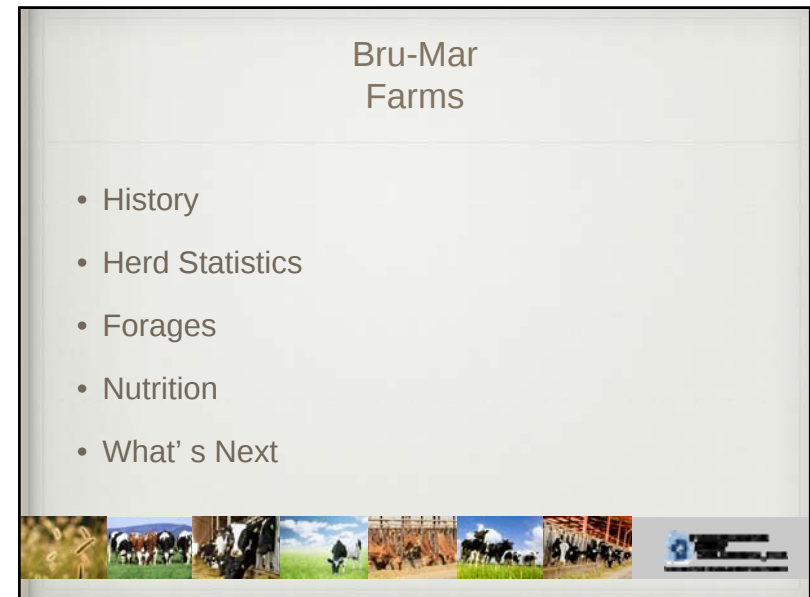
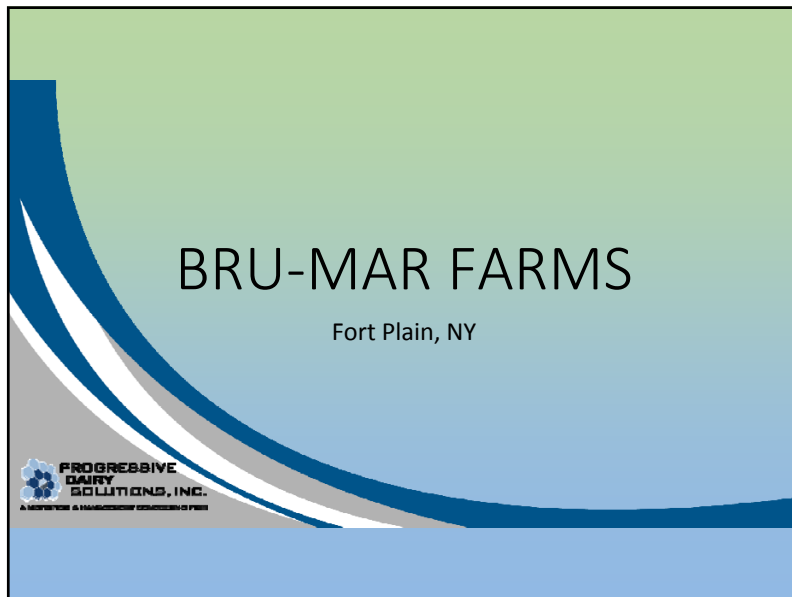




## History

- Established in 1999
- Feed Center 2012
- New Barn Built in 2014
- Parlor Built 2016



## Herd Statistics

- 28,400 RHA
- 2x milking non BST
- 4.2 Butterfat
- 3.25 Milk Protein
- 6.23 pounds of components sold
- 160,000 SCC
- 230 Cows



## Farm Land

- Own 750 acres
- Rent 210 acres
- Corn Planted 510 acres
- Hay Crop 400 acres



## Reproduction

- 40% Conception Rate
- 2.2 Services Per Conception
- 26% Pregnancy Rate
- Natural Heat Detection & G6G



# FORAGES

## How to Qualify Feeds

- Yield
- Fiber Digestibility
- Starch Digestibility
- Disease Resistance



CORN SILAGE



[illegible]

Firm: **BLU MAX**

Desc: **CSLG 535 1 MONTH**

Submitter: **LAWREN, SHAWN**

Account: **WHITTAM'S FEED STORE**

Copies to: **1**

Lab No: **150414.007**

Sample:

Arrived: **10/18/2013**

Completed: **10/30/2013 10:30**

Reported: **11/09/2013**

**CSLG 535 1 MONTH**

**SAMPLE INFORMATION**

Lab No: **150414.007**

Crop Year: **2013**

Cattling:

