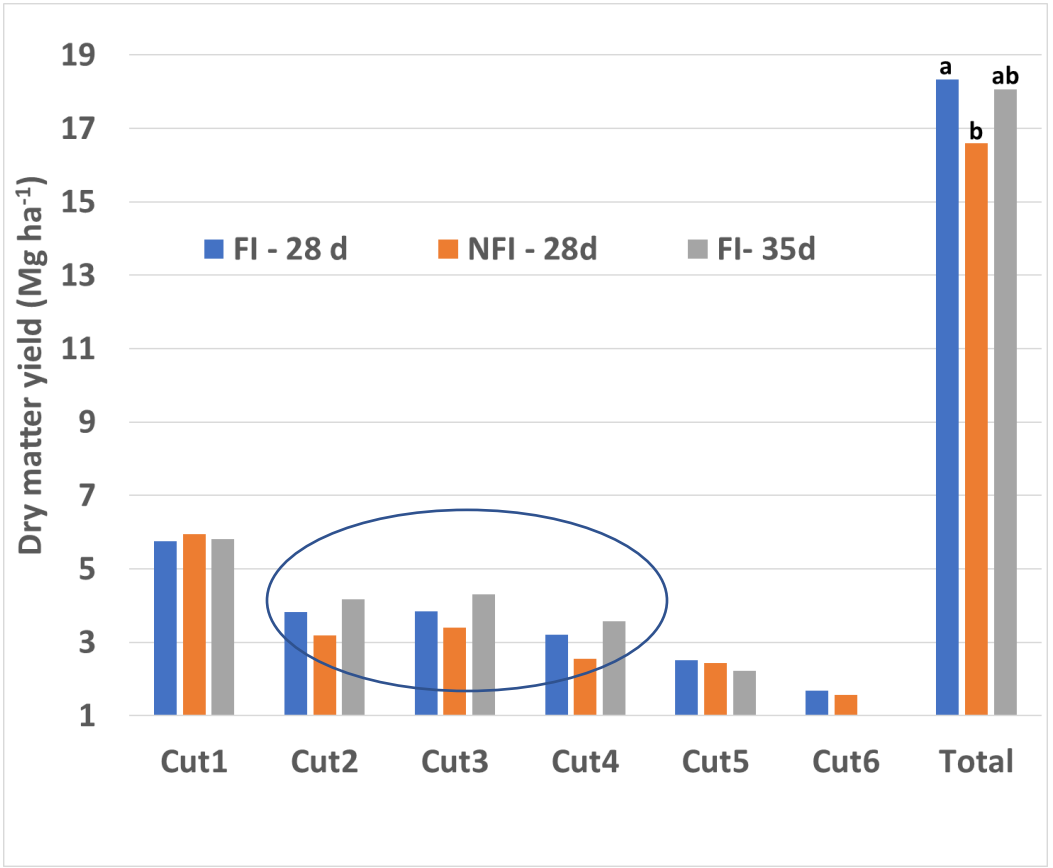
NFI-28d, FI-28d, FI-35d

Results-Yr 1

Frequent **i**rrigation (**FI**) of 28d and 35d cutting schedule treatments resulted in greater yields than **n**on-frequent (**NFI**) 28d schedule in Cuts 2, 3 and 4 but no difference between treatments in Cut 5 and 6.

Regardless of irrigation frequency and cutting schedules, the first three cuts contributed the most to total seasonal yields in all treatments (67, 69, and 73 % in NFI-28d, FI-28d and FI-35d, respectively).



