AgNext FACT for Dairy User Guide

The AgNext Feed Additive Calculator Tool (FACT) for Dairy is intended to be a tool for producers to estimate methane emissions in dairy cows and also to make decisions about feed additives on their operations. This user guide will define each of the inputs within the AgNext FACT for Dairy. Please refer to the <u>video tutorial</u> for an in-depth demonstration on how to use and understand the tool.

Inputs

- Rations
 - Dry matter intake: pounds of dry matter per head per day
 - NDF: See the "Finding NDF Content of Lactating Dairy Cow Rations" instructions beginning on page 3.
 - Ration cost: costs of rations per head per day

• Performance

- Body weight: Input the starting weight of the animal
- Average daily gain: Rough estimate of how much the animal is gaining per day
- Milk Production and Composition
 - Milk production: Input the pounds per day
 - Milk fat: Input as a percentage
 - Milk protein: Input as a percentage
 - Other milk solids: Input as a percentage
- Milk Prices: latest USDA prices can be found here
 - Milk pool price: Input price divided by hundred-weight
 - Butterfat price: Input as price divided by pounds
 - Other solids price: Input as price divided by pounds
 - Other premiums: Input as price divided by pounds
- Feed Additives: can be inputed for user to understand different percent reductions
 - Estimated impact on methane production: Percent difference from baseline. Reduction should be inputted as a negative percentage
 - Estimated impact on dry matter intake: Can put in positive or negative numbers
 - Estimated impact on milk production: Can be neutral, positive, or negative
 - New milk fat yield: New estimate of milk fat yield given additive use
 - Milk protein yield: New estimate of milk protein yield given additive use
 - New milk other solids: New estimate of other solids yield given additive use
 - Additive costs: Can be inputted to understand how feed additive costs can impact an operation
 - Carbon price: Looks at the actual price of what one would be paid for reducing emissions.
 - More resources about carbon prices can be found at:
 - <u>https://carboncredits.com/carbon-prices-today/</u>
 - <u>https://agnext.colostate.edu/carbon-markets/</u>



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• Outputs

- Baseline scenario: Shown in green
- Additive scenario: Shown in orange
- Charts
 - $\circ~$ Total enteric emissions as pounds of $CO_2 e$ per head per day
 - Can see the baseline scenario in green compared to the additive scenario in orange. Can see how the usage of a feed additive impacts methane emissions compared to the baseline.
 - $\circ~$ Total enteric emissions as pounds of CO_2e over hundred-weight
 - Can see the baseline scenario in green compared to the additive scenario in orange. Similar to above, but looking at pounds of CO₂e over hundred-weight.
 - $\circ~$ Total enteric emissions kg CO_2e per kilogram of fat and protein corrected milk
 - Can see the baseline scenario in green compared to the additive scenario in orange. Similar to above, but looking at kg CO₂e per kilogram of fat and protein corrected milk.
 - Income over feed costs: price over hundred-weight
 - Based on the economic inputs entered into the form this chart show what the actual cash in/cash out is in the given scenario comparing the baseline in green with the additive scenario in orange.
 - Gross margin: shows the difference between the baseline scenario and feed additive scenario.
 If this amount is shown in red, that would indicate that one is losing money on that feed additive scenario.
 If it is shown in green, that means an individual is making money in the given scenario.

Visit <u>agnext.colostate.edu/dairy-fact</u> for a detailed instructional video and more information about the AgNext FACT for Dairy

Connect with AgNext





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Finding NDF Content of Lactating Dairy Cow Rations

This document covers finding the NDF content of dairy rations for the most common feeding management programs and feed analysis results. If you are using one of these programs, follow the steps to find the value.

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AMTS.Cattle Professional Management Console

Step 1. After loading your Farm, select the Group/Ration Comparison Report.

| ,S' AN | ITS.Cattle.Pro | ofessional (S | ample Lactating I | Dairy Farm) | | | | | | | | |
|--------|----------------|---------------|-------------------|------------------------|-------|----------------------------|------|--------------|--------|---------------|----|--------|
| File | View | Tools | Windows | Help | | | | | | | | |
| | Home | | Tree | Create Farm | | Open Farm | Farn | n | Ba | rns/Lots | | Cattle |
| Farm | 1 | | | | | | | | | | | |
| | | | | | | | | | | Show Fed Grou | ps | |
| | Multi-Group | p Report | Group/Ra | tion Comparison Report | Multi | -Group Custom Report | Capt | tured Data R | eports | | | |
| | | | Farm In | puts | | | F | arm Pricin | 9 | | | |
| Farm | n Name | | | Sample lactating farm | | Use Milk Component Price | ing? | | [| | | |
| Own | er Name | | | | | Net Milk Price (\$/lb) | | | 0.3 | 2600 | | |
| Cont | tact Name | | | | | Net Milk Price (¢/lb) | | | 26. | 0000 | | |
| Addr | ress | | | | | Net Milk Price (\$/cvt) | | | 26. | 0000 | | |
| City | | | | - | | Protein Price (\$/lb) | | | 0 | .00 | | |
| Stat | e | | | • | | Fat Price (\$/Ib) | | | 0 | .00 | | |
| Zip | | | | • | | Other Solids Price (\$/lb) | | | 0 | .00 | | |
| Cour | ntry | | | | | Total Premiums (\$/lb) | | | 0.0 | 0000 | | |
| Phor | ne | | | | | Total Deductions (\$/lb) | | | 0.0 | 0000 | | |
| Phor | ne-2 | | | | | PPD (\$/cv/t) | | | 0.0 | 0000 | | |
| Cell | | | | • | | Net Animal Value (\$/lb) | | | 1.0 | 4000 | | |
| Fax | | | | | | | | | | | | |
| E-M | ail | | | | | | | | | | | |
| Here | d Code | | | | | | | | | | | |
| RAC | | | | - | | | | | | | | |
| Form | nulator | | | - | | | | | | | | |

Step 2. Select the appropriate barn and select "View Report"

| Bams/Lots Cattle Sheep/Goats | |
|----------------------------------|-------------------------------|
| cente anteprovo | |
| | |
| Show Fed Groups | |
| an Descenter | |
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| iong | |
| | |
| 0.2600 | |
| 26.0000 | |
| 26.0000 | |
| Group/Ration Comparison Report X | |
| | |
| Barn'Lot Cattle | |
| Main Barn mid group | |
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| | |
| Select All Clear All | |
| | |
| View Report Cancel | |
| | |
| | |
| | Barns/Lots Cattle Sheep/Goats |



