# 2002 feed composition guide

## *Typical composition of commonly used feeds for sheep and cattle.*

**Compiled by R.L. Preston, PhD**

Accompanying this discussion is a table showing the typical composition of feedstuffs and ingredients commonly used in the feeding of cattle and sheep in North America. What is the purpose of this information? Nutrition research spanning more than 100 years has defined the nutrients required by animals. Using this information, diets can be formulated from feedstuffs and ingredients to meet these requirements with the expectation that animals will not only remain healthy but will also be productive and efficient.

The ultimate goal of feedstuff analysis is to predict the productive response of animals when fed diets of a given composition. This is the real reason for information on feedstuff composition.

### Table Values For Feedstuff Composition

Feedstuffs are not of constant composition. Unlike chemicals that are "chemically pure" and therefore have a constant composition, feeds vary in their composition for many reasons. What is the value, then, of showing composition data for feedstuffs?

No one will argue that an actual analysis of a feed to be used in a diet is much more accurate than the use of tabulated composition data. Actual analysis should be obtained and used whenever possible.

Often, however, it is either impossible to determine actual composition or there is insufficient time to obtain such analysis. Therefore, tabulated data are the next best source of information.

When tabulated data are used, it should be understood that feeds vary in their composition. Using the data shown in the accompanying table, one can expect the organic constituents (e.g. crude protein, ether extract, crude fiber, acid detergent fiber and neutral detergent fiber) to vary as much as ±15%, the mineral constituents to vary as much as ±30% and the energy values to vary up to ±10%.

Therefore, values shown can only be guides. For this reason they are called "typical values." They are not averages of published information since judgment was used in arriving at some of the values in the hope that these values will be realistic for use in formulating cattle and sheep diets.

New crop varieties usually result in nutrient composition changes. Genetically modified crops through genetic engineering will result in feeds with generally improved nutrient content and availability and/or decreased anti-nutrient factors.

### Chemical Constituents Vs. Biological Attributes

Feeds can be chemically analyzed for many things that may or may not be related to the response of an animal when fed the feed. Thus, in the accompanying table, certain chemical constituents are shown.

The response of cattle and sheep when fed a feed, however, can be termed the biological response to the feed that is a function of its chemical composition and the ability of the animal to derive useful nutrient value from the feed. The latter relates to the digestibility or availability of a nutrient in the feed for absorption into the body and its ultimate efficiency of use depending upon the nutrient status of the animal and the productive or physiological function being performed by the animal.

Thus, ground fence posts and shelled corn may have the same gross energy value but have markedly different useful energy value (TDN or net energy) when consumed by the animal.

Therefore, biological attributes of a feed have much greater meaning in predicting the productive response of animals but are more difficult to accurately determine because there is an interaction between the chemical composition of a feed with the digestive and metabolic capabilities of the animal being fed. Biological attributes of feeds are more laborious and costly to determine and are more variable than chemical constituents. They are generally more predictive, however, since they relate to the response of an animal being fed the feed or diet.

### Source Of Information Shown In The Table

Several sources of information were used in arriving at the "typical values" shown in the table. Where information was not available but a reasonable estimate could be made from similar feeds or stage of maturity, this has been done since it is not too helpful to have a table with considerable missing information.

Where zeros appear, the amount is so small that it can be considered insignificant in practical diet formulation. Blanks indicate that the value is unknown. The table this year contains revisions as well as values for feeds that were not included in previous tables.

### Using Information Contained In The Table

**Feed names:** The most obvious or commonly used feed names are given in the table. Feeds designated as "fresh" are feeds that are grazed or fed as fresh-cut materials.

**Dry matter:** Typical dry matter (DM) values are shown; however, the moisture content of feeds can vary greatly. Therefore, DM content can be the biggest reason for variation in feedstuff composition on an "as-fed basis." For this reason, chemical constituents and biological attributes of feeds shown in the table are on a DM basis.

Since DM can vary greatly and since one of the factors regulating total feed intake is the DM content of feeds, diet formulation on a DM basis is sounder than using "as-fed basis." If one wants to convert a value shown to an "as-fed basis," multiply

the decimal equivalent of the DM content times the compositional value shown in the table.

**Energy:** Four measures of the energy value of feeds are shown in the table. TDN is shown because there are more determined TDN values for feeds and because this has been the standard system for expressing the energy value of feeds for cattle and sheep. There are several technical problems with TDN, however.

The digestibility of CF may be higher than for NFE in certain feeds. TDN also overestimates the value of roughages compared to concentrates in producing animals.

Some have argued that energy is not measured in pounds or percent and therefore TDN is not a valid measure of energy; however, this is more a scientific argument than a criticism of the predictive value of TDN.

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**Digestible energy (DE):** These values are not included in the table. There is a constant relationship between TDN and DE in cattle and sheep; DE (Mcal/cwt.) can be calculated by multiplying the %TDN content by 2. It should be apparent, therefore, that the ability of TDN and DE to predict animal performance is equal.

Interest in the use of net energy (NE) in evaluating feeds for cattle and sheep was renewed with the development of the California net energy system. The main reason for this is the improved predictability of results depending on whether feed energy is being used for maintenance (NEm), growth (NEg) or lactation (NEl).

The major problem in using these NE values for growing cattle and sheep is predicting feed intake and, therefore, the proportion of feed that will be used for maintenance and growth. Some only use the NEg values, but it should be obvious that this suffers the equal but opposite criticism mentioned for TDN; NEg will overestimate the feeding value of concentrates relative to roughages.

The average of the two NE values can be used, but this would be true only for cattle and sheep eating twice their maintenance requirement. The most accurate way to use these NE values to formulate diets would be to use the NEm value plus a multiplier times the NEg value all divided by one plus the multiplier; the multiplier is the level of feed intake above maintenance relative to maintenance. For example, if 700-lb. cattle are expected to eat 18 lbs. of DM, 8 lbs. of which will be required for maintenance, then the NE value of the diet would be:

**NE = [NEm + (10/8)(NEg)]/[1 + (10/8)]**

Such a calculation can be easily introduced into computer programs designed to formulate diets and predict performance.

In deciding on the energy system to use, there is no question on the theoretical superiority of NE over TDN in predicting animal performance. This superiority is lost, however, if only NEg is used in formulating diets. If NE is used, some combination of NEm and NEg is required.

Net energy values for lactation (NEl) are also shown. Few NEl values have actually been determined. NEl values are similar to NEm values except for very high and low energy feeds.

**Protein:** Crude protein (CP) values are shown for each feed, which are Kjeldahl nitrogen times 100/16 or 6.25, since proteins contain 16% nitrogen on the average. Crude protein does not give any information on the actual protein and non-protein nitrogen content of a feed.

Digestible protein (DP) has been included in many tables of feed composition, but because of the contribution of microbial and body protein to the protein in feces, DP is more misleading than CP. One can estimate DP from the CP content of the diet fed to cattle or sheep by the following equation:

**%DP = 0.9(%CP) -3**, where %DP and %CP are the diet values on a DM basis.

Undegradable intake protein (UIP; rumen "by-pass" or escape protein) values are shown. This value represents the percent of CP that passes through the rumen without being degraded by the rumen microorganisms.

Like other biological attributes, these values are not constant. UIP values on many feeds have not been determined and reasonable estimates are difficult to make.

How should these values be used to improve the predictability of animal response when fed various feeds? Generally, degradable intake protein (DIP) can supply CP up to 7% of the diet. If the CP required in the diet exceeds 7% of the DM, all CP above this amount should be UIP.

In other words, if the final diet is to contain 13% CP, 6 of the 13 percentage units, or 46% of the CP should be in the form of UIP. Once the relationships between UIP and DIP have been better quantified, CP requirements may be lowered especially at higher CP levels.

**Crude, acid detergent and neutral detergent fiber:** After more than 120 years, crude fiber (CF) is declining in popularity as a measure of poorly digestible carbohydrates in feeds. The major problem with CF is that variable amounts of lignin, which is not digestible, are removed in the CF procedure.

In the old scheme, the remaining carbohydrates (nitrogen-free extract; NFE) were thought to be more digestible than CF even though many feeds have been shown to have a higher digestibility for CF than NFE. One reason CF remained in the analytical scheme was its apparent requirement for the calculation of TDN.

Improved analytical procedures for fiber have been developed, namely acid detergent fiber (ADF) and neutral detergent fiber (NDF). ADF is related to digestibility, and NDF is also somewhat related to voluntary intake and the availability of net energy.

Both of these measures relate more directly to predicted animal performance and, therefore, are more valuable than CF. Lignification of NDF, however, alters availability of surface area to fiber digesting rumen microorganisms; therefore, lignin may be added to future tables.

Recently, effective NDF (eNDF) has been proposed to better describe the dietary fiber function in high-concentrate, feedlot-type diets. While eNDF is defined as the percent of NDF that is retained on a screen similar in size to particles that will pass from the rumen, this value is further modified based on feed density and degree of hydration.

Rumen pH is correlated with dietary eNDF when diets contain less than 26% eNDF. Thus when formulating high-concentrate diets, including eNDF will help to prevent acidosis in the rumen.

The 1996 National Research Council (NRC) Nutrient Requirements of Beef Cattle recommends eNDF levels for feedlot diets from 5-20% depending on bunk management, inclusion of ionophores, digestion of NDF and/or microbial protein synthesis in the rumen. Therefore, estimated eNDF values are shown for many feeds. These values must be modified, however, depending on degree of feed processing (eg., chopping, grinding, pelleting) and hydration (fresh forage, silages, high-moisture grains) if these feed forms are not specified in the table.