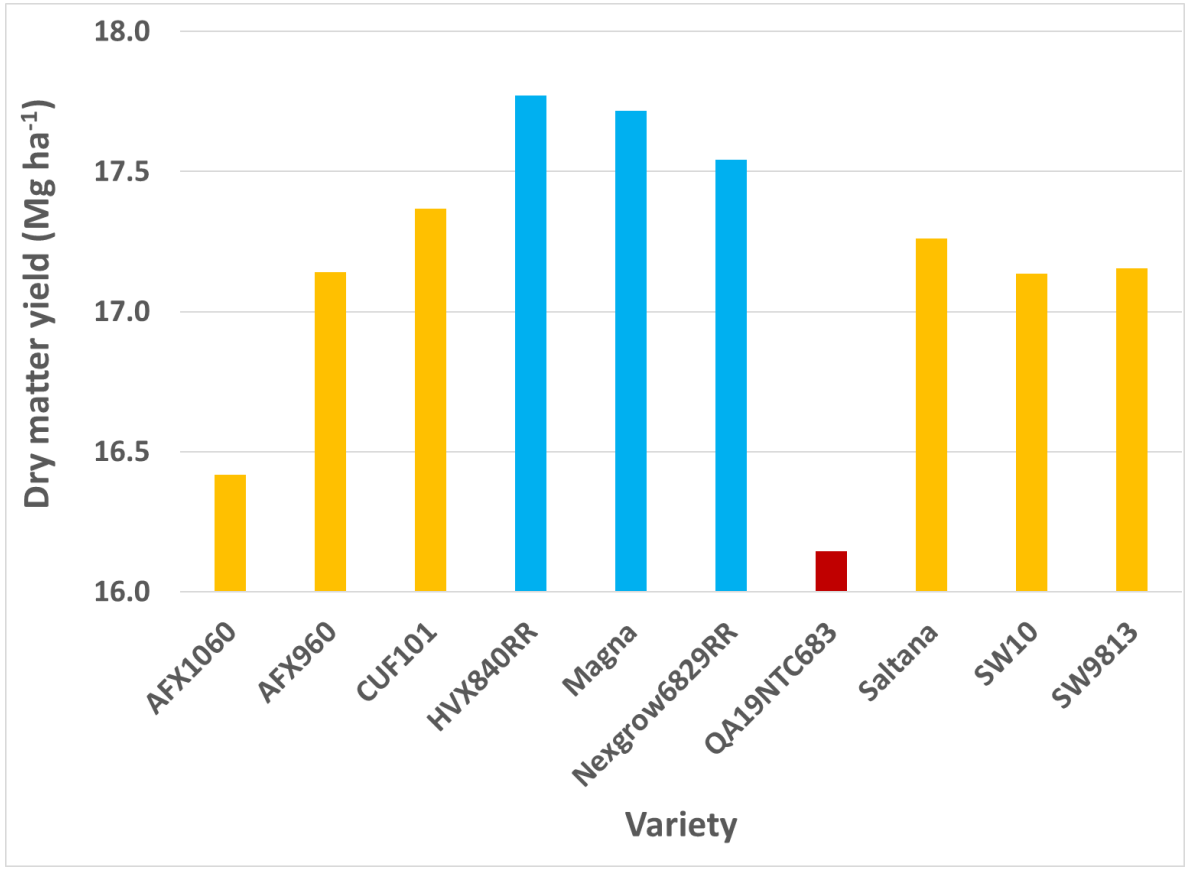


NFI-28d cutting schedule treatment produced a slightly lower seasonal yield but similar in WUE as FI-28d and FI-35d treatments with applied water use saving by 9 %.

Results

In general, response of varieties to irrigation by cutting schedule treatments were similar (average yields of varieties ranged from 16.1 to 17.8 Mgha^{-1}).

Highest yields were produced by varieties 'HVX840RR', 'Magna' and 'Nexgrow6829RR' while the lowest yield was for 'QA19NTC683' (experimental line).



This is first year results and data of multiple production years will be collected to draw a conclusion about irrigation frequency by cutting schedule combination treatments impact on alfalfa's yield, crop water productivity and quality.

2022 World Alfalfa Congress

15-17 November 2022

Alfalfa Planting Date Influences Forage Nutritive Value

Leonard Lauriault
Rex E. Kirksey Agric. Science Center at Tucumcari

Mark Marsalis
Agric. Science Center at Los Lunas

Frannie Miller
Agric. Economics & Agric. Business Department

Treatments and Management

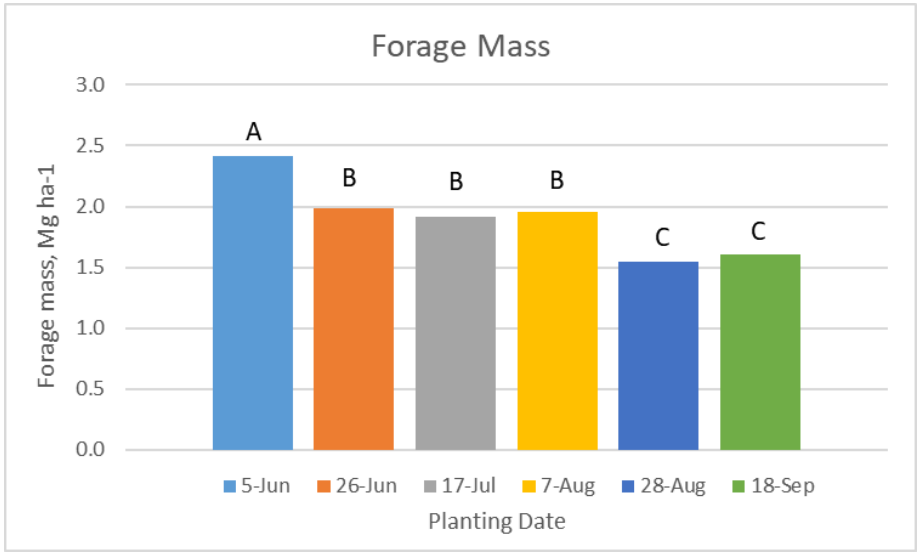
- WL 424HQ.RR , FD = 7, sown at 22.5 kg ha^{-1} (20 lb/ac) at Tucumcari, NM USA (35.20º, -103.69º; elev. 1246 masl = 4081 ft)
- Planted every three weeks in 2013 and 2014: 6/4, 6/25, 7/16, 8/7, 8/27, and 9/18, approximately
- Sprinkler-irrigated twice-weekly with ~18 mm (3/4-inch) using Class 1B treated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