Feed Type: **CORN SILAGE**

**NIR ANALYSIS RESULTS**

Moisture

Dry Matter

**PROTEINS**

Crude Protein

Adjusted Protein

Soluble Protein

Aminoma

NDF Protein (ADCP)

NDF Protein

NDF Protein (NDFCR)

Rumen Deg. Protein

Rumen Deg. CP (Strep. G)

**CELLULOSE**

ADF

ADFI

NDF

NDF (NDF w/o sulfate)

pH/DF

Crude Fiber

Lignin

NDF Digestibility (12 hr)

NDF Digestibility (24 hr)

NDF Digestibility (36 hr)

NDF Digestibility (48 hr)

NDF Digestibility (240 hr)

Indigestible NDF

**CARBONHYDRATES**

Starch

Starch Soluble CHO (Sugar)

Water Soluble CHO (Sugar)

Starch

Soluble Fiber

Starch Digestibility (7 hr, 4 hr)

Fatty Acids, Total

Fatty Acids, %Fat

Crude Fat

**MINERALS**

Ash (NDFM)

Calcium (%NDFM)

Phosphorus (%NDFM)

Magnesium (%NDFM)

Potassium (%NDFM)

Sulfur (%NDFM)

Sodium (%NDFM)

Chlorine (%NDFM)

Iron (PPM)

Copper (PPM)

Zinc (PPM)

Manganese (PPM)

Copper (PPM)

Strontium (PPM)

Selenium (PPM)

**PROXIMATE**

Total VFA (%NDF)

Lactic Acid (%NDF)

Lactic as % of Total VFA

Acetic Acid (%NDF)

Thiolytic Acid (%NDF)

1,2 Propanediol

Triethylene Alcohol (smg/100gm)

**Cell Contamination Probability**

Nitrate Probability

NIR Statistical Confidence

**Minimum Probability**

**VERMISEL & INHIBIT CALCULATIONS**

TCN (NDFM)

Net Energy Lactation (mcg/TS)

Net Energy Maintenance (mcg/TS)

Net Energy Gain (mcg/TS)

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## CUMBERLAND VALLEY ANALYTICAL SERVICES

Laboratory services for agriculture ... from the field to the feed bank.

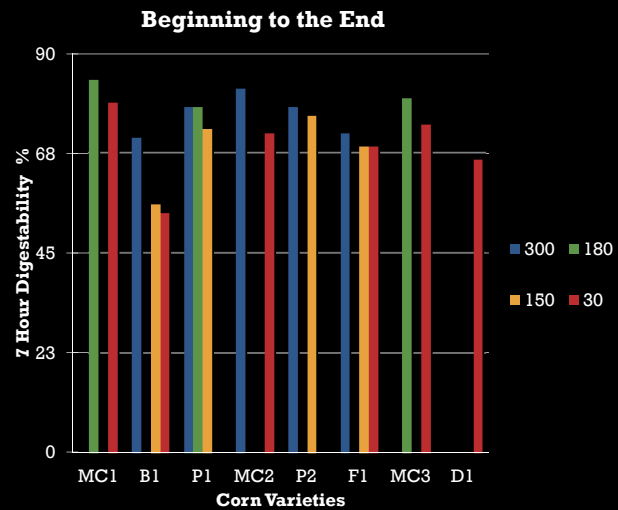
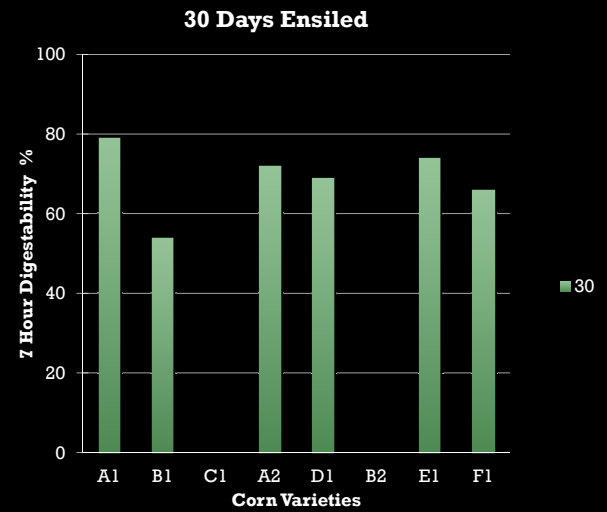
|                   |                          |                 |                       |                      |
|-------------------|--------------------------|-----------------|-----------------------|----------------------|
| <b>Phone:</b>     | <b>800-422-2222</b>      | <b>Website:</b> | <b>1-800-222-2222</b> | <b>19414 USR</b>     |
| <b>Owner:</b>     | <b>CELE JOE PROPERTY</b> |                 | <b>Acres:</b>         | <b>10,727.00 US</b>  |
| <b>Other Use:</b> | <b>CARROT, BEETROOT</b>  |                 | <b>Completion:</b>    | <b>10/20/2010 US</b> |
| <b>Amount:</b>    | <b>10,727.00 US</b>      |                 | <b>Days-to-1:</b>     | <b>11,000,000 US</b> |

**Address:** **19414 USR**

**Price:** **10,727.00 US**

[illegible]

# STARCH TRIAL 2013



HAY CROP SILAGE



Elemental analysis in bulk was performed by chemistry methods, others by NMR analysis.



