

DUAL-PURPOSE WINTER CANOLA

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Overview

- The Basics
- Dual-Purpose Study
- Future Research
- Take Home Message



The Good

- High Energy
- High Protein
- Low Fiber
- Alternative Forage Source
- Vigorous Growth and Re-Growth
 - *Under the Proper Conditions*

	NE_m (Mcal/lb)	TDN (%)	Crude Protein (%)	NDF (%)	ADF (%)	Ash (%)
Canola Silage	.80-.88	74-77	16-29	21-26	19-21	9-16

The Bad

- Low Fiber?
- High Moisture
- Nitrates
- Sulfur
- Fertilization Will Affect Nitrate and Sulfur

Considerations

- Canola Can Provide a High-Quality Forage
- Careful Management is Required
 - *Forage Testing*
 - *Additional Source of Forage Available*
 - Provides Fiber
 - Dilutes Nitrate and Sulfur

Dual-Purpose Study

- Winter Canola Planted in Mid-August
- Forage Harvested 60 days after planting from half of each plot
- ~ 1 t DM/ac
- 86% Moisture
- ~ 7 t of wet forage/ac



Dual-Purpose Study

■ Nitrates

- *Less Than 0.5-0.6% is Generally Safe for Non-Pregnant Cattle*
- *Not a Problem in our Study (.03%)*
- *Crop was Irrigated and Under Little Stress*

■ Sulphur

- *Less Than 0.3-0.4%*

Preplant Sulphur	Forage Sulphur
0 lbs/ ac	0.38
6.7 lbs/ ac	0.50
13.3 lbs/ac	0.58-.062

Dual-Purpose Study



■ Grazing

- *Nitrates, Sulfur, Acidosis*

- + *Small Initial Investment, Control the Extent of Defoliation*

■ Haying

- *Too High Moisture to be Practical*

■ Ensiling

- *High Moisture, Soil Contamination from Field Wilting*

- + *Reduce Nitrate and Sulfur Metabolites, Stored Forage, Control Intake*

Dual-Purpose Study

■ Canola Silage

- *With and Without Alfalfa Cubes*
- *Inoculated with Lactic Acid Producing Bacteria*

	Silage With Cubes	Silage W/O Cubes
DM (%)	32	16
pH	4.6	4.3
Lactic (%DM)	6	12
Lactic (%VFA)	74	80
Acetic (%DM)	2	3
Butyric (%DM)	0	0
Effluent (gal./t)	2	37

Dual-Purpose Study

- Nitrates

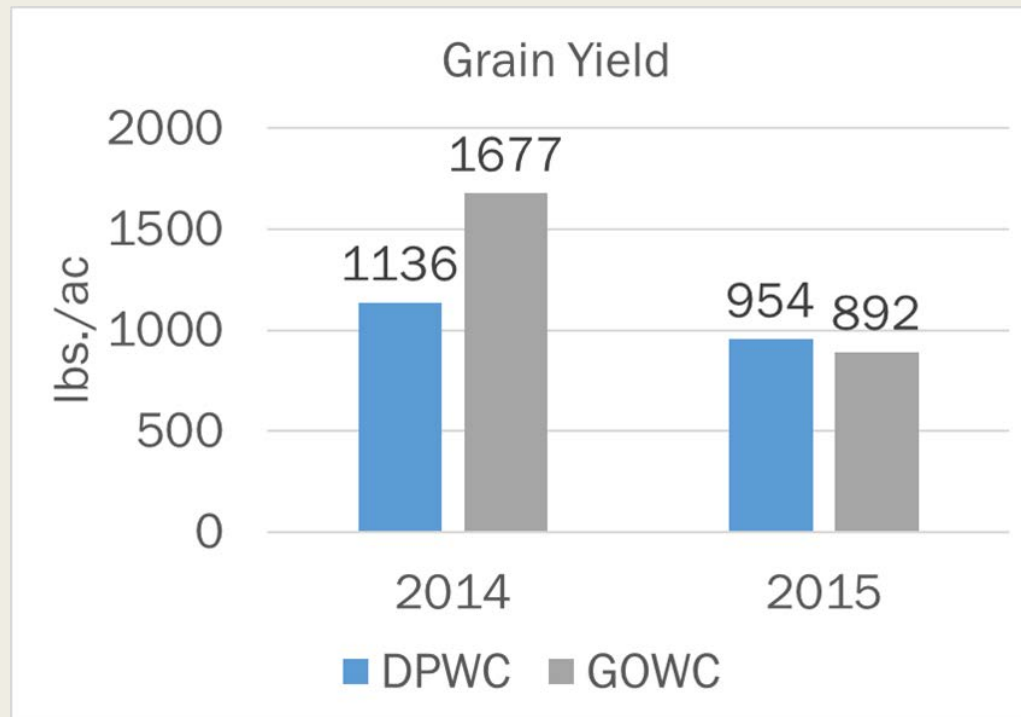
- *Decreased ~ 40% Without Alfalfa Cubes*
- *Alfalfa Cubes Increased Nitrates*

- Sulphur

- *Decreased 10-20%*
- *Lower With Alfalfa Cubes (Dilution Effect)*

Dual-Purpose Study

- Low Overall Yields



Future Research

- Further Quantify
 - *Effect of Forage Harvest on Winter Survival*
 - Mechanisms
 - *Effect of Forage Harvest on Grain Yield*
 - Large Scale Studies
 - Mechanisms
 - *Feeding Quality*
 - In Depth Feed Analysis
 - Feeding Trials
- Development of Dual-Purpose Cultivars
- Harvest Techniques and Equipment

Take Away

- There are Several Challenges and Risks Associated With DPWC
- Assess Your Situation
 - *Market Prices, Forage Availability*
- Test Your Forage
 - *Obtain a Representative Sample*
- Preplant Fertilization
 - *30-40lb N/ac*
 - *0lb S/ac*
- Ensiling Canola
 - *Reduce Nitrates and/or Sulfur*
 - *Stored Forage Source*
 - *Use an Inoculant*

Questions

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