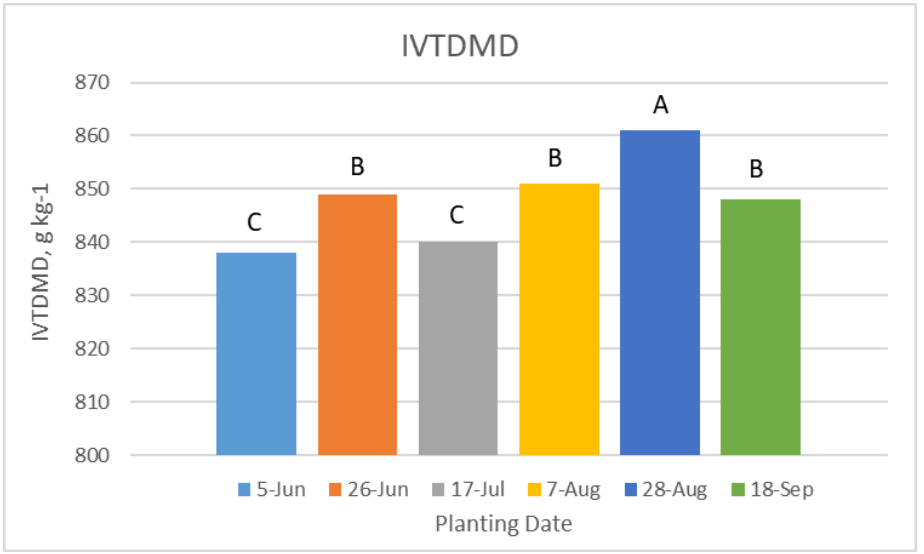
Measurements

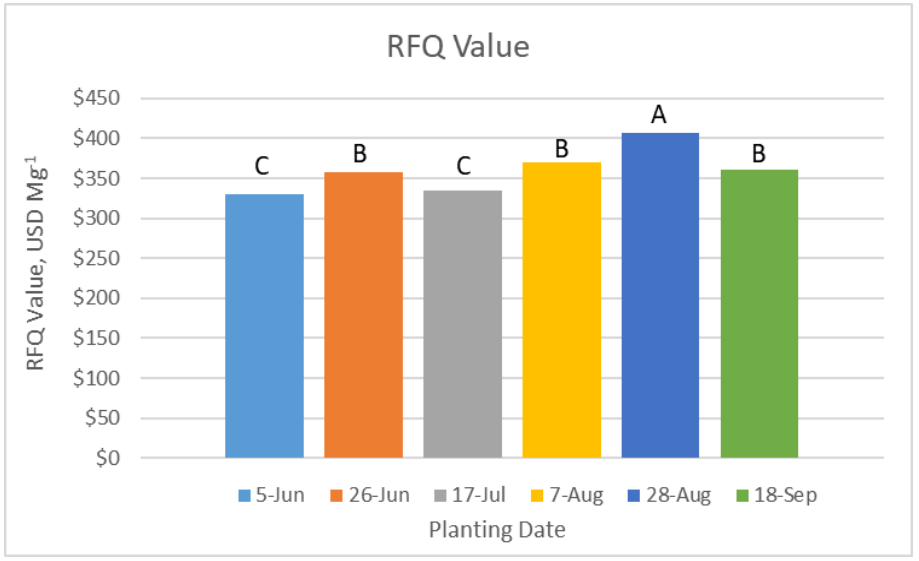
- Whole plot harvests in 2015 and 2016 were taken with a self-propelled forage plot harvester when the alfalfa was 1-10% bloom with at least a 42-day interval between the last two harvests
- Fresh weights measured in the field and subsamples collected to determine dry matter (DM) concentration and for 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