**Ether extract:** Ether extract (EE) shows the crude fat content of the feed.

**Minerals:** Values are shown for only certain minerals. Calcium (Ca) and phosphorus (P) are important minerals to consider in most feeding situations. Potassium (K) becomes more important as the level of concentrate increases and when non-protein nitrogen is substituted for intact protein in the diet.

Sulfur (S) also becomes more important as the level of non-protein nitrogen increases in the diet. Zinc (Zn) is shown because it is less variable and is more generally near a deficient

level in cattle and sheep diets. Chlorine (Cl) is of increasing interest for its role in dietary acid-base relationships.

Several other minerals could logically be included in the table. The level of many trace minerals in feeds is largely determined by the level in the soil on which the feeds are grown or other environmental factors that preclude showing a single value in a table of feed composition.

Iodine and selenium are required nutrients that may be deficient in many diets, yet their level in feed is more related to the conditions under which the feed is grown than to a characteristic of the feed itself. Trace mineralized salt and trace mineral premixes are generally used to supplement trace minerals; the use of these supplements is encouraged where there are known deficiencies of certain trace minerals.

**Vitamins:** Vitamins have been omitted from the table. The only vitamin of general practical importance in cattle and sheep feeding is the vitamin A value (vitamin A and carotene) in feeds that depends largely on maturity and conditions at harvest, and the length and conditions of storage. Therefore, it is probably unwise to rely entirely on harvested feeds as a source of vitamin A value.

Where roughages are being fed that contain good green color or are being fed as immature fresh forages (e.g., pasture), there will probably be sufficient vitamin A value to meet the animal's requirement. Other vitamins, if required, should be supplied as supplements.

## Future Revisions, Additions And Deletions To The Table

A table of feed composition is of value only if it is relatively complete, contains feeds commonly fed and the data are updated with new compositional values. I welcome suggestions and compositional data to keep this table useful to the cattle and sheep feeding industry.

When sending compositional data, please adequately describe the feed, indicate the dry matter or moisture content and whether analytical values are given on an as-fed or dry matter basis. If more than one sample of a feedstuff was analyzed, the number of samples should be indicated.

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***Editor's Note:*** *Since 1957, R.L. Preston has taught and conducted animal nutrition research in the areas of protein, minerals, growth and body composition. He also has conducted cattle feeding research on the energy value of feeds, growth promotants and nutrition management.*

*Preston has been a member of the NRC Committee on Animal Nutrition and President of the American Society of Animal Science. Retired as Emeritus Professor from Texas Tech University, where he was Horn Distinguished Professor and held the Thornton Endowed Chair.*

*(All values except dry matter are shown on a dry matter basis.)*

| | | ENERGY | | | | PROTEIN | | FIBER | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FEEDSTUFF | DM | TDN | $NE_M$ | $NE_G$ | $NE_L$ | CP | BYPASS | CF | ADF | NDF | eNDF | EE | ASH | CA | P | K | CL | S | ZN |
| | % | % | Mcal/cwt. | | | % | % | % | % | % | % | % | % | % | % | % | % | % | ppm |
| Alfalfa Cubes | 91 | 57 | 57 | 25 | 57 | 18 | 30 | 29 | 36 | 46 | 40 | 2.0 | 11 | 1.30 | 0.23 | 1.9 | 0.37 | 0.35 | 20 |
| Alfalfa Dehydrated 17% CP | 92 | 61 | 62 | 31 | 61 | 19 | 60 | 26 | 34 | 45 | 6 | 3.0 | 11 | 1.42 | 0.25 | 2.5 | 0.45 | 0.24 | 21 |
| Alfalfa Fresh | 24 | 61 | 62 | 31 | 61 | 19 | 18 | 27 | 34 | 46 | 41 | 3.0 | 9 | 1.35 | 0.27 | 2.6 | 0.40 | 0.28 | 18 |
| Alfalfa Hay Early Bloom | 90 | 59 | 59 | 28 | 59 | 19 | 20 | 28 | 35 | 45 | 92 | 2.5 | 8 | 1.41 | 0.26 | 2.5 | 0.38 | 0.27 | 22 |
| Alfalfa Hay Midbloom | 89 | 58 | 58 | 26 | 58 | 17 | 23 | 30 | 36 | 47 | 92 | 2.3 | 9 | 1.40 | 0.24 | 2.0 | 0.38 | 0.26 | 24 |
| Alfalfa Hay Full Bloom | 88 | 54 | 54 | 20 | 54 | 16 | 25 | 34 | 40 | 52 | 92 | 2.0 | 8 | 1.20 | 0.23 | 1.7 | 0.37 | 0.23 | 23 |
| Alfalfa Hay Mature | 88 | 50 | 50 | 12 | 49 | 13 | 30 | 38 | 45 | 59 | 92 | 1.3 | 8 | 1.18 | 0.19 | 1.5 | 0.35 | 0.20 | 23 |
| Alfalfa Seed Screenings | 91 | 84 | 92 | 61 | 87 | 34 | | 13 | 15 | | | 10.5 | 6 | 0.30 | 0.67 | | | | |
| Alfalfa Silage | 30 | 55 | 55 | 21 | 55 | 18 | 19 | 28 | 37 | 49 | 82 | 3.0 | 9 | 1.40 | 0.29 | 2.6 | 0.41 | 0.29 | 26 |
| Alfalfa Silage Wilted | 39 | 58 | 58 | 26 | 58 | 18 | 22 | 28 | 37 | 49 | 82 | 3.0 | 9 | 1.40 | 0.29 | 2.6 | 0.41 | 0.29 | 26 |
| Alfalfa Leaf Meal | 89 | 69 | 71 | 43 | 70 | 28 | 15 | 15 | 25 | 34 | 35 | 2.7 | 15 | 2.88 | 0.34 | 2.2 | | 0.32 | 39 |
| Alfalfa Stems | 89 | 47 | 47 | 7 | 46 | 11 | 44 | 44 | 51 | 68 | 100 | 1.3 | 6 | 0.90 | 0.18 | 2.5 | | | |
| Almond Hulls | 89 | 59 | 59 | 28 | 59 | 5 | 60 | 16 | 27 | 35 | 100 | 3.3 | 7 | 0.25 | 0.10 | 2.0 | 0.03 | 0.07 | 20 |
| Ammonium Chloride | 99 | 0 | 0 | 0 | 0 | 163 | 0 | 0 | 0 | 0 | 0 | 0.0 | | 0.00 | 0.00 | 0.0 | 66.00 | 0.00 | 0 |
| Ammonium Sulfate | 99 | 0 | 0 | 0 | 0 | 132 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | 24.15 | |
| Apple Pomace Wet | 20 | 68 | 70 | 41 | 69 | 6 | 10 | 17 | 34 | 40 | 34 | 5.6 | 4 | 0.14 | 0.14 | 0.6 | | 0.06 | 11 |
| Apple Pomace Dried | 89 | 65 | 66 | 37 | 66 | 5 | 15 | 19 | 35 | 45 | 34 | 5.2 | 4 | 0.13 | 0.12 | 0.5 | | 0.02 | |
| Artichoke Tops (Jerusalem) | 27 | 61 | 62 | 31 | 61 | 6 | | 18 | 30 | 41 | 40 | 1.1 | 10 | 1.62 | 0.11 | 1.4 | | | |
| Avocado Seed Meal | 91 | 52 | 52 | 16 | 51 | 20 | | 19 | 24 | | | 1.2 | 16 | | | | | | |
| Bahiagrass Hay | 90 | 51 | 51 | 14 | 50 | 8 | 37 | 32 | 41 | 72 | 98 | 1.9 | 8 | 0.48 | 0.20 | 1.4 | | | |
| Bakery Product Dried | 90 | 90 | 100 | 68 | 94 | 12 | 30 | 4 | 6 | 14 | 0 | 11.0 | 4 | 0.18 | 0.28 | 0.3 | 2.25 | 0.15 | 33 |
| Barley Hay | 90 | 57 | 57 | 25 | 57 | 9 | | 28 | 37 | 65 | 98 | 2.1 | 8 | 0.30 | 0.28 | 1.6 | | 0.19 | 25 |
| Barley Silage | 35 | 59 | 58 | 26 | 58 | 12 | 22 | 34 | 37 | 58 | 61 | 3.0 | 9 | 0.46 | 0.30 | 2.4 | | 0.22 | 28 |
| Barley Silage Mature | 35 | 58 | 58 | 26 | 58 | 12 | 25 | 30 | 34 | 50 | 61 | 3.5 | 9 | 0.30 | 0.20 | 1.5 | | 0.15 | 25 |
| Barley Straw | 90 | 43 | 44 | 0 | 42 | 4 | 70 | 42 | 52 | 78 | 100 | 1.9 | 7 | 0.33 | 0.08 | 2.1 | 0.67 | 0.16 | 7 |
| Barley Grain | 89 | 84 | 92 | 61 | 87 | 12 | 28 | 5 | 7 | 20 | 34 | 2.1 | 3 | 0.06 | 0.38 | 0.6 | 0.18 | 0.16 | 23 |
| Barley Grain 2-row | 87 | 84 | 92 | 61 | 87 | 12 | | 6 | 8 | 24 | 34 | 2.3 | 2 | 0.05 | 0.31 | 0.6 | 0.18 | 0.17 | |
| Barley Grain 6-row | 87 | 84 | 92 | 61 | 87 | 11 | | 6 | 8 | 24 | 34 | 2.2 | 3 | 0.05 | 0.36 | 0.6 | 0.18 | 0.15 | |
| Barley Grain Steam Rolled | 86 | 84 | 92 | 61 | 87 | 12 | 40 | 6 | 7 | 22 | 27 | 2.1 | 3 | 0.06 | 0.41 | 0.6 | 0.18 | 0.17 | 30 |
| Barley Grain Lt.Wt. (42-44 lb/bu) | 88 | 78 | 83 | 54 | 80 | 13 | 30 | 9 | 12 | 30 | 34 | 2.3 | 4 | | | | | | |
| Barley Feed Pearl Byproduct | 90 | 73 | 77 | 48 | 75 | 15 | | 12 | 15 | | | 3.9 | 5 | 0.05 | 0.45 | 0.7 | | 0.06 | |
| Barley Grain Screenings | 89 | 77 | 82 | 53 | 79 | 12 | | 9 | 11 | | | 2.6 | 4 | 0.30 | 0.33 | 0.7 | | 0.15 | |
| Beans Navy Cull | 90 | 84 | 92 | 61 | 87 | 24 | 25 | 5 | 8 | 20 | 0 | 1.4 | 5 | 0.15 | 0.59 | 1.4 | 0.06 | 0.26 | 45 |
| Beet Pulp Wet | 17 | 76 | 81 | 52 | 78 | 11 | 35 | 20 | 23 | 48 | 33 | 0.7 | 6 | 0.68 | 0.08 | 1.4 | 0.40 | 0.21 | 20 |
| Beet Pulp Dried | 91 | 75 | 79 | 50 | 77 | 11 | 44 | 21 | 21 | 41 | 33 | 0.7 | 6 | 0.65 | 0.08 | 1.4 | 0.40 | 0.22 | 22 |
| Beet Pulp Wet with Molasses | 24 | 77 | 82 | 53 | 79 | 11 | 25 | 16 | 21 | 39 | 33 | 0.6 | 6 | 0.60 | 0.10 | 1.8 | | 0.42 | 11 |
| Beet Pulp Dried with Molasses | 92 | 76 | 81 | 52 | 78 | 11 | 34 | 17 | 22 | 40 | 33 | 0.6 | 6 | 0.60 | 0.10 | 1.8 | | 0.42 | 11 |
| Beet Tops (Sugar) | 20 | 58 | 58 | 26 | 58 | 14 | | 10 | 14 | 25 | 41 | 1.5 | 24 | 1.20 | 0.23 | 5.1 | 0.20 | 0.45 | 20 |
| Beet Top Silage | 25 | 52 | 52 | 16 | 51 | 12 | | 12 | | | | 2.0 | 32 | 1.38 | 0.22 | 5.7 | | 0.57 | 20 |