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AMTS.Cattle Professional Management Console

Step 3. Find the cell titled "Forage NDF (% DM)". Input this value into cell D18 of the AgNext Feed Additive Calculator Tool (FACT) for Dairy.

| MTS.Cattle.Professio | onal (Sample Lacta | ting Dairy Farm |) | | |
|----------------------|--------------------|-----------------|---------------|---------------|---------|
| View To | ols Window | /s Help | | | |
| Home | Trae | | Create Farm | Open Farm | Ear |
| nome | nee | | Create Failin | Open rann | rai |
| Group/Ration Com | oarison Report | | | | |
| 🗋 🖪 i 🔍 - | → 90% → (| | Page 1 of 1 🔘 | 0 🛛 🕶 🖓 - 🔄 🖪 | = : 🕘 = |
| | | | | | ^ |
| | | | | | |
| | | | | AMŢŝ | - |
| Group/Rati | on Compari | son Repor | t | | |
| Group | mid gro | ip . | | | |
| Barn/Lot | Main Ba | 'n | | | |
| Ration | mid gro | ip recipes | | | |
| Inputted DMI | | | | 51.100 | |
| Predicted DMI | | | | 49.230 | |
| Inputted/Predicte | d DMI | | | 103.8 | |
| ME (% Rqd) | | | | 104.9 | |
| MP (% Rqd) | | | | 100.2 | |
| Inputted Milk | | | | 77.0 | |
| ME Allowable Milk | | | | 82.7 | |
| MP Allowable Milk | : | | | 77.2 | |
| ME Allowable Milk | /DMI | | | 1.62 | |
| MP Allowable Milk | ØMI | | | 1.51 | |
| ME Allowable Gai | n | | | N/A | |
| MP Allowable Gai | n | | | N/A | |
| DMI/ME Allowable | e Gain | | | N/A | |
| DMI/MP Allowable | e Gain | | | N/A | |
| Diet CP (%DM) | | | | 18.5 | |
| Diet PUD (%DM) | | | | 6.2 | |
| Forage NDF (%DI | (N | | | 24.3 | |
| Forage NDF (%B) | N) | | | 0.86 | |
| Forage NDF (%N | DF) | | | 84.5 | |
| aNDFom (%BW) | | | | 1.01 | |
| Bacterial MP (% T | otal MP) | | | 51.7 | |
| EE (%DM) | | | | 5.5 | |
| peNDF (%DM) | | | | 20.6 | |
| aNDFom (%DM) | | | | 28.7 | |
| Peptide (% Rqd) | | | | 262 | |
| NH3 (% Rqd) | | | | 207 | |
| MET (% Rqd) | | | | 97 | |
| LYS (% Rqd) | | | | 100 | |
| Ca (% Rqd) | | | | 93 | |
| D (% Ded) | | | | 00 | ~ |



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National Dynamic System – NDS Professional

Step 1. From the "Main" tab, select the lactating cow ration from the barn

| Nutritional Dynamic System - NDS Professional | | | | |
|--|------------------------------|----------------------|---------------------|----------------------|
| | od by | Working group | First Working group | - |
| NDO PROFESSIONAL BULK | 3.9.11.07c | Set costs (\$/Tonne) | SET 1 | - 👳 |
| Main 🐒 | | | | |
| Startup Costs Utility Import/Export Recent items | Recent Farms Multiple recipe | s comparison | | |
| 12345* | | | | |
| Lot First Working group | | | | |
| 🖣 🔛 1st Herd Template | | | | |
| -🖓 😭 Lactation Barn | | | | |
| - Fresh Pen | Lactating Dairy Cow | | | |
| - Heifer Lactation Pen | Lactating Dairy Cow | | | |
| - High Cow Pen | Lactating Dairy Cow | | | |
| M High Cow Demo | High Cow Demo | | Lactating Dairy Cow | 11/03/20 16:45:04 PM |
| 🕞 🧮 Late Lactation Pen | Lactating Dairy Cow | | | |
| 🕒 👩 Non Lactating Barn | | | | |
| | | | | |

Step 2. Locate the diet evaluation.