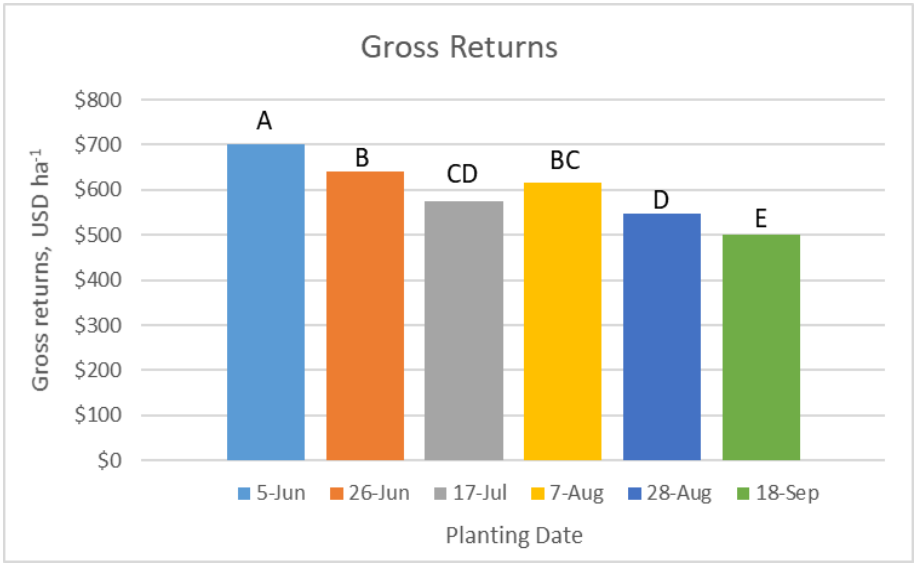
Statistical Analysis

- 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


Forage Mass
Forage mass, Mg ha-1
3.0
2.5
2.0
1.5
1.0
0.5
0.0
A
B
B
B
C
C
5-Jun
26-Jun
17-Jul
7-Aug
28-Aug
18-Sep
Planting Date


IVTDMD
IVTDMD, g kg-1
870
860
850
840
830
820
810
800
C
B
C
B
A
B
5-Jun
26-Jun
17-Jul
7-Aug
28-Aug
18-Sep
Planting Date


RFQ Value
RFQ Value, USD Mg-1
$450
$400
$350
$300
$250
$200
$150
$100
$50
$0
C
B
C
B
A
B
5-Jun
26-Jun
17-Jul
7-Aug
28-Aug
18-Sep
Planting Date

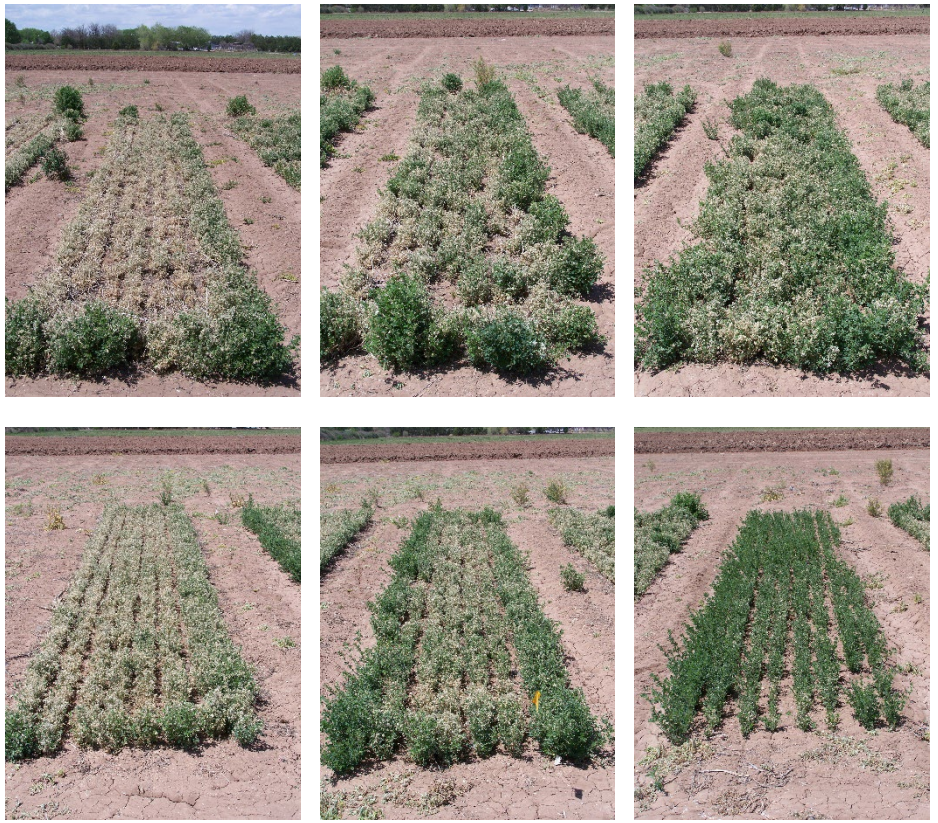

Gross Returns
Gross returns, USD ha-1
$800
$700
$600
$500
$400
$300
$200
$100
$0
A
B
CD
BC
D
E
5-Jun
26-Jun
17-Jul
7-Aug
28-Aug
18-Sep
Planting Date