| | | ENERGY | | | | PROTEIN | | FIBER | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FEEDSTUFF** | **DM** | **TDN** | **$NE_M$** | **$NE_G$** | **$NE_L$** | **CP** | **BYPASS** | **CF** | **ADF** | **NDF** | **eNDF** | **EE** | **ASH** | **CA** | **P** | **K** | **CL** | **S** | **ZN** |
| | **%** | **%** | **Mcal/cwt.** | | | **%** | **%** | **%** | **%** | **%** | **%** | **%** | **%** | **%** | **%** | **%** | **%** | **%** | **ppm** |
| Bermudagrass Coastal Dehydrated | 90 | 62 | 63 | 33 | 63 | 16 | 40 | 26 | 29 | 40 | 10 | 3.8 | 7 | 0.40 | 0.25 | 1.8 | | 0.23 | 18 |
| Bermudagrass Coastal Hay | 89 | 56 | 56 | 23 | 56 | 10 | 20 | 30 | 36 | 73 | 98 | 2.1 | 6 | 0.47 | 0.21 | 1.5 | | 0.22 | 16 |
| Bermudagrass Hay | 89 | 53 | 53 | 18 | 53 | 10 | 18 | 30 | 39 | 78 | 98 | 1.9 | 8 | 0.46 | 0.20 | 1.5 | | 0.25 | 33 |
| Bermudagrass Silage | 26 | 50 | 50 | 12 | 49 | 10 | 15 | 30 | 37 | 77 | 48 | 1.9 | 8 | 0.46 | 0.20 | 1.5 | | 0.25 | 33 |
| Birdsfoot Trefoil Fresh | 22 | 66 | 68 | 38 | 67 | 21 | 20 | 21 | 31 | 47 | 41 | 4.4 | 9 | 1.78 | 0.25 | 2.6 | | 0.25 | 31 |
| Birdsfoot Trefoil Hay | 89 | 57 | 57 | 25 | 57 | 16 | 22 | 31 | 38 | 50 | 92 | 2.2 | 8 | 1.73 | 0.24 | 1.8 | | 0.25 | 28 |
| Biuret | 99 | 0 | 0 | 0 | 0 | 248 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 0.00 | 0.00 | 0.0 | 0.00 | 0.00 | 0 |
| Blood Meal | 91 | 66 | 68 | 38 | 67 | 92 | 80 | 1 | 2 | 10 | 0 | 1.4 | 3 | 0.32 | 0.28 | 0.2 | 0.30 | 0.70 | 22 |
| Bluegrass KY Fresh Early Bloom | 36 | 69 | 71 | 43 | 70 | 15 | 20 | 27 | 32 | 60 | 41 | 3.9 | 7 | 0.37 | 0.30 | 1.9 | 0.42 | 0.19 | 25 |
| Bluegrass Straw | 93 | 45 | 45 | 3 | 44 | 6 | | 40 | 50 | 78 | 90 | 1.1 | 6 | 0.20 | 0.10 | | | | |
| Bluestem Fresh Mature | 61 | 50 | 50 | 12 | 49 | 6 | | 34 | | | | 2.5 | 5 | 0.40 | 0.12 | 0.8 | | 0.05 | 28 |
| Bone Meal Steamed | 95 | 16 | 27 | 0 | 11 | 13 | | 1 | 0 | 0 | 0 | 11.6 | 77 | 27.00 | 12.74 | 0.2 | | 2.50 | 290 |
| Bread Byproduct | 68 | 91 | 102 | 69 | 95 | 14 | 24 | 1 | 2 | 3 | 0 | 3.2 | 3 | 0.09 | 0.18 | 0.2 | 0.76 | 0.15 | 40 |
| Brewers Grains Wet | 23 | 85 | 93 | 62 | 88 | 26 | 52 | 13 | 21 | 44 | 18 | 7.6 | 4 | 0.29 | 0.61 | 0.1 | 0.15 | 0.32 | 78 |
| Brewers Grains Dried | 92 | 84 | 92 | 61 | 87 | 24 | 54 | 14 | 24 | 50 | 18 | 9.2 | 4 | 0.29 | 0.60 | 0.1 | 0.15 | 0.32 | 78 |
| Brewers Yeast Dried | 94 | 79 | 85 | 55 | 81 | 48 | | 3 | | | | 1.0 | 7 | 0.10 | 1.56 | 1.8 | | 0.41 | 41 |
| Bromegrass Fresh Immature | 30 | 64 | 65 | 36 | 65 | 15 | 22 | 28 | 33 | 54 | 40 | 4.1 | 10 | 0.45 | 0.34 | 2.3 | | 0.21 | 20 |
| Bromegrass Hay | 89 | 55 | 55 | 21 | 55 | 10 | 33 | 35 | 41 | 66 | 98 | 2.3 | 9 | 0.40 | 0.23 | 1.9 | 0.40 | 0.18 | 19 |
| Bromegrass Haylage | 35 | 57 | 57 | 25 | 57 | 11 | 26 | 36 | 44 | 69 | 61 | 2.5 | 8 | 0.38 | 0.30 | 2.0 | | 0.20 | 19 |
| Buckwheat Grain | 88 | 77 | 82 | 53 | 79 | 12 | | 12 | 17 | | | 2.8 | 2 | 0.11 | 0.36 | 0.5 | 0.05 | 0.16 | 10 |
| Buttermilk Dried | 92 | 88 | 98 | 65 | 91 | 34 | 0 | 5 | 0 | 0 | 0 | 5.0 | 10 | 1.44 | 1.00 | 0.9 | | 0.09 | 44 |
| Cactus | 26 | 63 | 64 | 34 | 64 | 5 | | 18 | 23 | 29 | | 2.1 | 17 | 3.50 | 0.10 | 1.7 | | 0.20 | |
| Calcium Carbonate | 99 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0.0 | 99 | 38.50 | 0.04 | 0.1 | | 0.00 | 0 |
| Canarygrass Hay | 91 | 53 | 53 | 18 | 53 | 9 | 26 | 32 | 34 | 67 | 98 | 2.7 | 8 | 0.38 | 0.25 | 2.7 | | 0.14 | 18 |
| Canola Meal Solvent | 90 | 71 | 74 | 46 | 73 | 40 | 30 | 12 | 20 | 29 | 23 | 4.0 | 8 | 0.75 | 1.16 | 1.3 | 0.07 | 0.78 | 68 |
| Carrot Pulp | 14 | 62 | 63 | 33 | 63 | 6 | | 19 | 23 | 40 | 0 | 7.8 | 9 | | | | | | |
| Carrot Root Fresh | 12 | 83 | 90 | 60 | 86 | 10 | | 9 | 11 | 20 | 0 | 1.4 | 10 | 0.60 | 0.30 | 2.4 | 0.50 | 0.17 | |
| Carrot Tops | 16 | 73 | 77 | 48 | 75 | 13 | | 18 | 23 | 45 | 41 | 3.8 | 15 | 1.94 | 0.19 | 1.9 | | | |
| Cattle Manure Dried | 92 | 38 | 40 | 0 | 36 | 17 | | 34 | 37 | 55 | 0 | 2.6 | 14 | 1.35 | 1.00 | 0.6 | | 1.78 | 240 |
| Cheatgrass Fresh Immature | 21 | 68 | 70 | 41 | 69 | 16 | | 23 | | | | 2.7 | 10 | 0.60 | 0.28 | | | | |
| Citrus Pulp Dried | 90 | 79 | 85 | 55 | 81 | 7 | 38 | 13 | 18 | 21 | 33 | 2.2 | 7 | 1.81 | 0.12 | 0.8 | 0.04 | 0.08 | 14 |
| Clover Ladino Fresh | 19 | 69 | 71 | 43 | 70 | 25 | 20 | 14 | 33 | 35 | 41 | 4.8 | 11 | 1.27 | 0.38 | 2.4 | | 0.20 | 20 |
| Clover Ladino Hay | 90 | 61 | 62 | 31 | 61 | 21 | 25 | 22 | 32 | 36 | 92 | 2.0 | 9 | 1.35 | 0.32 | 2.4 | 0.30 | 0.20 | 17 |
| Clover Red Fresh | 24 | 64 | 65 | 36 | 65 | 18 | 21 | 24 | 33 | 44 | 41 | 4.0 | 9 | 1.70 | 0.30 | 2.0 | 0.60 | 0.17 | 23 |