| Nutritional Dynamic System - P | | | 2 | | | Circulture de la company | | Ur | nits system | | Energy Units | | | | Free Asses | in Real |
|--|--|--|--|--|---|--|--|---|---|--|--|--|---|--|---|------------------|
| NDSP | ROFESSIONAL | Powered by | | | working gro | First working group | | | ۲ | 0 | ۲ | 0 | | | Feedbank | - 20 |
| | | 0000000000 | 3.9.11.07c | Se | et costs (\$/Ton | ne) SET 1 | | • | Metric | English (Imperial) | Moal | MJoule | BASEI | FEEDBANK | < | - |
| n 📄 1st Herd Template - H | figh Cow Demo 1 🐁 | | | | | | | | | | | | | | | |
| nimal Inputs CRecipe Ch | (CPS 6.55> [Lactating Dairy Cow] | Comparisons [1] Op | nizer P-Size | Mixer Wagon Y | Step Feeding | Grazing What-II Analysis | Expected outcomes | Info | | | | | | | | |
| Open 💌 🛞 Save 🕛 Save as | Feeding to 🕦 Catch the version | ion 👌 Feeds details 👻 🖓 | Guidelines 强 Crea | e Hix 📄 Report | t 💌 🔺 Historical | 🕒 Hultitasking 🚺 Close | | | | | | | | | | |
| 5 F | eeds [14/14] | As fed kg | DM kg | % DMI | C/Tonne | Days in milk | 100.0 | | Holstein | | Nutrients | 1 | 3 | DH % | \$ | upply |
| Corn Silage | | P 22.0 | 7.71 | 30.27 | | Milk production kg | 42.00 | ECM k | 42.50 | BCS c. 3.00 | CP | 56 | | 16.5520 | 4.217 | 1610 |
| Alfalfa hay 45.19 | | 2 3.6 | 3.17 | 12.46 | | 8 a Mik Fat % w/w | 3.70 | BW k | <g 700.0<="" td=""><td>BCS1 3.00</td><td>Soluble Protein</td><td></td><td></td><td>4.9655</td><td>1.265</td><td>1280</td></g> | BCS1 3.00 | Soluble Protein | | | 4.9655 | 1.265 | 1280 |
| Oat Hay 62.06 | | P 20 | 1.81 | 7.12 | | E Milk Protein % w/w | 3.28 | 3.05 | 2.54 | days 60 | Forage aNDForm | | | 32./083 | 5711 | 9530 |
| Corn grain fine 63% | | 2 5.0 | 4.53 | 17.80 | | NCPS Milk quality Wel | Il-being risks Y Fiber i | dequacy | | | CHO C uNDF | 56 | | 8.1484 | 2.076 | 0760 |
| Soybean meal 47% | | 29 | 2.63 | 10.33 | | | Supply | Balance | % Reg. (7) | Mik k | Sugar (WSC) | 55 | | 4.8663 | 1.239 | 8560 |
| Soft wheat bran 20-21% | Starch | P 1.8 | 1.63 | 6.41 | | ME MCal/ day | 65.57 | +0.07 | 100.1 | 42.0 | Starch | | | 26.1577 | 6.664 | 5320 |
| Soybean steam flaked | | 0.8 | 0.77 | 5.05 | | MP g/day | 2,806.2 | +7.8 | 100.3 | 42.1 | Soluble Fiber | | | 6.0872 | 1.550 | 5000 |
| Beet puip pellet | | 1.2 | 1.08 | 427 | | out DE ka | 6.70 | 102.6 | 148./ | 22.26 0 04 | EE | 5 | | 4.1044 | 1045 | 7420 |
| Suntiower meal 34-30% | Lefe | 2 0.9 | 0.90 | 100 | | Met o | 5.70 | 0.00 | 117.7 | 216 % M | TFA | 56 | | 3.3846 | 862 | 3332 |
| Calcium Sait of Patty Ac | 105 | 2 0.2 | 0.24 | 17 | | live o | 196.9 | 2.0- | 95.6 | 6.66 % 40 | Ash | 56 | | 7.1328 | 1.817 | 3090 |
| MintVit Dainy | 78 | 2 0.2 | 0.27 | 1.07 | | Lysthet | 100.0 | 3.09-1 | | 0.00 1010 | Ca | | | 0.8565 | 218 | 2092 |
| Sou Plus | | 2 01 | 0.13 | 0.03 | | NEL Mcal/kg | 166 | 0.00.1 | | | Ma | | | 0.4399 | 112 | 0821 |
| But when the | | 0 0.0 | 0.10 | 4.95 | | 100.00 | 11.01 | 42.8 | d/Mcal ME | | ĸ | | | 1.6888 | 430 | 2653 |
| | | | | | | MP 15 DMI | | | | | | | | | | |
| Potassium Carbonate | | 0.11 | 0.10 | | | Total RUFAL g/d [Na + K]-[Cl + S] m | 603.9 (2.4%) mEq/100g +2 | High-rie 6.3 | sk RUFAL g | 490.2 (1.9% | Reeven (Digestbi | ity (Water) | | | | |
| Potassium Carbonate | | 0.11 | 0.10 | | | Total RUFAL g/d [Na + K]-[Cl + S] m | 603.9 (2.4%) mEq/100g +2 | High-rie 6.3 | sk RUFAL g acids Y Amino acid ME (Mealid | 490.2 (1.9% Plinerals (Vitamins) | Reserves Y Digestibl | Try ('Water') | | IP (gramsiday) | | |
| Potassium Carbonate | | 0.11 | 0.10 | | | Total RUFAL g/d [Na + K]-[Cl + S] m | 603.9 (2.4%) #Eq/100g +2 Han y Synchrony y Excretion Supply | High-rie 6.3 | isk RUFAL g acids γ'Amino acid ME (Mealio Requirement | 490.2 (1.9% ('Elimenul's ('Vitamins) iny) Balance | Reserves Y Digest/Dil | lity ('Water) Supply | M Requirem | IP (gramsiday) nent | Balance | 5 Req. |
| Potassium Carbonate | | 0.11 | 0.10 | | | Total RIFAL g/d [Na + K]-[Cl + S] m "eviduation" ("Pool sizes) "Rom | 603.9 (2.4%) EQ/1009 +2 Synchrony (Excretion Supply | High-ris 6.3 70HC Y Tuety 1 65.57 | isk RUFAL g acids YAmino acid ME (Mealio Requirement 65.50 | 490.2 (1.9% () Hinerals (Vicamins) int) Balance +0.07 | Reserves Y Digest/bil % Req. 100.155 | Supply 2,806 2 | M Requirem | 8P (gramsiday) ment 2,798,4 | Balance +7.8 | 5 Req. |
| | | 0.11 | 0.10 | | (| Maintenance | 603.9 (2.4%) rEq/100g +2 | High-rin 6.3 7GHG y Tuety 7 65.57 | sik RUFAL 9 acids Y Amino acid INE (Mealin Requirement 65.50 18.23 | 490.2 (1.9% () Hinerals (Vitamins) lay) Balance +0.07 47.34 | Reserves (Digestable % Reg. 100.1% | Supply 2,806.2 2,806.2 | II Requiren | IP (grams/day) ment 2,798.4 858.4 | Balance +7.8 1.947.8 | % Req. 100.39 |