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

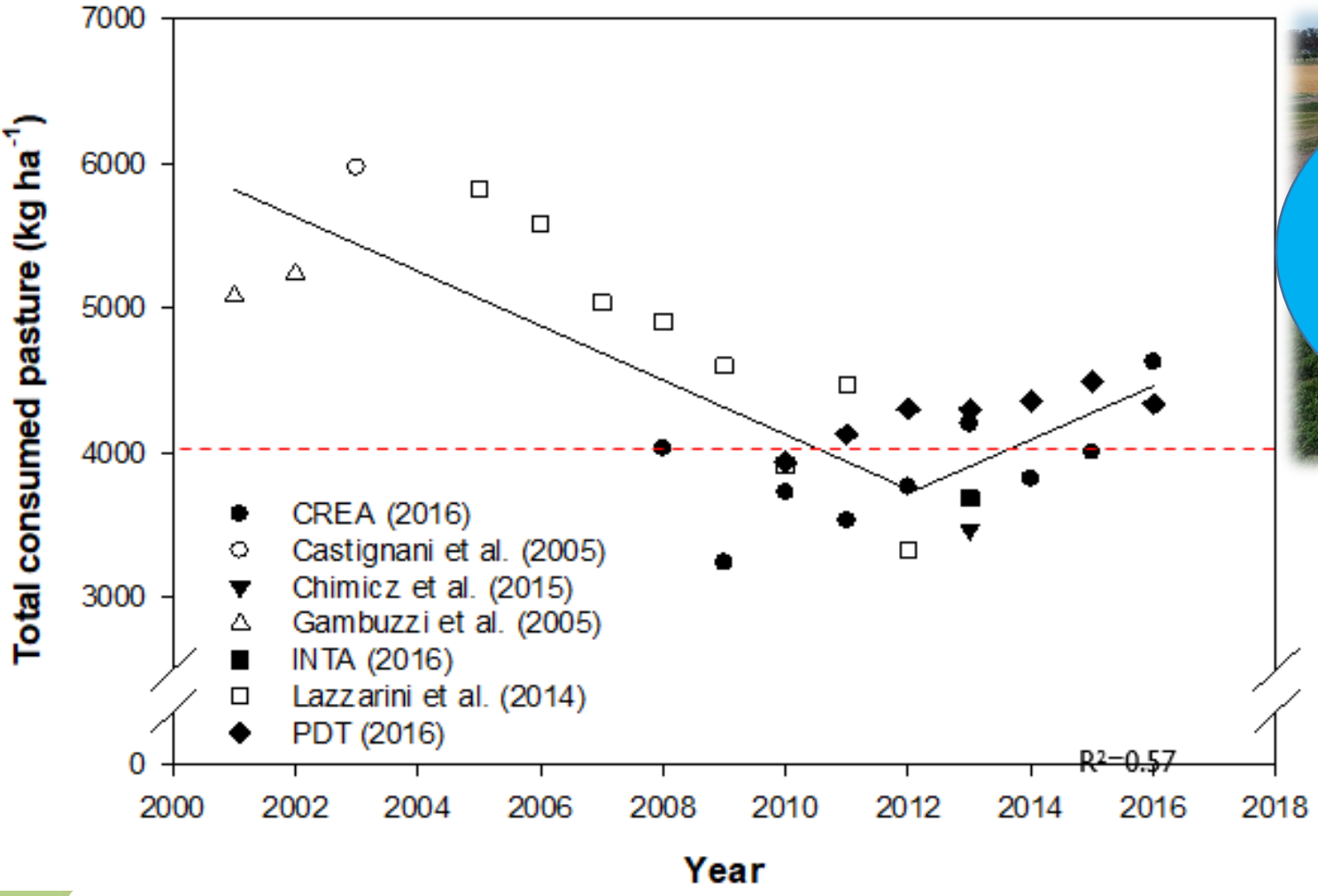


Got Questions?
Visit the Poster Session

New Mexico State University
aces.nmsu.edu

Plant & Environmental Sciences Department
And
Rex E. Kirksey Agricultural Science Center at Tucumcari

Long-term effects of fall dormancy & grazing frecuency on forage production & consumption of alfalfa



Jáuregui *et al* (2019)

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Materials and Methods-Trial design

Main goal: Increase Alfalfa Forage utilization without compromising persistence

Trial Design:

- 2 FD (6 D and 8 ND)
- 2 Defoliation frequencies: 550°Cd along year= 10% **Flowering TRAD** Vs 400°Cd Spring/Summer y 550°Cd Autumn/Winter= **FLEXI GRAZE**
- 3 Reps
- Sheep grazing adjusted to DM available
- Grazing calendar adjusted to historical average temperature (Base T 5°C)