| Clover Red Hay | 88 | 55 | 55 | 21 | 55 | 15 | 28 | 30 | 39 | 51 | 92 | 2.5 | 8 | 1.50 | 0.25 | 1.7 | 0.32 | 0.17 | 17 |
| Clover Sweet Hay | 91 | 53 | 53 | 18 | 53 | 16 | 30 | 30 | 38 | 50 | 92 | 2.4 | 9 | 1.27 | 0.25 | 1.8 | 0.37 | 0.46 | |
| Coconut Meal | 92 | 71 | 74 | 46 | 73 | 21 | 56 | 12 | 22 | 56 | 23 | 6.7 | 7 | 0.63 | 0.21 | 0.6 | 0.33 | 0.04 | |
| Coffee Grounds | 88 | 20 | 36 | 0 | 16 | 13 | | 41 | 68 | 77 | 10 | 15.0 | 2 | 0.10 | 0.08 | | | | |
| Corn Whole Plant Pelleted | 91 | 63 | 64 | 34 | 64 | 9 | 45 | 21 | 24 | 40 | 6 | 2.4 | 6 | 0.50 | 0.24 | 0.9 | | 0.14 | |
| Corn Fodder | 80 | 67 | 69 | 40 | 68 | 9 | 45 | 25 | 29 | 48 | 100 | 2.4 | 7 | 0.50 | 0.25 | 0.9 | 0.20 | 0.14 | |
| Corn Stover Mature (Stalks) | 80 | 59 | 59 | 28 | 59 | 5 | 30 | 35 | 44 | 70 | 100 | 1.3 | 7 | 0.35 | 0.19 | 1.1 | 0.30 | 0.14 | 22 |
| Corn Silage Milk Stage | 26 | 65 | 66 | 37 | 66 | 8 | 18 | 26 | 32 | 54 | 60 | 2.8 | 6 | 0.40 | 0.27 | 1.6 | | 0.11 | 20 |
| Corn Silage Mature Well Eared | 34 | 72 | 75 | 47 | 74 | 8 | 28 | 21 | 27 | 46 | 70 | 3.1 | 5 | 0.28 | 0.23 | 1.1 | 0.20 | 0.12 | 22 |
| Corn Silage Sweet Corn | 24 | 65 | 66 | 37 | 66 | 11 | | 20 | 32 | 57 | 60 | 5.0 | 5 | 0.24 | 0.26 | 1.2 | 0.17 | 0.16 | 39 |
| Corn Grain Whole | 88 | 88 | 98 | 65 | 91 | 9 | 58 | 2 | 3 | 9 | 60 | 4.3 | 2 | 0.02 | 0.30 | 0.4 | 0.05 | 0.12 | 18 |
| Corn Grain Rolled | 88 | 88 | 98 | 65 | 91 | 9 | 54 | 2 | 3 | 9 | 34 | 4.3 | 2 | 0.02 | 0.30 | 0.4 | 0.05 | 0.12 | 18 |
| Corn Grain Flaked | 85 | 93 | 104 | 71 | 97 | 9 | 60 | 2 | 3 | 9 | 40 | 4.1 | 2 | 0.02 | 0.27 | 0.4 | 0.05 | 0.12 | 18 |
| Corn Grain High Moisture | 74 | 93 | 104 | 71 | 97 | 10 | 42 | 2 | 3 | 9 | 0 | 4.0 | 2 | 0.02 | 0.30 | 0.4 | 0.06 | 0.13 | 20 |
| Corn Grain, High Oil | 88 | 91 | 102 | 69 | 95 | 8 | 54 | 2 | 3 | 8 | 60 | 6.9 | 2 | 0.01 | 0.30 | 0.3 | 0.05 | 0.13 | 18 |
| Corn Grain Hi-Lysine | 92 | 87 | 96 | 64 | 90 | 12 | 58 | 4 | 4 | 11 | 60 | 4.4 | 2 | 0.03 | 0.24 | 0.4 | 0.05 | 0.11 | 18 |
| Corn and Cob Meal | 87 | 82 | 89 | 59 | 85 | 9 | 52 | 9 | 10 | 26 | 56 | 3.7 | 2 | 0.06 | 0.28 | 0.5 | 0.05 | 0.13 | 16 |
| Corn Cobs | 90 | 48 | 48 | 9 | 47 | 3 | 50 | 36 | 39 | 88 | 56 | 0.5 | 2 | 0.12 | 0.04 | 0.8 | | 0.40 | 5 |
| Corn Screenings | 86 | 91 | 102 | 69 | 95 | 10 | 52 | 3 | 4 | 9 | 20 | 4.3 | 2 | 0.04 | 0.27 | 0.4 | 0.05 | 0.12 | 16 |
| Corn Bran | 91 | 76 | 81 | 52 | 78 | 11 | | 10 | 17 | 51 | 0 | 6.3 | 3 | 0.04 | 0.15 | 0.1 | 0.13 | 0.08 | 18 |
| Corn Gluten Feed | 90 | 80 | 86 | 56 | 83 | 22 | 25 | 9 | 12 | 40 | 36 | 3.2 | 7 | 0.12 | 0.85 | 1.3 | 0.25 | 0.33 | 84 |
| Corn Gluten Meal 41% CP | 91 | 85 | 93 | 62 | 88 | 46 | 58 | 5 | 9 | 32 | 23 | 3.2 | 3 | 0.13 | 0.55 | 0.2 | 0.07 | 0.55 | 35 |
| Corn Gluten Meal 60% CP | 91 | 89 | 99 | 67 | 93 | 67 | 60 | 4 | 6 | 11 | 23 | 2.6 | 3 | 0.06 | 0.54 | 0.2 | 0.10 | 0.82 | 40 |
| Corn Cannery Waste | 29 | 68 | 70 | 41 | 69 | 8 | 15 | 28 | 36 | 59 | 0 | 3.0 | 5 | 0.10 | 0.29 | 1.0 | | 0.13 | 25 |
| Cottonseed, Whole | 91 | 95 | 107 | 73 | 99 | 23 | 38 | 29 | 39 | 47 | 100 | 17.8 | 4 | 0.14 | 0.64 | 1.1 | 0.06 | 0.24 | 34 |
| Cottonseed, Whole, Extruded | 92 | 87 | 98 | 67 | 91 | 26 | 50 | 32 | 44 | 53 | 33 | 9.5 | 5 | 0.17 | 0.68 | 1.3 | | 0.24 | 38 |
| Cottonseed, Whole, Delinted | 90 | 95 | 107 | 73 | 99 | 24 | 39 | 20 | 29 | 40 | 100 | 22.2 | 4 | 0.13 | 0.55 | 1.2 | | 0.24 | 36 |
| Cotton Gin Trash (Burrs) | 91 | 42 | 43 | 0 | 40 | 10 | | 34 | 51 | 70 | 100 | 2.0 | 14 | 1.70 | 0.25 | 1.9 | | 0.14 | 25 |
| Cottonseed Hulls | 90 | 45 | 45 | 3 | 44 | 5 | 45 | 48 | 68 | 87 | 100 | 1.9 | 3 | 0.15 | 0.08 | 1.1 | 0.02 | 0.05 | 10 |
| Cottonseed Meal, Mech. 41% CP | 92 | 80 | 86 | 56 | 83 | 46 | 50 | 13 | 18 | 31 | 23 | 5.0 | 7 | 0.21 | 1.19 | 1.7 | 0.05 | 0.42 | 64 |
| Cottonseed Meal, Solvent 41% CP | 90 | 77 | 82 | 53 | 79 | 48 | 42 | 13 | 17 | 25 | 23 | 1.8 | 7 | 0.22 | 1.25 | 1.7 | 0.05 | 0.44 | 66 |
| Crab Waste Meal | 91 | 29 | 37 | 0 | 30 | 32 | 65 | 11 | 13 | | | 3.0 | 43 | 15.00 | 1.88 | 0.5 | 1.63 | 0.27 | 107 |
| Crambe Meal, Solvent | 91 | 81 | 88 | 58 | 84 | 31 | 45 | 25 | 35 | 47 | 23 | 1.4 | 8 | 1.27 | 0.86 | 1.1 | 0.70 | 1.26 | 44 |
| Crambe Meal, Mech. | 92 | 88 | 98 | 65 | 91 | 28 | 50 | 24 | 33 | 42 | 25 | 17.0 | 7 | 1.22 | 0.78 | 1.0 | 0.65 | 1.18 | 41 |
| Cranberry Pulp Meal | 88 | 49 | 49 | 11 | 48 | 7 | | 26 | 47 | 54 | 33 | 15.7 | 2 | | | | | | |
| Crawfish Waste Meal | 94 | 25 | 36 | 0 | 29 | 35 | 74 | | 15 | | | | 42 | 13.10 | 0.85 | | | | |
| Curacao Phosphate | 99 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0.0 | 95 | 34.00 | 15.00 | | | | |