| | | U.W | 0.10 | | | Total RUFAL g/d [Na + K]-[Cl + S] m midlation y feet toos y feet Maintenance Presnancy | 603.9 (2.4%) rEq/100g +2 supply Synchrony Y Exception | High-ris 6.3 /GHC Y Jurty / 65.57 65.57 47.34 | sik RUFAL g acids Y Amino acid ME (Mcali Requirement 65.50 18.23 0.00 | 490.2 (1.9% () Himerals (Vitamins) iay) Balance +0.07 47.34 47.34 | Reserves Y Digestabil 5 Reg. 100.155 | Supply 2,806.2 2,806.2 1,947.8 | M Requirem | P (grams/day) ment 2,798.4 858.4 0.0 | Bulance +7.8 1.947.8 1.947.8 | % Req. 100.39 |
| rocassium Carbonate | ges/Concentrates ¥ Rumen fill | Otheritems | 0.10 | | | Total RUFAL g/d [Na + K]-[Cl + S] m modulating Year user y Rum Maintenance Pregnancy Lestation | 603.9 (2.4%) rEq/100g +2 Supply Supply | High-ris 6.3 7GHC Y Farty 65.57 65.57 47.34 47.34 | sk RUFAL g addi YAnino add ME (Mcalic Requirement 65.50 18.23 0.00 46.66 | 490.2 (1.9% (7/6meruls (Vicamins) iny) Balance 40.07 47.34 47.34 0.68 | Teserves y Digestibil N Reg. 100.155 | Supply 2,806.2 1,947.8 1947.8 | M Requirem | P (grams/day) ment 2,798.4 858.4 0.0 1.912.1 | Balance +7.8 1,947.8 1,947.8 35.7 | % Reg 100.3 |
| Porassium Carbonate | pes/Concentrates Russen fill 42.077 | Other items | | 5.478 | F 498 | Martino Maline Constant (Martino Martino) (Martino Martino Ma | 603.9 (2.4%) mEQ/100g +2 Supply Supply | High-rie 6.3 76HG (7947) 65.57 65.57 65.57 47.34 47.34 0.68 | ski RUFAL g addi YAnino add ME (Mcali Requirement 65.50 18.23 0.00 46.66 0.61 | 490.2 (1.9% ()/Hererals /Vitamins iay) Balance +0.07 47.34 47.34 0.68 0.07 | Reserves y Digestibil | Supply 2,806.2 1,947.8 1,947.8 35.7 | M Requirem | P (grams/day) ment 2,798.4 858.4 0.0 1,912.1 27.9 | Balance +7.8 1.947.8 1.947.8 35.7 7.8 | % Req. 100.3* |
| Toreassium Carbonate | ges/Concentrates Rumen fill 42:077 42:077 | Other Rems | | 5.478 5.478 | F 498 | Norma Contain (United States) (Contain (United States) (Contain (United States) (Contained States) (Containe | 603.9 (2.4%) EQ/1009 +2 | High-ris 6.3 7686 (Terry 1 65.57 65.57 47.34 47.34 0.68 0.02 | sk RUFAL 9 acds y Xenne acd BE (Blcall Requirement 65.50 18.23 0.00 46.66 0.61 | 490.2 (1.9% (7 Minardia y Witaminia) (9) Balance 40.07 47.34 47.34 0.68 0.07 0.90 | Reserves y Digestibility N Reg. 100.1% | Supply 2,806.2 2,806.2 1,947.8 1,947.8 35.7 7 | M Requirem | P (grams/day) ment 2,798.4 858.4 0.0 1,912.1 27.9 0.0 | Balance +7.8 1.947.8 1.947.8 35.7 7.8 7.8 7.8 | % Req. 100.3* |
| Notassium Carbonate | ges/Concentrates Rumen fill 42.077 42.077 7233 (ct fill) | Other Rems Total DM -05 (2006kg) (54 kg | | 5.478 5.478 66.4% pd | F 49 8 C 50 1 NDF30 %BW 0 | Total RUNAL g/d [Na + K]-{Cl + S] m writing (Find tion { See Pregnancy Lectation Growth Reserves | 603.9 (2.4%) 603.9 (2.4%) EQ/1009 +2 san (Spectrum y Excertain Supply | High-ris 6.3 76865 (Farry 1 65.57 47.34 47.34 0.68 0.07 | sk RUFAL 9 acds y Xenne acd RE (Blcall Requirement 65.50 18.23 0.00 46.66 0.61 0.00 | 490.2 (1.9% (7 Mounds y Vicanins) ig) Balance +0.07 47.34 47.34 0.68 0.07 0.00 | Reserves (Signative 5: Res. 100.155 | Supply 2,806.2 1,947.8 1,947.8 35.7 7.8 | M Requirem | P (gramsiday) ment 2,798.4 858.4 0.0 1,912.1 27.9 0.0 | Balance +7.8 1.947.8 1.947.8 35.7 7.8 7.8 | % Req 100.3* |
| Areasium Carbonate | get/Concentrates Rumen fiel 42.077 42.077 23.31 gt fit 1014 dt fb | Other Rems | | 5.478 5.478 5.478 1.19 | F 498 5 5 501 5 800F30 %6W 0 0 | Nervis Unit Total RUNAL g/d [Na + K]-[C] + S] Nalintenance Pregnancy Lectation Growth Reserves Rune Educe | 603.9 (2.44%) 603.9 (2.44%) EG(1009 +2 an YSpechroxy YEseretian Supply | High-ris 6.3 JGHS Y Jeery J 65.57 65.57 47.34 47.34 0.68 0.07 | sk RUFAL g add Y Amme add NE (Madi Requirement 65.50 18.23 0.00 46.66 0.61 0.00 IP Available | 490.2 (1.9% () Henrydii Vitamina iny) Balance +0.07 47.34 47.34 0.68 0.07 0.00 | Xeerven y Sepected % Reg 100.1% | Supply Supply 2,806.2 1,947.8 1,947.8 35.7 7.8 Ferm | M Requirem | P (grams/day) ment 2,798.4 855.4 0.0 1,912.1 27.9 0.0 | Balance +7.8 1.947.8 1.947.8 35.7 7.8 7.8 7.8 Esca | % Req. 100.3* |
| Totassum Carbonate | pes/Concentrates Rumen fill 42:077 42:077 23.33 ist.8 108.4(st?) | Other Acoms | 0.10 0 1 0 1 0 0 1 0 0 1 0 0 1 0 1 0 10 | 5.478 5.478 5.478 1.19 1 | F 498 0 0 501 0 INDF30 %BW 0 0 INDF1 %BW 0, 2 | Maintenance Programy Maintenance Programy Lastation Growth Reserves Rome Balance M Programs | 603.9 (2.4%) 603.9 (2.4%) EQ/1009 +2 an / Spectrumy / Excellent Supply 1,500 | High-ris 6.3 JGHS Y Jeery 65.57 65.57 47.34 0.68 0.07 5 1 3.3 | esk RUFAL g 2015 y Annote and BE (Baak Requirement 65.50 18.23 0.00 46.66 0.61 0.00 BP Available 53.6 % MP | 490.2 (1.9% (1.9%) (| S Rec 100.1% | Supply 2,806.2 2,806.2 1,947.8 1,947.8 35.7 7.8 Ferm 4 5.08 | II Requirem | BP (grams/day) nent 2,758.4 0.0 1,912.1 27.9 0.0 5,7em.coo | Raisece +7.8 1.947.8 1.947.8 1.947.8 35.7 7.8 7.8 7.8 5.0 8 5.0 8 | 5 Req. 100.3 |