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4115 Industry Drive, Hagerstown, MD 21740  
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[illegible]





The G<sub>0.5</sub> corresponds to the 50th percentile and the Minimum corresponds to the 15th percentile.





| Feed Analysis Report                                                                                         |                  |                                                                                   |          |
|--------------------------------------------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------------------|----------|
|                             |                  |  |          |
| <b>1 Sample(s) Marker, Treated</b><br><b>Chemical</b>                                                        |                  | <b>Dry Matter 47.30%    Melamine 32.44%</b>                                       |          |
| Description (NDF unless specified)                                                                           | Dry Matter Basis | NDF basis                                                                         |          |
|                                                                                                              |                  | 90 dy Avg                                                                         | 4 yr Avg |
| Crude Protein                                                                                                | 7.62             |                                                                                   |          |
| Soluble Protein, %CP                                                                                         | 68.95            |                                                                                   |          |
| Anal. Crude Protein                                                                                          | 6.83             |                                                                                   |          |
| ADICP                                                                                                        | 0.19             |                                                                                   |          |
| ADICP %CP                                                                                                    | 2.31             |                                                                                   |          |
| ADF                                                                                                          | 12.88            |                                                                                   |          |
| ADNDF                                                                                                        | 18.67            |                                                                                   |          |
| Dry Matter Disappearance                                                                                     | 73.47            |                                                                                   |          |
| Cellulose                                                                                                    | 6.69             |                                                                                   |          |
| Phosphorus                                                                                                   | 0.20             |                                                                                   |          |
| Magnesium                                                                                                    | 0.11             |                                                                                   |          |
| Potassium                                                                                                    | 0.53             |                                                                                   |          |
| Sulfur                                                                                                       | 0.69             |                                                                                   |          |
| Starch                                                                                                       | 58.75            |                                                                                   |          |
| In situ Rumen Starch D, % of Starch - 7hr                                                                    | 60.61            |                                                                                   |          |
| pH                                                                                                           | 4.66             |                                                                                   |          |
| Dynamic Starch Kd (using 3.7 hr) %hr                                                                         | 36.73            |                                                                                   |          |
| Calculated                                                                                                   |                  |                                                                                   |          |
| TDN (ADF Calc)                                                                                               | 66.43            |                                                                                   |          |
| TDN (ADF Calc)                                                                                               | 74.90            |                                                                                   |          |
| Ind. energy value (ADF Calc) Mcal/lb                                                                         | 6.77             |                                                                                   |          |
| Net energy of gain (ADF Calc) Mcal/lb                                                                        | 0.586            |                                                                                   |          |
| Ind. energy value (ADF Calc) Mcal/lb                                                                         | 6.979            |                                                                                   |          |
| NFC                                                                                                          | 71.05            |                                                                                   |          |
| For analysis questions, please visit <a href="https://www.rockriverlab.com">https://www.rockriverlab.com</a> |                  |                                                                                   |          |
| Chemical                                                                                                     |                  |                                                                                   |          |
| Analysed by wet chemical methods.                                                                            |                  |                                                                                   |          |