| | | ENERGY | | | | PROTEIN | | FIBER | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FEEDSTUFF** | **DM** | **TDN** | **$NE_M$** | **$NE_G$** | **$NE_L$** | **CP** | **BYPASS** | **CF** | **ADF** | **NDF** | **eNDF** | **EE** | **ASH** | **CA** | **P** | **K** | **CL** | **S** | **ZN** |
| | **%** | **%** | **Mcal/cwt.** | | | **%** | **%** | **%** | **%** | **%** | **%** | **%** | **%** | **%** | **%** | **%** | **%** | **%** | **ppm** |
| Defluorinated Phosphate | 99 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0.0 | 95 | 32.60 | 18.07 | 1.0 | | | 100 |
| Diammonium Phosphate | 98 | 0 | 0 | 0 | 0 | 115 | 0 | 0 | 0 | 0 | 0 | 0.0 | 35 | 0.52 | 20.41 | 0.0 | | 2.16 | |
| Dicalcium Phosphate | 96 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0.0 | 94 | 22.00 | 18.65 | 0.1 | | 1.00 | 70 |
| Distillers Grains, Wet | 25 | 90 | 100 | 68 | 94 | 28 | 52 | 8 | 18 | 40 | 4 | 9.6 | 6 | 0.28 | 0.78 | 1.2 | 0.28 | 0.40 | 95 |
| Distillers Grain, Barley | 90 | 77 | 82 | 53 | 79 | 30 | 56 | 18 | 22 | 45 | 4 | 3.7 | 4 | 0.15 | 0.67 | 1.0 | 0.18 | 0.43 | 50 |
| Distillers Grain, Corn, Dry | 91 | 90 | 100 | 68 | 94 | 29 | 60 | 8 | 21 | 44 | 4 | 10.5 | 4 | 0.15 | 0.78 | 0.9 | 0.14 | 0.45 | 65 |
| Distillers Grain, Corn, Wet | 36 | 90 | 100 | 68 | 94 | 29 | 55 | 8 | 21 | 43 | 4 | 10.5 | 4 | 0.15 | 0.78 | 0.9 | 0.14 | 0.45 | 65 |
| Distillers Grain, Corn with Solubles | 90 | 90 | 100 | 68 | 94 | 29 | 50 | 9 | 17 | 43 | 4 | 10.6 | 6 | 0.28 | 0.79 | 1.0 | 0.18 | 0.39 | 80 |
| Distillers Corn Stillage | 7 | 92 | 103 | 70 | 96 | 22 | 55 | 8 | 10 | 21 | 0 | 8.1 | 5 | 0.14 | 0.72 | 0.2 | | 0.60 | 60 |
| Distillers Grain, Sorghum, Dry | 91 | 85 | 93 | 62 | 88 | 32 | 62 | 13 | 22 | 44 | 4 | 10.0 | 3 | 0.22 | 0.63 | 0.3 | | 0.45 | 50 |
| Distillers Grain, Sorghum, Wet | 35 | 85 | 93 | 62 | 88 | 32 | 55 | 13 | 22 | 44 | 4 | 10.0 | 3 | 0.22 | 0.63 | 0.3 | | 0.45 | 50 |
| Distillers Grain, Sorghum with Solubles | 92 | 85 | 93 | 62 | 88 | 31 | 53 | 13 | 19 | 47 | 4 | 10.0 | 3 | 0.25 | 0.65 | 0.5 | | 0.40 | 55 |
| Distillers Dried Solubles | 93 | 88 | 98 | 65 | 91 | 29 | 0 | 4 | 7 | 22 | 4 | 9.2 | 7 | 0.33 | 1.38 | 1.8 | 0.28 | 0.40 | 91 |
| Fat, Animal, Poultry, Vegetable | 99 | 205 | 267 | 196 | 231 | 0 | | 0 | 0 | 0 | 0 | 99.0 | 0 | 0.00 | 0.00 | 0.0 | | | |
| Feather Meal Hydrolyzed | 92 | 69 | 71 | 43 | 70 | 86 | 73 | 2 | 16 | 44 | 23 | 6.5 | 4 | 0.60 | 0.62 | 0.2 | 0.30 | 1.85 | 95 |
| Fescue KY 31 Fresh | 29 | 64 | 65 | 36 | 65 | 15 | 20 | 25 | 32 | 64 | 40 | 5.5 | 9 | 0.48 | 0.37 | 2.5 | | 0.18 | 22 |
| Fescue KY 31 Hay Early Bloom | 88 | 65 | 66 | 37 | 66 | 18 | 22 | 25 | 31 | 64 | 98 | 6.6 | 8 | 0.45 | 0.37 | 2.7 | | 0.24 | 24 |
| Fescue KY 31 Hay Mature | 88 | 52 | 52 | 16 | 51 | 11 | 30 | 30 | 42 | 73 | 98 | 5.0 | 6 | 0.45 | 0.26 | 1.7 | | 0.14 | 22 |
| Fescue (Red) Straw | 94 | 43 | 44 | 0 | 41 | 4 | | 41 | | | | 1.1 | 6 | 0.00 | 0.06 | | | | |
| Fish Meal | 90 | 74 | 78 | 49 | 76 | 66 | 60 | 1 | 2 | 12 | 10 | 8.0 | 20 | 5.50 | 3.15 | 0.7 | 0.76 | 0.80 | 130 |
| Garbage Municipal Cooked | 23 | 80 | 86 | 56 | 83 | 16 | | 9 | 50 | 59 | 30 | 20.0 | 10 | 1.20 | 0.43 | 0.6 | 0.67 | | |
| Grain Screenings | 90 | 65 | 66 | 37 | 66 | 14 | | 14 | | | | 5.5 | 9 | 0.25 | 0.34 | | | | 30 |
| Grain Dust | 92 | 73 | 77 | 48 | 75 | 10 | | 11 | | | | 2.2 | 10 | 0.30 | 0.18 | | | | 42 |
| Grape Pomace Stemless | 91 | 30 | 38 | 0 | 27 | 12 | 45 | 32 | 48 | 53 | 34 | 7.5 | 9 | 0.50 | 0.08 | 0.5 | 0.01 | | 24 |
| Grass Hay | 88 | 58 | 58 | 26 | 58 | 10 | 30 | 33 | 41 | 63 | 98 | 3.0 | 6 | 0.60 | 0.21 | 2.0 | | 0.20 | 28 |
| Grass Silage | 30 | 61 | 62 | 31 | 61 | 11 | 24 | 32 | 39 | 60 | 61 | 3.4 | 8 | 0.70 | 0.24 | 2.1 | | 0.22 | 29 |
| Guar Meal | 90 | 72 | 75 | 47 | 74 | 39 | 34 | 16 | | | | 3.9 | 5 | | | | | | |
| Hominy Feed | 90 | 89 | 99 | 67 | 93 | 11 | 48 | 5 | 7 | 21 | 9 | 6.1 | 3 | 0.04 | 0.54 | 0.6 | 0.06 | 0.10 | 32 |
| Hop Leaves | 37 | 49 | 49 | 11 | 48 | 15 | | 15 | | | | 3.6 | 35 | 2.80 | 0.64 | | | | |
| Hop Vine Silage | 30 | 53 | 53 | 18 | 53 | 15 | | 21 | 24 | | | 3.1 | 20 | 3.30 | 0.37 | 1.8 | | 0.22 | 44 |
| Hops Spent | 89 | 37 | 40 | 0 | 35 | 23 | | 26 | 30 | | | 4.5 | 7 | 1.60 | 0.60 | | | | |
| Kelp Dried | 91 | 32 | 38 | 0 | 29 | 7 | | 7 | 10 | | | 0.5 | 39 | 2.72 | 0.31 | | | | |
| Kenaf Hay | 92 | 48 | 48 | 9 | 47 | 10 | | 31 | 44 | 56 | 98 | 2.9 | 12 | | | | | | |
| Kochia Fresh | 29 | 55 | 55 | 21 | 55 | 16 | | 23 | | | | 1.2 | 18 | 1.10 | 0.30 | | | | |
| Kochia Hay | 90 | 53 | 53 | 18 | 53 | 14 | | 27 | | | | 1.7 | 14 | 1.00 | 0.20 | | | | |
| Kudzu Hay | 90 | 54 | 54 | 20 | 54 | 16 | | 33 | | | | 2.6 | 7 | 3.00 | 0.23 | | | | |
| Lespedeza Fresh Early Bloom | 25 | 60 | 60 | 30 | 60 | 16 | 50 | 32 | | | | 2.0 | 10 | 1.20 | 0.24 | 1.1 | | 0.21 | |
| Lespedeza Hay | 92 | 54 | 54 | 20 | 54 | 14 | 60 | 30 | | | | 3.0 | 7 | 1.10 | 0.22 | 1.0 | | 0.19 | 29 |
| Limestone Ground | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 98 | 34.00 | 0.02 | | | 0.03 | |
| Limestone Dolomitic Ground | 99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 98 | 22.30 | 0.04 | 0.4 | | | |
| Linseed Meal Solvent | 91 | 76 | 81 | 52 | 78 | 39 | 36 | 10 | 18 | 25 | 23 | 1.9 | 6 | 0.43 | 0.93 | 1.5 | 0.04 | 0.47 | 60 |
| Meadow Hay | 90 | 50 | 50 | 12 | 49 | 7 | 23 | 33 | 44 | 70 | 98 | 2.5 | 9 | 0.61 | 0.18 | 1.6 | | 0.17 | 24 |
| Meat Meal | 93 | 71 | 74 | 46 | 73 | 56 | 64 | 2 | 7 | 48 | 0 | 10.5 | 24 | 9.00 | 4.42 | 0.5 | 1.27 | 0.48 | 190 |
| Meat and Bone Meal | 93 | 71 | 74 | 46 | 73 | 56 | 51 | 2 | 6 | 35 | 0 | 10.4 | 32 | 10.00 | 5.00 | 1.0 | 0.80 | 0.40 | 96 |
| Meat and Bone Meal, Porcine/Poultry | 93 | 72 | 75 | 47 | 74 | 56 | 24 | 1 | 5 | 34 | 0 | 10.0 | 29 | 13.50 | 6.50 | | | | |
| Mint Slug Silage | 27 | 55 | 55 | 21 | 55 | 14 | | 24 | | | | 1.8 | 16 | 1.10 | 0.57 | | | | |
| Molasses Beet | 77 | 75 | 79 | 50 | 77 | 9 | 0 | 0 | 0 | 0 | 0 | 0.2 | 12 | 0.12 | 0.03 | 6.0 | 1.64 | 0.60 | 18 |
| Molasses Cane | 76 | 75 | 79 | 50 | 77 | 6 | 0 | 0 | 0 | 0 | 0 | 0.8 | 12 | 0.97 | 0.10 | 3.7 | 2.50 | 0.55 | 25 |
| Molasses Cane Dried | 94 | 74 | 78 | 49 | 76 | 9 | 0 | 2 | 3 | 7 | 0 | 0.3 | 14 | 1.10 | 0.15 | 3.6 | 3.00 | 0.47 | 30 |
| Molasses, Cond. Fermentation Solubles | 46 | | | | | 80 | | | | | | | 16 | | 0.25 | | | 12.60 | |
| Molasses Citrus | 65 | 77 | 82 | 53 | 79 | 10 | 0 | 0 | 0 | 0 | 0 | 0.3 | 8 | 1.90 | 0.17 | 0.2 | 0.11 | 0.23 | 137 |
| Molasses Wood, Hemicellulose | 61 | 76 | 81 | 52 | 78 | 1 | 0 | 1 | 2 | 4 | 0 | 0.7 | 9 | 1.30 | 0.09 | 0.1 | | 0.05 | |
| Monoammonium Phosphate | 98 | 0 | 0 | 0 | 0 | 70 | 0 | 0 | 0 | 0 | 0 | 0.0 | 24 | 0.30 | 24.70 | 0.0 | | 1.42 | 81 |
| Mono-Dicalcium Phosphate | 97 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0.0 | 94 | 16.70 | 21.10 | 0.1 | | 1.20 | 70 |
| Oat Hay | 90 | 54 | 54 | 20 | 54 | 10 | 25 | 31 | 39 | 63 | 98 | 2.3 | 8 | 0.40 | 0.27 | 1.6 | 0.42 | 0.21 | 28 |
| Oat Silage | 35 | 60 | 60 | 30 | 60 | 12 | 21 | 31 | 39 | 59 | 61 | 3.2 | 10 | 0.34 | 0.30 | 2.4 | 0.50 | 0.25 | 27 |
| Oat Straw | 91 | 48 | 48 | 9 | 47 | 4 | 40 | 41 | 48 | 73 | 98 | 2.3 | 8 | 0.24 | 0.07 | 2.4 | 0.78 | 0.22 | 6 |
| Oat Grain | 89 | 76 | 81 | 52 | 78 | 13 | 18 | 11 | 15 | 30 | 34 | 4.9 | 4 | 0.05 | 0.41 | 0.5 | 0.11 | 0.20 | 40 |
| Oat Groats | 91 | 91 | 102 | 69 | 95 | 18 | 15 | 3 | | | | 6.6 | 2 | 0.08 | 0.47 | 0.4 | 0.10 | 0.20 | |
| Oat Middlings | 90 | 90 | 100 | 68 | 94 | 17 | 20 | 3 | 4 | | | 6.0 | 3 | 0.06 | 0.48 | 0.5 | | 0.23 | |
| Oat Mill Byproduct | 89 | 33 | 38 | 0 | 30 | 8 | | 25 | 37 | | | 2.6 | 6 | 0.12 | 0.23 | 0.6 | | 0.24 | |
| Oat Hulls | 93 | 40 | 42 | 0 | 38 | 4 | 25 | 32 | 40 | 75 | 90 | 1.5 | 7 | 0.16 | 0.15 | 0.6 | 0.08 | 0.14 | 31 |
| Orange Pulp Dried | 89 | 80 | 86 | 56 | 83 | 9 | | 9 | 16 | 20 | 33 | 1.8 | 4 | 0.71 | 0.11 | 0.6 | | 0.05 | |
| Orchardgrass Fresh Early Bloom | 24 | 65 | 66 | 37 | 66 | 14 | 23 | 30 | 32 | 54 | 41 | 4.0 | 9 | 0.33 | 0.39 | 2.7 | 0.08 | 0.20 | 21 |
| Orchardgrass Hay | 88 | 59 | 59 | 28 | 59 | 10 | 27 | 34 | 40 | 67 | 98 | 3.3 | 8 | 0.32 | 0.30 | 2.6 | 0.41 | 0.20 | 26 |
| Pea Vine Hay | 89 | 60 | 60 | 30 | 60 | 10 | | 32 | 52 | 62 | 92 | 1.8 | 7 | 1.20 | 0.21 | 1.2 | | 0.20 | 20 |
| Pea Vine Silage | 25 | 58 | 58 | 26 | 58 | 16 | | 29 | 44 | 55 | 61 | 3.3 | 8 | 1.25 | 0.28 | 1.6 | | 0.29 | 32 |
| Pea Straw | 89 | 50 | 50 | 12 | 49 | 7 | | 42 | 49 | 72 | 98 | 1.3 | 7 | 0.60 | 0.15 | 1.1 | | 0.15 | |