| Potassum Cardonate Take Check DHL Fore Ara Felso Ignelso Ignelso Ats Production efficiency | pes/Concentrates: 8umen fill 42.077 42.077 7.333 (a1.8) 1034 (a11) Hilli pulce | Other Rems] Total DM Turk DM -43 5(100 PM) 55 How O. UNDET Serve O. | 0 10 0 1 1 0H 1968W | 5.475 5.478 5.478 1.19 | F 49.8 0 59.1 8NDF30 %BW 0 1NDF1 %BW 0 2 | Total RUMA g/d [Na + K]-[0 + 5] Profession (North State) Maintenance Pregnancy Lestation Growth Reserves Rume Balaces MP from Bud e | 603.9 (2.4%) EG(1009 +2 ary (Sendence) y Excelor Supply | High-ric 6.3 768657 65557 47.34 47.34 0.68 0.07 51 33 | sck RUFAL g xcicly Ylauna ucid ME Boolenner 55.50 18.23 0.00 46.66 0.51 0.00 W Anstable 53.6 % M | 490.2 (1.9% (PEcercle (Vitcanice) int) Balance +0.07 47.34 47.34 47.34 0.68 0.07 0.00 Organic Matter | Reserven y Signet Sol S Reg 100.1% | Supply Supply 2,806.2 2,806.2 2,806.2 2,806.2 2,806.2 2,806.2 1,947.8 3,547.8 3,547.8 3,547.8 5,547.85,547.8 5,547.8 5,547.8 5,547.8 5,547.8 5,547.8 5,547.8 5,547.8 5,547.8 5,547.8 5,547.8 5,547.8 5,547.8 5,547.8 5,547.85,547.8 5,547.8 5,547.85,547.8 5,547.8 5,547.85,547.8 5,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,547.8 5,547.85,557.8 5,557.85,557.8 5,557.85,557.8 5,557.8 | M Requirem retability x 2 59.7 | P (grams/day) ment 2,798.4 858.4 0.0 1,912.1 27.9 0.0 0.0 | Bulance Extension +77.8 1.947.8 1.947.8 35.7 35.7 7.8 7.8 Excanded to the second seco | % Req. 100.3 |
| protassium Caroonate ake [Check DHL] Fore As Fed kg swights prof kg prof kg Production efficiency Prof | ges/Concentrates Rumen fill 42:077 42:077 23.33 (s.1.8) 1934 (s.11) 1938 price | Other Rems } Total DMI -015 (MDR-W) DM Here unter Here Wo Total PW Total PW | 0.00 1 0 1 0 10 10 10 10 10 10 | 5.478 5.478 6.478 6.478 1.19 | F 49.8 C 501 andF130 Hearton fndF1 %BW 0 2 | Maintenance Programy Period your Your Maintenance Programy Lectation Growth Reserves Rome Bateria g MP from Bateria g MP from Bateria g | 603.9 (2.4%) Ec/1000 +2 min (Sprithersy / Screen Supply 1,500 1,500 | High-ric 6.3 768657 65557 47.34 47.34 0.68 0.07 51 13 9 | sick RUFAL 9 xicle Yishine xicle Kergirement 65.50 18.23 0.00 46.66 0.61 0.00 87 Available 53.6 46.4 45.4 | 490.2 (1.9% 1) 7 Mourada Y Meaning iny) Balance +0.07 47.34 47.34 0.68 0.07 0.00 Organic Matter Proteins | Transmer y Separatural Transmer y Separatural S | Supply 2,806,2 2,806,2 1,947,8 1,947,8 35,7 7,8 Fermi t 14,121 54,4 14,121 54,4 14,121 54,4 14,121 54,4 14,121 54,4 19,4 19,4 19,4 19,4 19,4 19,4 19,4 1 | M Requirem tability 2 59.7 5 63.2 | P (grams/do) ment 2,798.4 2,798.4 858.4 0.0 1,912.1 27.9 0.0 0.0 5.7em.D0 | Bolance Pile +77.8 1,947.8 1,947.8 35.7 7,8 7.8 7,8 5.0 %.00 4453 | % Req. 100.3 |
| protassium Cardonate ake [Check DH1] Fore As Feb19 prof 19 prof 19 prof 19 to I lost save | pes/Concentrates Russee fill 42:077 42:077 7233(s1/h) 1034(s1/h) 1134(s1/h) 1134(s1/h) 1134(s1/h) 1134(s1/h) | Citier Rems] Tetal DMI - 13 Storew Die Hea - 0 Sto | 0 00 11 Herd Te | 5.4787 5.478 5.478 5.4787 5.478 5.478 5.478 5.478 5.478 5.478 5.478 5.47 | F 458 C 501 SNDF30 %BW 0 2 NDF1 %BW 0 | Ner volati Total RurA, g/d [Ra + K]-[C] + S] m within the second second programmy Youri second Rura Maintenance Programmy Lastation Growth Reserves Rums Salance MP from Bacteria g MP from Bacteria g MP from BCS loss g | 603.9 (2.4%) E6(100) +2 Bry (Sentrey) (Sentre Bry (Sentrey) | High-rk 6.3 10985 Yaey 65.57 65.57 65.57 65.57 65.57 65.57 65.57 65.57 65.57 65.57 10.68 0.07 51 3.3 | Inde RUFAL 9 Inde Y Ammon and ME (Madi Regularment 65.50 18.23 0.00 46.66 0.51 0.00 46.66 53.6 53.6 53.6 46.4 53.6 | 490.2 (1.9%) (*) Microsoft (*) Microsoft (*) Microsoft (*) Microsoft ************************************ | Tenner y Sepatibilit | Supply Supply 2,806,2 2,806,2 1,947,8 1,947,8 3,5,7 7,8,7 1,947,8 1,947 | H Requirem entability 2 59.7 15 63.2 17 62.3 | BP (gramoiday) nent 2,758,4 855,4 0,0 1,912,1 2,7,9 0,0 *,1,92,00,0 *,1,92,00,0 *,1,92,00 *,1,92,00,0, | Balance +7.8 1.947.8 1.947.8 3.55.7 7.8 3.55.7 7.8 7.8 5.6 4.6 4 4.6 19 4.6 19 4.6 19 4.6 19 4.6 19 4.5 19 19 19 19 19 19 19 19 19 19 19 19 19 | % Req. 100.3 |