Measured Variables:

- DM before and after grazing in order to get the biomass consumption

Urquiza town-Pergamino City-buenos Aires province - Argentina
Latitude: 33°53' S – Longitude: 60°35'W
Rainfall:998 mm/año
Soils: Deep and heavy (typical Argiudoll)

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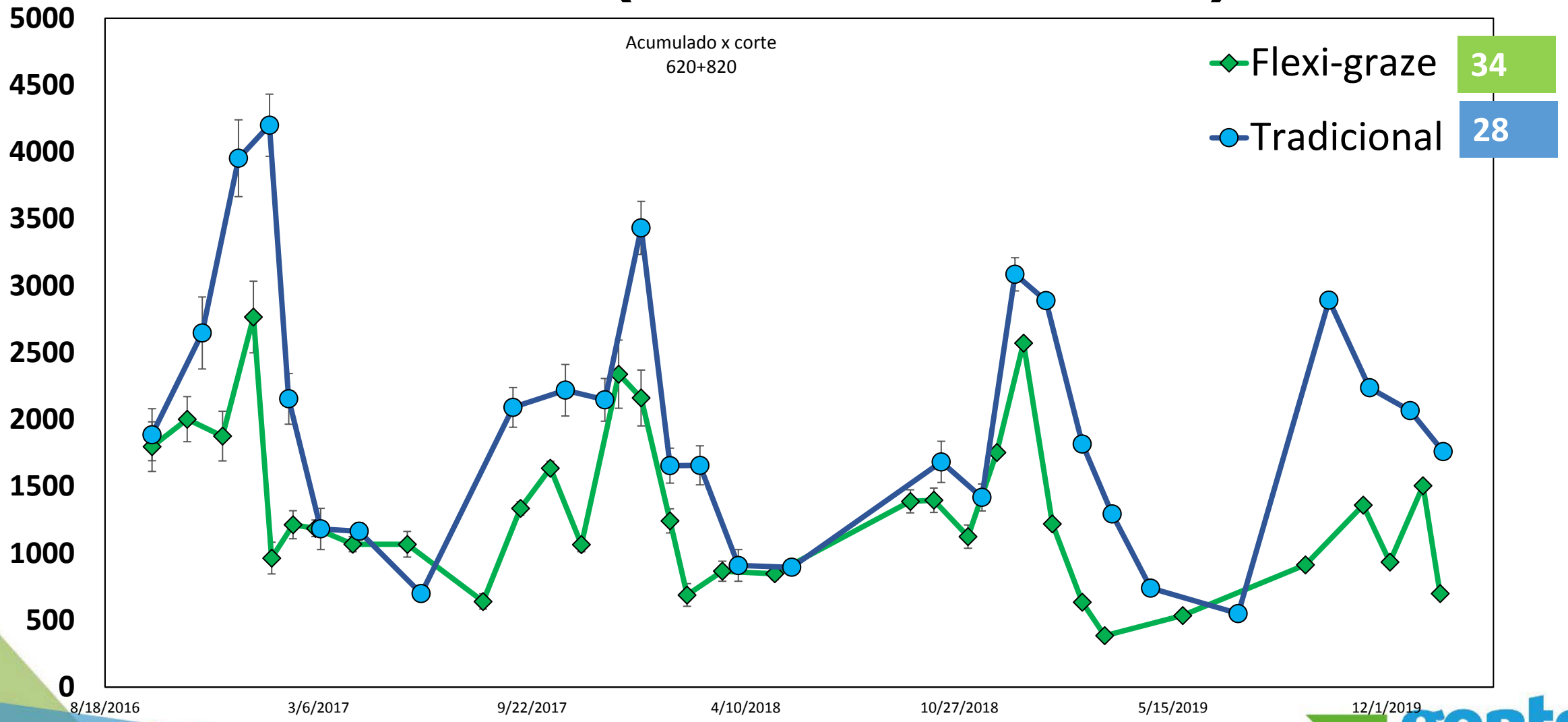
DRY MATTER PRODUCTION / GRAZING TIME (4 YEARS DATA)



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- ✓ H
- ✓ H
- ✓ S
- ✓

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Thanks all the professionals involved in this scientific work : Rosa Jauregui, Maitena Lopez, José Jauregui, Martín Bigliardi,Lucas Garro and Federico Sciarretta