| FEEDSTUFF | DM | ENERGY TDN | $NE_M$ | $NE_G$ | $NE_L$ | PROTEIN CP | BYPASS | FIBER CF | ADF | NDF | eNDF | EE | ASH | CA | P | K | CL | S | ZN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | % | % | Mcal/cwt. | | | % | % | % | % | % | % | % | % | % | % | % | % | % | ppm |
| Peas Cull | 89 | 86 | 95 | 63 | 89 | 25 | 22 | 7 | 9 | 15 | 0 | 1.5 | 4 | 0.15 | 0.45 | 1.1 | 0.06 | 0.26 | 30 |
| Peanut Hulls | 91 | 22 | 36 | 0 | 18 | 7 | | 63 | 65 | 74 | 98 | 1.5 | 5 | 0.20 | 0.07 | 0.9 | | | |
| Peanut Meal Solvent | 91 | 77 | 82 | 53 | 79 | 50 | 27 | 8 | 15 | 27 | 23 | 3.6 | 6 | 0.24 | 0.58 | 1.0 | 0.03 | 0.30 | 38 |
| Peanut Skins | 92 | 0 | 0 | 0 | 0 | 17 | | 13 | 20 | 28 | 0 | 22.0 | 3 | 0.19 | 0.20 | | | | |
| Pearl Millet Grain | 87 | 82 | 89 | 59 | 85 | 13 | | 2 | 6 | 18 | 34 | 4.5 | 3 | 0.03 | 0.36 | 0.5 | | | |
| Pineapple Greenchop | 17 | 45 | 45 | 3 | 44 | 8 | | 23 | 35 | 64 | 41 | 2.6 | 7 | 0.28 | 0.08 | | | | |
| Pineapple Bran | 89 | 71 | 74 | 46 | 73 | 5 | | 19 | 31 | 66 | 20 | 1.5 | 3 | 0.26 | 0.12 | | | | |
| Pineapple Presscake | 21 | 72 | 75 | 47 | 74 | 5 | | 23 | 35 | 69 | 20 | 0.9 | 3 | 0.24 | 0.10 | | | | |
| Potato Vine Silage | 15 | 59 | 59 | 28 | 59 | 15 | | 26 | | | | 3.7 | 19 | 2.10 | 0.29 | 4.0 | | 0.37 | |
| Potatoes Cull | 21 | 80 | 86 | 56 | 83 | 10 | 0 | 2 | 3 | 4 | 0 | 0.4 | 5 | 0.03 | 0.24 | 2.2 | 0.30 | 0.09 | |
| Potato Waste Wet | 14 | 82 | 89 | 59 | 85 | 7 | 0 | 9 | 11 | 15 | 0 | 1.5 | 3 | 0.16 | 0.25 | 1.2 | 0.36 | 0.11 | 12 |
| Potato Waste Dried | 89 | 85 | 93 | 62 | 88 | 8 | 0 | 7 | 9 | 12 | 0 | 0.5 | 5 | 0.16 | 0.25 | 1.2 | 0.39 | 0.11 | 12 |
| Potato Waste Wet with Lime | 17 | 80 | 86 | 56 | 83 | 5 | 0 | 10 | 12 | 16 | 0 | 0.3 | 9 | 4.20 | 0.18 | | | | |
| Potato Waste Filter Cake | 14 | 77 | 82 | 53 | 79 | 5 | 0 | 2 | | | | 7.7 | 3 | 0.10 | 0.19 | 0.2 | | | |
| Poultry Byproduct Meal | 93 | 79 | 85 | 55 | 81 | 62 | 49 | 2 | | | | 14.5 | 17 | 4.00 | 2.25 | 0.5 | 0.58 | 0.56 | 129 |
| Poultry Litter Dried | 87 | 64 | 65 | 36 | 65 | 25 | 0 | 18 | | | | 3.0 | 19 | 3.00 | 2.05 | 2.3 | | 0.85 | 440 |
| Poultry Manure Dried | 89 | 38 | 40 | 0 | 36 | 28 | 22 | 13 | 15 | 35 | 0 | 2.1 | 33 | 10.20 | 2.80 | 2.3 | 1.05 | 0.20 | 520 |
| Prairie Hay | 91 | 50 | 50 | 12 | 49 | 7 | 37 | 34 | 47 | 67 | 98 | 2.0 | 8 | 0.40 | 0.15 | 1.1 | 0.06 | 0.06 | 34 |
| Pumpkins, Cull | 10 | 85 | 93 | 62 | 88 | 16 | | 14 | 18 | 25 | 0 | 8.9 | 9 | 0.24 | 0.43 | 3.3 | | | |
| Rice Straw | 91 | 40 | 42 | 0 | 38 | 4 | | 40 | 55 | 72 | 100 | 1.4 | 12 | 0.25 | 0.08 | 1.1 | | 0.11 | |
| Rice Straw Ammoniated | 87 | 45 | 45 | 3 | 44 | 9 | | 39 | 53 | 68 | 100 | 1.3 | 12 | 0.25 | 0.08 | 1.1 | | 0.11 | |
| Rice Grain | 89 | 79 | 85 | 55 | 81 | 8 | 30 | 10 | 12 | 16 | 34 | 1.9 | 5 | 0.07 | 0.32 | 0.4 | 0.09 | 0.05 | 17 |
| Rice Polishings | 90 | 90 | 100 | 68 | 94 | 14 | | 4 | 5 | | | 14.0 | 9 | 0.05 | 1.36 | 1.2 | 0.12 | 0.19 | 28 |
| Rice Bran | 91 | 72 | 75 | 47 | 74 | 14 | 30 | 13 | 18 | 23 | 0 | 19.0 | 11 | 0.07 | 1.70 | 1.8 | 0.09 | 0.19 | 40 |
| Rice Hulls | 92 | 13 | 35 | 0 | 8 | 3 | 45 | 44 | 70 | 81 | 90 | 0.9 | 20 | 0.14 | 0.07 | 0.5 | 0.08 | 0.08 | 24 |
| Rice Mill Byproduct | 91 | 42 | 43 | 0 | 40 | 7 | | 32 | 48 | 60 | 0 | 5.7 | | 0.40 | 0.31 | 2.2 | | 0.30 | 31 |
| Rye Grass Hay | 90 | 58 | 58 | 26 | 58 | 10 | 30 | 33 | 38 | 65 | 98 | 3.3 | 8 | 0.45 | 0.30 | 2.2 | | 0.18 | 27 |
| Rye Grass Silage | 32 | 59 | 59 | 28 | 59 | 14 | 25 | 22 | 37 | 59 | 61 | 3.3 | 8 | 0.43 | 0.38 | 2.9 | 0.73 | 0.23 | 29 |
| Rye Straw | 89 | 44 | 44 | 1 | 43 | 4 | | 44 | 55 | 71 | 100 | 1.5 | 6 | 0.24 | 0.09 | 1.0 | 0.24 | 0.11 | |
| Rye Grain | 89 | 82 | 89 | 59 | 85 | 12 | 20 | 2 | 9 | 19 | 34 | 1.7 | 2 | 0.07 | 0.39 | 0.5 | 0.03 | 0.17 | 33 |
| Safflower Meal Solvent | 91 | 55 | 55 | 21 | 55 | 24 | | 33 | 41 | 57 | 36 | 1.2 | 6 | 0.35 | 0.78 | 1.0 | 0.21 | 0.23 | 65 |
| Safflower Meal Dehulled Solvent | 91 | 76 | 81 | 52 | 78 | 48 | | 9 | | | | 0.6 | 7 | 0.38 | 1.60 | 1.2 | 0.18 | 0.22 | 36 |
| Sagebrush Fresh | 50 | 50 | 50 | 12 | 49 | 13 | | 25 | 28 | 36 | | 9.2 | 10 | 1.00 | 0.25 | | | 0.22 | |
| Sanfoin Hay | 88 | 61 | 62 | 31 | 62 | 14 | 60 | 24 | | | | 3.1 | 9 | | | | | | |
| Shrimp Waste Meal | 90 | 48 | 48 | 9 | 47 | 50 | 60 | 11 | | | | 5.5 | 25 | 8.50 | 1.75 | | 1.15 | | |
| Sodium Tripolyphosphate | 96 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0.0 | 96 | 0.00 | 25.98 | 0.0 | | 0.00 | |
| Sorghum Stover | 87 | 55 | 55 | 21 | 55 | 5 | | 33 | 41 | 65 | 100 | 1.9 | 10 | 0.49 | 0.12 | 1.2 | | | |