| protassium Caroonate ake Clock DHI Fore An Feldy Rengthy prot by ats Production efficiency P tot last some these | get/Concentrates: Rumen fill 42.017 42.017 23.33 e1.0 1934 (e11) 1936 price 6 Dead 6 Dead | Other Rems] Total DM -015 (008-44) DM 44 -015 (008-44) DM 44 -015 (008-44) DM 44 -015 (008-44) DM 44 -0000 | 0.00 1 1 1 1 1 1 1 1 1 1 1 1 1 | 5478 5478 5478 6479 1.19 1 | F 498 5 49 19 10 - 5 49 10 - | Net was oblighted by the second secon | 603.9 (2.4%) #Ex17000 +2 #Ex17000 +2 8 supply 8 supply 1.500 1.300 1.300 | High-ric 6.3 1085 Yany 65.57 65.57 47.34 47.34 47.34 0.68 0.07 5 13 9 | sck RUFAL 9 sch 7 Xmtra sch Ke (Modi Reginement 6550 1823 0.00 46.66 0.51 0.00 W Anstach 53.6 45.4 148.7 148.7 148.7 148.7 148.7 | 490.2 (1.9%) (1. | Karrer Y Spach | Supply 2,806.2 2,806.2 1,947.8 1,947.8 1,947.8 1,947.8 1,947.8 1,947.8 1,947.8 1,947.8 1,947.8 1,947.8 2,866.2 1,947.8 2,866.2 1,947.8 1,947.8 2,866.2 1,947.8 1,947.8 2,864 4,879 1,951 4,879 | M Requirem entablility 2 50 63.2 17 62.3 14 45.5 | 10 gramsiday) nent 2,758.4 2,758.4 855.4 0.0 0.0 1,912.1 2,7.9 0.0 3,747 0.0 3,747 0.0 3,747 0.0 3,747 0,0 3,747 0,0 3,747 0,0 4 3,747 0,0 4 3,748 1,918 1,9 | Bilance +77.8 1.947.8 1.947.8 355.7 7.8 7.8 *0.00 *0.00 *0.00 *0.00 *0.00 *0.00 | 5 Req. 100.3 |
| Take Check 0H1 Free AA Fedag Ingedag Ipedag | ges/Concentrates Busines RB 42.077 42.077 72.33 (c) 10 9034 (c) 10 9184 price 4046 4046 4046 4046 | Citier Rems Total DMI -151 CMIR JA Hard -051 CMIR (MIR JA Hard -051 CMIR (MIR JA Hard -0000 - 0.000 | 0.00 1 1 1 1 1 1 1 1 1 1 1 1 1 | 5.478 5.478 66.6% pd 1.19 f | F 498 C 541 RIXDF30 NeW 0 2 | Maintenance Programy Lastation Growth Reserves Reserves Reserves Reserves MM from RUP g MP from RUP g MP from RUP g MP from RUS (css g NH3-N g Peptide-N g | 603.9 (2.4%) #Eq/1005 +2 #Eq/1005 +2 #Eg/1005 +2 #Eg/ | High-ric 6.3 10045 (Tarry 1 65.57 65.57 47.34 47.34 0.68 0.07 5 13 19 15 6 | eck RUFAL 9 acts 7 Jennes KE Bealt Repointed 6530 46.66 0.00 46.66 0.00 46.64 0.00 46.64 148.7 148.7 148.7 148.7 148.7 15.8 19.9 19. | 490.2 (1.9%) | Zierren (Signibili S. Reg 100.115 | Supply 2,806,2 2,806,2 1,947,8 3,87,7 7,8 7,8 7,8 7,8 7,8 7,8 7,8 1,947,947,947,947,947,947,94 | M Requirem entability 2 59:7 5 60:2 7 62:3 4 448 4 74.4 | Personsiday) ment | Balance +7.8 +97.8 1.947.8 1.947.8 5.7 7.8 5.8 7.8 5.8 1.947.8 5.8 9.00 4.53 27.15 5.74 | 5 Req. 100.3 |
| Take Check DHL Forse CALE Check DHL Forse CALE Cale And False Rengt to grad to grad to grad to grad to all loss on the Step DM | pes/Concentratos Rumen fill 42.077 42.077 23.33 at 8 103 42 efft 104 efft 6 Read 6 Read 6 | Other items Total DMI Track DMI TTRR DMI -015 (000-mg DMI we) UNDET Summer Total 0.000 0.000 0.000 | 0.000 10 10 10 10 10 10 10 10 10 | 5.478 5.478 5.478 1.19 1 nplate Recipe cost 1 | F 40.8 C 501 RIOF30 Heavio NINDF1 Meaw 0, 2 By set | Approximately and a second secon | 603.9 (2.496) #6/17000 +2 #6/17000 +2 #6/17000000000000000000000000000000000000 | High-ric 6.3 7GNS YTery 65.57 65.57 65.57 47.34 57.575 | eck RUFAL 9 ack 7 /antes acd Kepierent 65.06 0.61 0.00 46.66 0.61 0.00 87 Analitie 53.6 % 50 46.4 148.7 % 566 218.5 % 566 | 490.2 (1.9%) (1. | Transer y Spach | Supply Value / 2,806,2 2,806,2 2,806,2 2,806,2 2,806,2 1,947,8 3,57 3,57 3,57 3,57 3,57 3,57 3,57 3,57 | M Requirem | P (gramula) ment 2,758.4 0.0 1,912.1 27.9 0.0 0.0 5,7em.00 1552 1552 1155 | Вівлее +7.8 +7.8 1.9.47.8 3.5.7 7.8 7.8 7.8 7.8 7.8 7.8 7.8 7.8 7.8 7 | 5. Req. 100.3 |
| take Check BHL Fore VA Fedag Rengting Ignetig | eta/Concentrates Rumen fill 42:077 42:077 23.33 (c1/b) 1938 (c1/b) 1938 (c1/b) (chead (chead) (c) | Other items Total DMI Taxe DMI 0.5100 PMI 0.000 0.000 0.000 | 0.000 1 2 2 3 3 6 1 6075 %68W 1 4Herd Te 0.000 1st Herd Te 0.000 SET 1 0.000 | 8478 8478 8478 94 1.19 1 1.19 1 1 1.19 1 1 1.19 1 1 1.19 1 | F 498 G C 501 G NIXIFED NEW 0 2 NIXIFET %8W 0 2 | Maintenance Programcy Least Reserves Maintenance Programcy Least Reserves MP from Basteria g MP from RUP g MP from RUP g MP from RCS (ses g NH3-N g Peptide-N g N escess g | 603.9 (2.496) #Eq/1005 +2 Biophysical Constant 1,500 1,300 1,300 1,300 2,222 2,24 | High-ric 6.3 65.57 65.57 65.57 65.57 65.57 65.57 1.34 0.68 0.07 1.3 1.3 9 9 | ede RUFAL 9 Regelerated 65.50 18.23 0.00 46.65 0.51 0.00 46.64 148.7 % Reg. 219.5 % Reg. | 490.2 (1.9%) | Transm / Superkill | Supply Supply 2,806.2 2,806.2 2,806.2 1,947.8 35.7 7.8 1,947.8 35.7 7.8 14121 514 14121 514 1457 1459 151 4597 1226 527 | M Requirements Image: Second Seco | P (gramska) ment 2,798.4 855.4 0.0 1.912.1 27.9 0.0 5.9em.00 5.9em.00 25.52 4.37 1.54 8.84 | Balance +7.8 +7.8 1.9.47.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 8 55.7 7.8 55.7 8 55.7 7.8 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 55.7 7.8 57.7 7.9 57.7 7.9 7.7 7.9 7.7 7.9 7.7 7.7 7.7 7.7 | % Reg. 100.31 |