| Feed Analysis Report                                                                |                  |                                                                                     |          |
|-------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------|----------|
|  |                  |  |          |
| <b>1 Sample(s) Marker</b>                                                           |                  | <b>Dry Matter 76.30%    Melamine 59.00%</b>                                         |          |
| Description (NDF unless specified)                                                  | Dry Matter Basis | NDF basis                                                                           |          |
|                                                                                     |                  | 90 dy Avg                                                                           | 4 yr Avg |
| Crude Protein                                                                       | 7.91             |                                                                                     | 8.35     |
| Total Amino Acid                                                                    | 6.71             |                                                                                     |          |
| Lys %CP                                                                             | 2.88             |                                                                                     |          |
| Met %CP                                                                             | 1.93             |                                                                                     |          |
| Ileu %CP                                                                            | 1.10             |                                                                                     |          |
| Soluble Protein, %CP                                                                | 47.80            |                                                                                     |          |
| ADICP                                                                               | 0.28             |                                                                                     | 0.38     |
| ADICP %CP                                                                           | 0.50             |                                                                                     |          |
| ADF                                                                                 | 8.17             |                                                                                     | 10.23    |
| ADNDF                                                                               | 18.61            |                                                                                     | 23.41    |
| ADNDFum                                                                             | 17.59            |                                                                                     |          |
| Calcium                                                                             | 0.05             | 0.10                                                                                |          |
| Phosphorus                                                                          | 0.18             | 0.28                                                                                |          |
| Magnesium                                                                           | 0.05             | 0.13                                                                                |          |
| Potassium                                                                           | 0.71             | 0.47                                                                                |          |
| Sulfur                                                                              | 0.11             | 0.11                                                                                |          |
| For (NDF)                                                                           | 2.82             | 2.18                                                                                |          |
| Ash                                                                                 | 2.08             | 2.14                                                                                |          |
| Lignin                                                                              | 1.81             |                                                                                     |          |
| Sugar (ESC)                                                                         | 1.99             |                                                                                     |          |
| Water (WBC)                                                                         | 4.70             |                                                                                     |          |
| Starch                                                                              | 57.53            | 61.96                                                                               |          |
| Penetration Products                                                                |                  |                                                                                     |          |
| Lactic Acid                                                                         | 1.60             |                                                                                     |          |
| Acetic Acid                                                                         | 0.40             |                                                                                     |          |
| Butyric Acid                                                                        | 0.22             |                                                                                     |          |
| pH                                                                                  | 5.77             |                                                                                     |          |
| CHCP8 Input                                                                         |                  |                                                                                     |          |
| NDPD 30, %NDF                                                                       | 76.20            |                                                                                     |          |
| NDPD 120, %NDF                                                                      | 78.11            |                                                                                     |          |
| NDPD 240, %NDF                                                                      | 82.86            |                                                                                     |          |
| uNDF 30                                                                             | 4.43             |                                                                                     |          |
| uNDF 180                                                                            | 3.19             |                                                                                     |          |
| In situ Rumen Starch D, % of Starch - 7hr                                           | 55.49            |                                                                                     |          |
| Calculations                                                                        |                  |                                                                                     |          |
| TTNDFD, %NDF                                                                        | 38.12            |                                                                                     |          |
| NFC                                                                                 | 68.48            |                                                                                     |          |
| Dynamic NDF Kd (using 24, 30, 48, 240 hr) %hr                                       | 3.28             |                                                                                     |          |
| Dynamic Starch Kd (using 3.7 hr) %hr                                                | 10.86            |                                                                                     |          |
| TDN (Calculated, 60% DM basis)                                                      | 68.62            |                                                                                     |          |



## AGRONOMICS

## Manure Schedule

- Corn Stubble - 5,000 fall / 5,000 Spring
- Bean Stubble - 5,000 gallons Spring



## Cost Per Acre Sod-Corn

- Fertilizer - \$ 152.38
- Herbicide - \$ 22.50
- Seed - \$ 90
- Total \$ 265 per acre



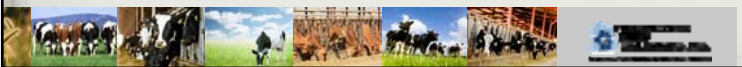
## Cost Per Acre Beans-Corn

- Fertilizer - \$ 150
- Herbicide - \$ 22.50
- Seed - \$ 90
- Total \$ 262.50 per acre

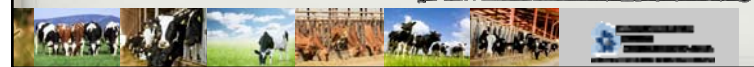


## Cost Per Acre Corn-Corn

- Fertilizer - \$ 150
- Herbicide - \$ 22.50
- Seed - \$ 90
- Total \$ 270.25 per acre



What's the  
benefit ?



## Nutrition

- 62% Forage
- 80% On Farm Feed
- 4 Milking Groups
- All Rations Amino Acid Balanced



## Historical Milk Production

- 2010 - 23,300 RHA
- 2011 - 23,500 RHA
- 2012 - 24,750 RHA
- 2013 - 25,200 RHA
- 2014 - 25,800 RHA



## Milk Production cont..

- 2015 - 27,000 RHA
- 2016 - 28,400 RHA



## Financials

- Post 2014 Barn/Manure Pit Project
- Purchased Aloha Farm
- New Milking Parlor 2016
- Current debt per cow \$5816
- Actual NMiopfc \$11.45
- PFC CWT \$3.92
- Grow 100 acres of beans for cash



Questions ??