| Sorghum Silage | 32 | 59 | 59 | 28 | 59 | 9 | 30 | 27 | 38 | 59 | 70 | 2.7 | 6 | 0.48 | 0.21 | 1.7 | 0.45 | 0.11 | 30 |
| Sorghum Grain (Milo) Ground | 89 | 82 | 89 | 59 | 85 | 11 | 55 | 3 | 6 | 17 | 34 | 3.1 | 2 | 0.04 | 0.32 | 0.4 | 0.10 | 0.14 | 18 |
| Sorhum Grain (Milo) Flaked | 82 | 91 | 102 | 69 | 95 | 11 | 62 | 3 | 6 | 20 | 38 | 3.1 | 2 | 0.04 | 0.28 | 0.4 | 0.10 | 0.14 | 18 |
| Soybean Hay | 89 | 52 | 52 | 16 | 51 | 15 | | 35 | 40 | 55 | 92 | 2.2 | 8 | 1.29 | 0.30 | 1.1 | 0.15 | 0.24 | 24 |
| Soybean Straw | 88 | 42 | 43 | 0 | 40 | 5 | | 44 | 54 | 70 | 100 | 1.4 | 6 | 1.59 | 0.06 | 0.6 | | 0.26 | |
| Soybeans Whole | 88 | 93 | 104 | 71 | 97 | 40 | 28 | 9 | 11 | 15 | 100 | 18.8 | 5 | 0.27 | 0.64 | 2.0 | 0.03 | 0.34 | 56 |
| Soybeans Whole, Extruded | 88 | 93 | 104 | 71 | 97 | 40 | 35 | 9 | 11 | 15 | 100 | 18.8 | 5 | 0.27 | 0.64 | 2.0 | 0.03 | 0.34 | 56 |
| Soybeans Whole, Roasted | 88 | 93 | 104 | 71 | 97 | 40 | 48 | 9 | 11 | 15 | 100 | 18.8 | 5 | 0.27 | 0.64 | 2.0 | 0.03 | 0.34 | 56 |
| Soybean Hulls | 90 | 77 | 82 | 52 | 79 | 12 | 28 | 38 | 46 | 64 | 28 | 2.6 | 5 | 0.55 | 0.17 | 1.4 | 0.02 | 0.12 | 38 |
| Soybean Meal Solvent 44% CP | 91 | 84 | 92 | 61 | 87 | 49 | 35 | 6 | 10 | 15 | 23 | 1.6 | 7 | 0.38 | 0.71 | 2.3 | 0.07 | 0.43 | 62 |
| Soybean Meal Solvent 49% CP | 91 | 87 | 96 | 64 | 90 | 54 | 36 | 3 | 6 | 9 | 23 | 1.2 | 6 | 0.28 | 0.71 | 2.2 | 0.08 | 0.47 | 61 |
| Soybean Mill Feed | 90 | 51 | 51 | 14 | 50 | 15 | | 36 | 46 | | | 2.0 | 6 | 0.49 | 0.18 | 1.7 | | 0.07 | |
| Spelt Grain | 88 | 75 | 79 | 50 | 77 | 13 | 27 | 10 | 17 | 21 | 34 | 2.1 | 4 | 0.04 | 0.40 | 0.4 | | 0.15 | 47 |
| Sudangrass Fresh Immature | 18 | 70 | 73 | 44 | 71 | 17 | | 23 | 29 | 55 | 41 | 3.9 | 9 | 0.46 | 0.36 | 2.0 | | 0.11 | 24 |
| Sudangrass Hay | 88 | 57 | 57 | 25 | 57 | 9 | 30 | 36 | 43 | 67 | 98 | 1.8 | 10 | 0.50 | 0.22 | 2.2 | 0.80 | 0.12 | 26 |
| Sudangrass Silage | 31 | 58 | 58 | 26 | 58 | 10 | 28 | 30 | 42 | 64 | 61 | 3.1 | 10 | 0.58 | 0.27 | 2.4 | 0.52 | 0.14 | 29 |
| Sunflower Seed Meal Solvent | 92 | 65 | 66 | 37 | 66 | 38 | 27 | 20 | 24 | 36 | 23 | 2.5 | 8 | 0.44 | 0.97 | 1.2 | 0.15 | 0.33 | 55 |
| Sunflower Seed Meal with Hulls | 91 | 57 | 57 | 25 | 57 | 31 | 35 | 27 | 32 | 44 | 37 | 2.4 | 7 | 0.40 | 1.03 | 1.0 | | 0.30 | 85 |
| Sunflower Seed Hulls | 90 | 40 | 42 | 0 | 38 | 4 | 65 | 52 | 63 | 73 | 90 | 2.2 | 3 | 0.00 | 0.11 | 0.2 | | 0.19 | 200 |
| Sugar Cane Bagasse | 91 | 36 | 39 | 0 | 34 | 1 | | 49 | 59 | 86 | 100 | 0.7 | 3 | 0.90 | 0.29 | 0.5 | | 0.10 | |
| Tapioca Meal | 89 | 83 | 90 | 60 | 86 | 2 | | 5 | 8 | 34 | | 0.8 | 3 | 0.03 | 0.05 | | | | |
| Timothy Fresh Pre-bloom | 26 | 64 | 65 | 36 | 65 | 11 | 20 | 31 | 36 | 59 | 41 | 3.8 | 7 | 0.40 | 0.28 | 1.9 | 0.57 | 0.15 | 28 |
| Timothy Hay Early Bloom | 88 | 59 | 59 | 28 | 59 | 11 | 22 | 32 | 39 | 63 | 98 | 2.7 | 6 | 0.58 | 0.26 | 1.9 | 0.51 | 0.21 | 30 |
| Timothy Hay Full Bloom | 88 | 57 | 57 | 25 | 57 | 8 | 30 | 34 | 40 | 65 | 98 | 2.6 | 5 | 0.43 | 0.20 | 1.8 | 0.62 | 0.13 | 25 |
| Timothy Silage | 34 | 59 | 59 | 28 | 59 | 10 | 25 | 34 | 45 | 70 | 61 | 3.4 | 7 | 0.50 | 0.27 | 1.7 | | 0.15 | |
| Tomato Pomace Dried | 92 | 64 | 65 | 36 | 65 | 23 | | 26 | 50 | 55 | 34 | 10.6 | 6 | 0.43 | 0.59 | 3.6 | | | |
| Triticale Hay | 90 | 56 | 56 | 23 | 56 | 10 | | 34 | 41 | 69 | 98 | | | 0.30 | 0.26 | 2.3 | | | 25 |
| Triticale Silage | 34 | 58 | 58 | 26 | 58 | 14 | | 30 | 39 | 56 | 61 | 3.6 | | 0.58 | 0.34 | 2.7 | | 0.28 | 36 |
| Triticale Grain | 89 | 85 | 93 | 62 | 88 | 14 | 25 | 4 | 5 | 22 | 34 | 2.4 | 2 | 0.07 | 0.39 | 0.5 | | 0.17 | 37 |
| Turnip Tops (Purple) | 18 | 69 | 71 | 43 | 70 | 16 | | 10 | 13 | | | 2.6 | 13 | 3.20 | 0.31 | 3.0 | 1.80 | 0.27 | |
| Turnip Roots | 9 | 86 | 95 | 63 | 89 | 12 | 0 | 11 | 34 | 44 | 40 | 1.5 | 8 | 0.70 | 0.34 | 3.2 | 0.65 | 0.43 | 40 |
| Urea 46%N | 99 | 0 | 0 | 0 | 0 | 288 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 0.00 | 0.00 | 0.0 | 0.00 | 0.00 | 0 |
| Vetch Hay | 89 | 58 | 58 | 26 | 58 | 18 | 14 | 30 | 33 | 48 | 92 | 1.8 | 8 | 1.25 | 0.34 | 2.4 | | 0.13 | |
| Wheat Fresh, Pasture | 21 | 71 | 74 | 46 | 73 | 20 | 16 | 18 | 30 | 50 | 41 | 4.0 | 13 | 0.35 | 0.36 | 3.1 | 0.67 | 0.22 | |
| Wheat Hay | 90 | 57 | 57 | 25 | 57 | 9 | 25 | 29 | 38 | 66 | 98 | 2.0 | 8 | 0.21 | 0.22 | 1.4 | 0.50 | 0.19 | 23 |
| Wheat Silage | 33 | 59 | 59 | 28 | 59 | 12 | 21 | 28 | 37 | 62 | 61 | 3.2 | 8 | 0.40 | 0.28 | 2.1 | 0.50 | 0.21 | 27 |