COLORADO STATE UNIVERSITY

National Dynamic System – NDS Professional

.

Step 3. Under Fermentability, find the NDF content as a percentage of dry matter.

| | | N | IE (Mcal/da | y) | | | | 1 | IP (grams/day) | | |
|--------------------|---------|--------------|-------------|----------------|--------|--------|----------|---------|----------------|---------|--------|
| | Supply | Requirem | ent | Balance | % Req. | S | upply | Require | ment | Balance | % Req. |
| | 65.57 | | 65.50 | +0.07 | 100.1 | % | 2,806.2 | | 2,798.4 | +7.8 | 100.3% |
| Maintenance | 65.57 | | 18.23 | 47.34 | | | 2,806.2 | | 858.4 | 1,947.8 | |
| Pregnancy | 47.34 | | 0.00 | 47.34 | | | 1,947.8 | | 0.0 | 1,947.8 | |
| Lactation | 47.34 | | 46.66 | 0.68 | | | 1,947.8 | | 1,912.1 | 35.7 | |
| Growth | 0.68 | | 0.61 | 0.07 | | | 35.7 | | 27.9 | 7.8 | |
| Reserves | 0.07 | | 0.00 | 0.00 | | | 7.8 | | 0.0 | 7.8 | |
| Rumen Balance | | % MP Availat | ble | | | | Fermenta | bility | | En | cape |
| MP from Bacteria o | 1.505.3 | 53.6 | % MP | | | kgid | 5.08 | - S | % Ferm.CHD | N DM | s. |
| ND from PUD a | 1 200 0 | 46.4 | 45 MD | Organic Matter | | 14.121 | 55.42 | 59.7 | | 44.58 | 4 |
| MP from KOP g | 1,300.9 | 40.4 | 78 141 | Proteins | | 2.664 | 10.45 | 63.2 | | 6.10 | 3 |
| MP from BCS loss g | | | | Totals CHO | | 11.458 | 44.97 | 62.3 | | 27.18 | 3 |
| NH3-N g | 102.6 | | | NDF | | 4.070 | 15.98 | 48.8 | 35.52 | 16.73 | 5 |
| Peptide-N g | 228.0 | 219.5 | N Req. | Starch | | 4.957 | 19.46 | 74.4 | 43.27 | 6.70 | 2 |
| N oreann a | 26.0 | | | Soluble fiber | | 1.326 | 5.21 | 85.5 | 11.58 | 0.88 | 1 |
| н өлсөээ у | 20.0 | | | Sugars | | 0.967 | 3.79 | 78.0 | 8.44 | 1.07 | 2 |
| Urea Cost Mcal | 0.19 | | | Other NFC | | 0.137 | 0.54 | 23.0 | 1.20 | 1.80 | 7 |

Step 4. Input the NDF (% DM) into cell D18 of the AgNext Feed Additive Calculator Tool (FACT) for Dairy.



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NRC Nutrient Requirements of Dairy Cattle

Step 1. Load the appropriate simulation file.

| | New Simulation | | | | | | |
|---|---|-------------|-------------------|---|----------------------------------|------------------------|---|
| | Load Simulation Ctrl+L | | | | | | |
| | Save Simulation Col-S | A | nimal Description | 1 | Production | Management/Environment | |
| ~ | Save Current Simulation As Default Auto-Save Default Data On Exit Auto-Save Simulation Every IN Minuter | Report Head | lers/Footers | | Ration Results | | |
| | Exit Program | | Header Text | | Entered Milk Production | j. | • |
| - | | Left | Page Number | • | Energy Allowable Milk | | - |
| | C English | Center | Long Date | ٠ | MP Allowable Milk | | • |
| | Basis | Right | DIETA | ٠ | NEI Balance | | • |
| | @ Dry Matter | | Footer Text | | Days To Change 1 Condition Score | e j | • |
| | C As Fed | Left | | • | RDP Balance | j. | - |
| | Comments | Center | Page Number | • | MP Balance | | • |
| | ~ | Right | | • | Diet NEI | 1 | - |
| | | | Default Zoom | | Diet CP | 1 | - |
| | · · | 75 | % | • | Predicted Dry Matter Intake | 3 | • |

Step 2. Select the Reports tab and check the Summary Report line from the list and view report.

| 195 NRC Nutrient Requirements of Dairy Cattle v. 1.1.9 - Sample Lactating Cow (90 DIM) |
|--|
| File Go To Help |
| Inputs Feeds Ration Reports Help |
| |
| Report Components |
| Summary Report |
| |
| Duodenal Amino Acid Supply |
| Maintenance Requirements |
| Growth Requirements |
| Target Weights and ADG Requirements |
| |
| Reserves Requirements Minorel Deguirements |
| |
| , |
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| |
| <u>⊻</u> iew Report |
| |
| Print Report |
| |
| Printer <u>S</u> etup |
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| BerNovt |
| AL IIGAL |

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NRC Nutrient Requirements of Dairy Cattle