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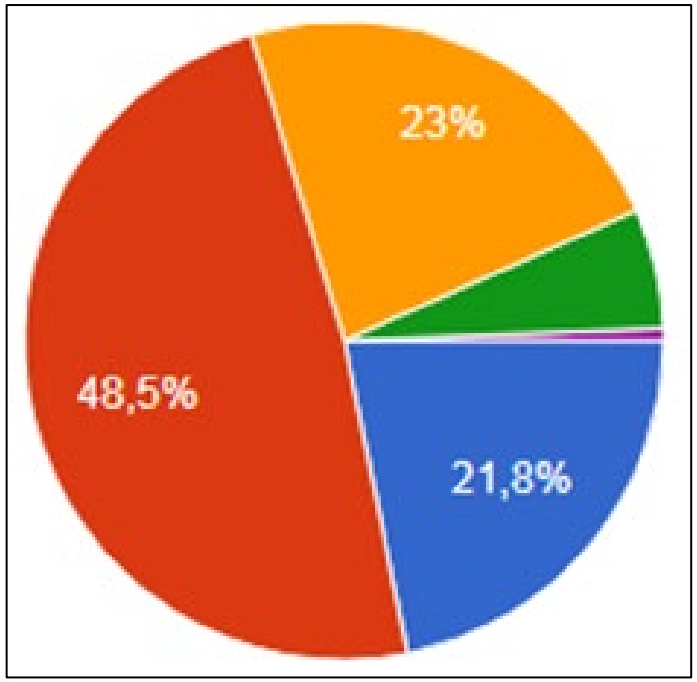
Long Term Effects of Fall Dormancy and Grazing Frequency on Root Biomass of Lucerne Pastures

How much does alfalfa yield?



71,5% Farmer´s answer
Low Yield and poor persistence

Potential causes:

- Poor grazing management
- Cultivars with no dormancy

The average stand duration is < 3 years!

Fuente: Proyecto PEIS, FCA (UNL)- 2017-
Toniutti, Fornasero, Dimundo, Gieco, Jáuregui

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Materials and Methods-Trial design

Objective:

Increase dry matter intake without loosing persistence.

Variables:

- 2 Dormancy groups
  - Nobel 620 & L820
- 2 defoliation frequency
  - Traditional 550°Cd = 10% Flor)
  - Flexygraze
    - 400°Cd Spring/summer)
    - 550°Cd Autumn

Measured Variables:

- Soil cover (%)
- Root biomass (Ton/ha/year)

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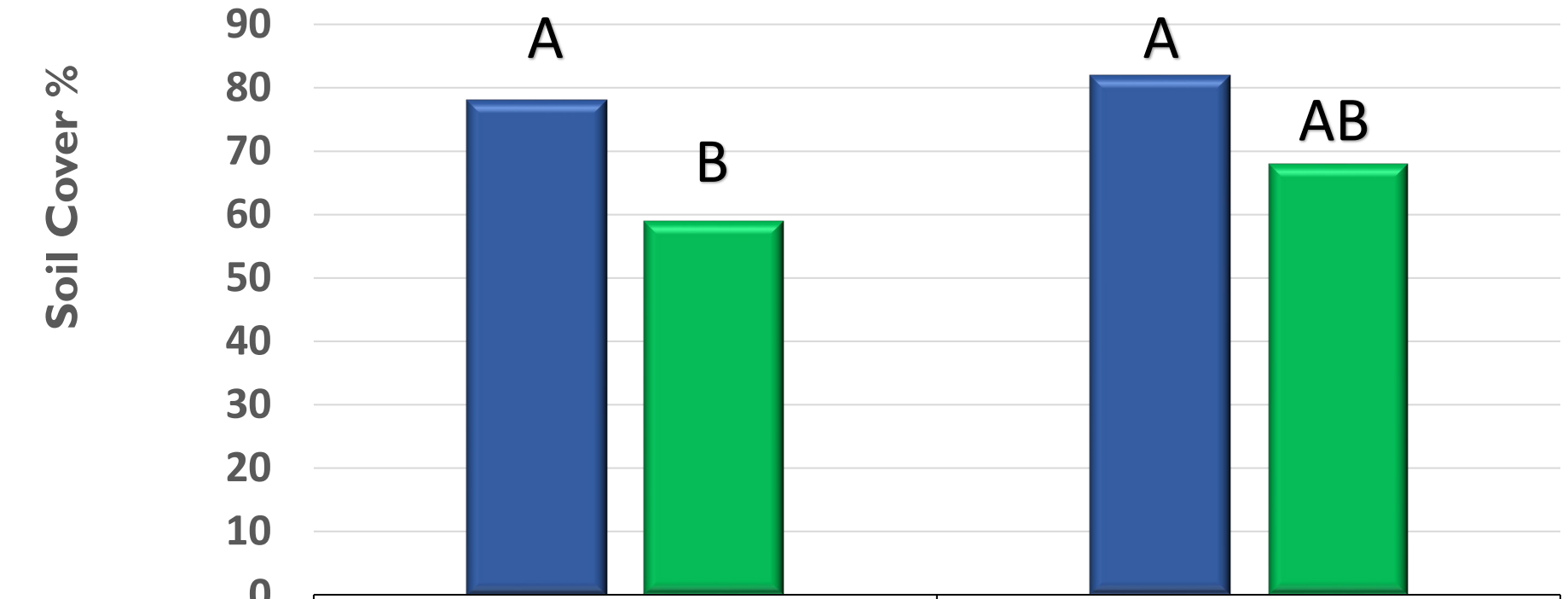
Soil cover after 3 summer since establishment