| FEEDSTUFF | DM | ENERGY | | | | PROTEIN | | | FIBER | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TDN | $NE_M$ | $NE_G$ | $NE_L$ | CP | BYPASS | CF | ADF | NDF | eNDF | EE | ASH | CA | P | K | CL | S | ZN |
| | % | % | Mcal/cwt. | | | % | % | % | % | % | % | % | % | % | % | % | % | % | ppm |
| Wheat Straw | 91 | 42 | 43 | 0 | 40 | 3 | 60 | 43 | 58 | 81 | 98 | 1.8 | 8 | 0.16 | 0.05 | 1.3 | 0.32 | 0.17 | 6 |
| Wheat Straw Ammoniated | 85 | 50 | 50 | 12 | 49 | 9 | 25 | 40 | 55 | 76 | 98 | 1.5 | 9 | 0.15 | 0.05 | 1.3 | 0.30 | 0.16 | 6 |
| Wheat Grain | 89 | 88 | 98 | 65 | 91 | 14 | 23 | 3 | 4 | 12 | 0 | 2.3 | 2 | 0.05 | 0.43 | 0.4 | 0.09 | 0.15 | 40 |
| Wheat Grain Hard | 89 | 88 | 98 | 65 | 91 | 14 | 28 | 3 | 6 | 14 | 0 | 2.0 | 2 | 0.05 | 0.43 | 0.5 | | 0.16 | 45 |
| Wheat Grain Soft | 89 | 88 | 98 | 65 | 91 | 12 | 23 | 3 | 4 | 12 | 0 | 2.0 | 2 | 0.06 | 0.40 | 0.4 | | 0.15 | 30 |
| Wheat Grain Flaked | 85 | 89 | 99 | 67 | 93 | 14 | 29 | 3 | 4 | 12 | 0 | 2.3 | 2 | 0.05 | 0.39 | 0.4 | | 0.15 | 40 |
| Wheat Grain Sprouted | 86 | 88 | 98 | 65 | 91 | 12 | 18 | 3 | 4 | 13 | 0 | 2.0 | 2 | 0.04 | 0.36 | 0.4 | | 0.17 | 45 |
| Wheat Bran | 89 | 70 | 73 | 44 | 71 | 17 | 28 | 11 | 13 | 46 | 4 | 4.5 | 7 | 0.13 | 1.29 | 1.4 | 0.05 | 0.24 | 96 |
| Wheat Middlings | 89 | 82 | 89 | 59 | 85 | 19 | 22 | 8 | 12 | 36 | 2 | 4.6 | 5 | 0.15 | 1.02 | 1.4 | 0.05 | 0.21 | 98 |
| Wheat Mill Run | 90 | 75 | 79 | 50 | 77 | 17 | 28 | 9 | 12 | 37 | 0 | 4.4 | 5 | 0.12 | 1.00 | 1.2 | 0.07 | 0.22 | 90 |
| Wheat Shorts | 89 | 80 | 86 | 56 | 83 | 20 | 25 | 7 | 7 | 30 | 0 | 5.4 | 5 | 0.10 | 0.95 | 1.1 | 0.08 | 0.20 | 118 |
| Wheatgrass Crested Fresh Early Bloom | 37 | 60 | 60 | 30 | 60 | 11 | 25 | 26 | 28 | 50 | 41 | 1.6 | 7 | 0.46 | 0.32 | 2.4 | | | |
| Wheatgrass Crested Fresh Full Bloom | 50 | 55 | 55 | 21 | 55 | 10 | 33 | 33 | 36 | 65 | 41 | 1.6 | 7 | 0.39 | 0.28 | 2.1 | | | |
| Wheatgrass Crested Hay | 92 | 54 | 54 | 20 | 54 | 10 | 33 | 33 | 36 | 65 | 98 | 2.4 | 7 | 0.33 | 0.20 | 2.0 | | | 32 |