Step 3. In the Summary Report, locate the second page of the report

| NRC Nutrient Requirements of Dairy Cattle v. 1.1.9 - Sample Lasteting Cov (80 DMd) File Go To Help Image: Cov (10 DMd) Image: Cov (10 DMd) Image: Cov (10 DMd) | - D |
|--|---|
| Injusts Foods Renew I Preports Help | Summary Report Bit is Asimal Type: Bit is Asimal Type: Lacking Resource SC. SO: Day Proposed: 0 Day Proposed: 0 Day Resource SC. SO: Bit The Protein: Disc Numbers Resource Microsoft (Coloridon) SO: New Type: Notice Type: Markinsance 10: 10:9 Markinsance 10: 10:9 |
| View Report | Preparaty 0.0 0 <th< th=""></th<> |
| Printer Setup | Animal Performance Pratic Values Did - Actual: 300 dig day) RDP Paginde: 3215 (g d) Did - Produced: 300 (g day) RDP Paginde: 3219 (g d) SDA - Restard: 300 dig day) RDP Paginde: 3219 (g d) SDA - Restard: 300 dig day) RDP Paginde: 3219 (g d) SDA - Restard: 300 dig day) RDP Paginde: 3219 (g d) Mile Production: 34.5 (g day) RDP Paginde: 3219 (g d) Mile Production: 54.5 (g day) RDP Paginde: 3219 (g d) Days to less one condition stort :> 2005 MP - Balance: -321 (g d) Days to less one condition stort :> 2005 MP - Restricti: 1566 (g d) Days to less one condition stort :> 2005 MP - Restricti: 1576 (g d) Days to less one condition stort :> 2005 MP - Restricti: 1576 (g d) Days to less one condition stort :> 2005 MP - Restricti: 1576 (g d) Daily Weight Change dor to Reserve:: 4.0 (g day) MP - Dailogneese: 14.0 (g d) |
| | CP - MD 9 (CD00) CP - RUP 54 (FD04) CP - RUP 52 (FD04) |

Step 4. Under Diet Concentrations, locate NDF





COLORADO STATE UNIVERSITY

NRC Nutrient Requirements of Dairy Cattle

Step 5. Input the NDF (% DM) into cell D18 of the AgNext Feed Additive Calculator Tool (FACT) for Dairy.

Page 2

Thursday, December 21, 2023

DIET A

Diet Concentrations

NDF: 31.2 (%DM)

Forage NDF: 24.5 (%DM) ADF: 20.6 (%DM) NFC: 42.9 (%DM) Undiscounted TDN: 75 (%DM) ME: 2.48 (Mcal/kg DM) NE1: 1.58 (Mcal/kg DM) NEg: 1.19 (Mcal/kg DM) Ca: 0.6 (%DM) P: 0.4 (%DM) Ether-Extract: 6.0 (%DM) DCAD: 170 (mEQ/kg)

Target Diet Concentrations

NE1: 1.61 (Mca1/kg) MP: 116 (g/kg)

Ca: 3 (g/kg) P: 3 (g/kg)

Diet Summary

| | kg/day | kg/day | % |
|------------------------------|--------------|----------|--------------|
| Feed Name | (Dry Matter) | (As-Fed) | (Dry Matter) |
| | | | |
| Legume Forage Hay, immature | 5.41 | 6.43 | 18.02 |
| Corn Silage, normal | 12.01 | 34.22 | 39.99 |
| Com Grain, steam-flaked | 6.61 | 7.50 | 22.01 |
| Calcium soaps of fattyacids | 0.30 | 0.31 | 1.00 |
| Tallow | 0.30 | 0.30 | 1.00 |
| Cottonseed, Whole with lint | 2.25 | 2.50 | 7.49 |
| Soybean, Meal, solv. 48% CP | 2.40 | 2.68 | 7.99 |
| Blood Meal, ring dried | 0.15 | 0.17 | 0.50 |
| Calcium Carbonate | 0.03 | 0.03 | 0.10 |
| MonoSodium Phosphate (1 H2O) | 0.06 | 0.06 | 0.20 |
| Salt | 0.15 | 0.15 | 0.50 |
| Vitamin premix 1 | 0.36 | 0.36 | 1.20 |



Commercial Lab Results Example



FORAGE TESTING LABORATORY DAIRY ONE, INC. 730 WARREN ROAD ITHACA, NEW YORK 14850 607-257-1272 (fax 607-257-1350)

Sampled | Recvd |Printed |ST|CO| |07/13/23|07/17/23|07/26/23| | |

19MAR2023 Colorado State University 1171 Campus Delivery Fort Collins, CO 80523

| ENERGY TABLE - NRC 2001 | | | | | |
|-------------------------|---------|---------|--|--|--|
| | | | | | |
| | Mcal/Lb | Mcal/Kg | | | |
| | | | | | |
| DE, 1X | 1.64 | 3.62 | | | |
| ME, 1X | 1.45 | 3.20 | | | |
| NEL, 3X | 0.86 | 1.90 | | | |
| NEM, 3X | 0.91 | 2.00 | | | |
| NEG, 3X | 0.61 | 1.35 | | | |
| | | | | | |
| TDN1X, % | 82 | | | | |
| | | | | | |

COMMENTS:

-

1. THIS REPORT HAS BEEN CORRECTED TO REFLECT NEW ANALYSIS RESULTS, SAMPLE KIND CODE OR NAME AND ADDRESS FIELDS. PLEASE COMPARE IT WITH YOUR ORIGINAL.

| Sample Description | Farm Code | e Sample |
|----------------------------|-----------|-----------|
| CORN SNAPLAGE, Dry | 437 | 29388620 |
| | | |
| GREEN | | |
| Analysis Results | | |
| | | i |
| Components | As Fed | DM |
| 8 Moisture | 7.2 | |
| <pre>% Dry Matter</pre> | 92.8 | I I |
| 8 Crude Protein | 11.6 | 12.5 |
| 8 Adjusted Crude Protein | n 11.6 | 12.5 |
| Soluble Protein % CP | 1 | 42 |
| \$ 3DE | 10.4 | 11.2 |
| 8 aNDF | 17.9 | 19.3 |
| 8 Lignin | 1.4 | 1.5 |
| 8 NFC | 56.5 | 60.9 |
| 8 Starch | 50.5 | 54.4 |
| 8 Ash | 3.40 | 3.67 |
| 8 TDN | 75 | 81 |
| NEL, (mcal/kg) | 1.85 | 2.00 |
| NEM, (mcal/kg) | 1.85 | 1.99 |
| NEG, (mcal/kg) | 1.25 | 1.34 |
| 8 Calcium | .52 | .56 |
| 8 Phosphorus | .35 | .37 |
| 8 Magnesium | .16 | .18 |
| 8 Potassium | .79 | .85 |
| 8 Sodium | .106 | .115 |
| PPM Iron | 142 | 153 |
| PPM Zinc | 73 | 78 |
| PPM Copper | 14 | 15 |
| PPM Manganese | 47 | 50 |
| PPM Molybdenum | < 1 | < 1 |
| 8 Sulfur | .15 | .16 |
| | | i i |
| <pre>% Crude Fat, EE</pre> | 3.46 | 3.72 |
| Gross Energy, cal/g | 4,164 | 4,488 |
| | 1 | i i |
| 1 | 1 | i i |



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