Grazing frequency treatments x Fall dormancy
(400°Cd Vs 500°Cd)



	400°Gd	500°Gd
Nobel620	78	82
L 820	59	68

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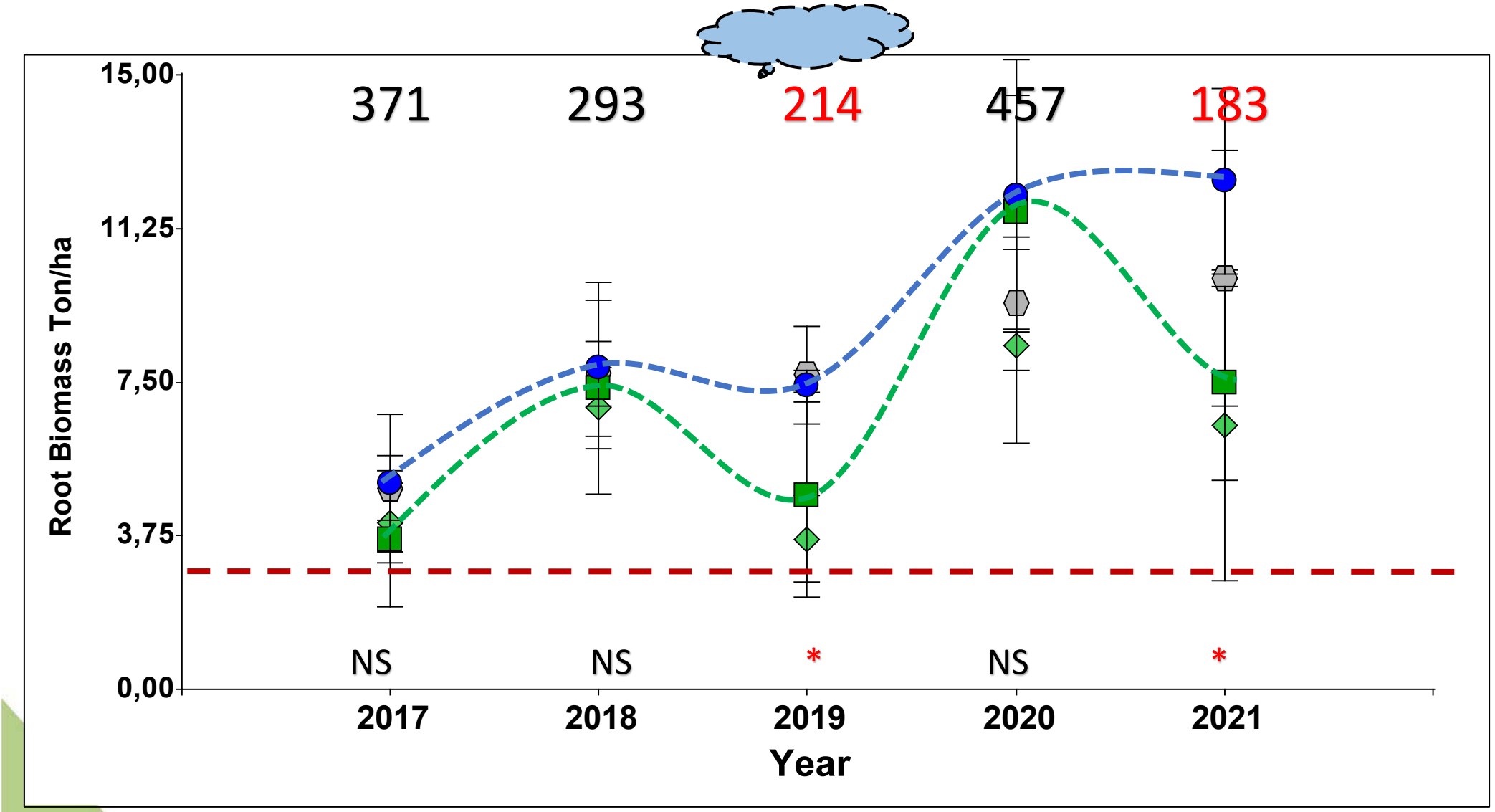
Alfalfa root Biomass during 5 years. Pergamino (Bs As)



- FD 6 TRAD
- FD 8 TRAD
- FD 6 FLEX
- FD 8 FLEX

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Conclusions.

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