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# Analysis of feeding-stuffs, Bulletin, no. 169

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New Hampshire Agricultural Experiment Station

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NEW HAMPSHIRE
AGRICULTURAL EXPERIMENT STATION
DEPARTMENT OF CHEMISTRY

# Analysis of Feeding-Stuffs

MADE FOR THE

STATE DEPARTMENT OF AGRICULTURE



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AT NEW HAMPSHIRE COLLEGE
OF
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DURHAM, N. H.

NEW HAMPSHIRE COLLEGE OF AGRICULTURE AND THE MECHANIC ARTS.

# NEW HAMPSHIRE AGRICULTURAL EXPERIMENT STATION

**DURHAM, N. H.**



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## STATE LAW.

### An Act to Regulate the Sale of Concentrated Commercial Feeding-stuffs.

Section 1. Every manufacturer, company, or person, who shall sell, offer, or expose for sale or for distribution in this state any concentrated commercial feeding-stuff used for feeding farm live stock, shall furnish with each car or other amount shipped in bulk and shall affix to every package of such feeding-stuff, in a conspicuous place on the outside thereof, a plainly printed statement clearly and truly certifying the number of net pounds in the package sold or offered for sale, the name or trade-mark under which the article is sold, the name of the manufacturer or shipper, the place of manufacture, the place of business, and a chemical analysis stating the percentages it contains of crude protein, allowing one per centum of nitrogen to equal six and one-fourth per centum of protein, of crude fat, and of crude fibre, both constituents to be determined by the methods prescribed by the association of official agricultural chemists. Whenever any feeding-stuff is sold at retail in bulk or in packages belonging to the purchaser, the agent or dealer, upon request of the purchaser, shall furnish to him the certified statement named in this section.

Sect. 2. The term "concentrated commercial feeding-stuffs," as used in this act, shall include linseed meals, cottonseed meals, pea meals, cocoanut meals, gluten meals, gluten feeds, maize feeds, starch feeds, sugar feeds, dried brewers' grains, malt sprouts, hominy feeds, cerealine feeds, rice meals, oat feeds, corn and oat chops, wheat, rye and buckwheat bran and middlings, ground beef, or fish scraps, mixed feeds and all other materials of similar nature; but shall not include hays and straws, the whole seeds nor the unmixed meals made directly from the entire grains of wheat, rye, barley, oats, Indian corn, buckwheat and broom corn.

SECT. 3. Before any manufacturer, company, or person shall sell, offer, or expose for sale in this state any concentrated commercial feeding-stuffs, he or they shall, for each and every feeding-stuff bearing a distinguishing name or trade-mark, file annually during the month of December with the secretary of the board of agriculture a certified copy of the statement specified in the preceding section, said certified copy to be accompanied, when the secretary shall so request, by a sealed glass jar or bottle containing at least one pound of the feeding-stuff to be sold or offered for sale, and the company or person furnishing said sample shall thereupon make affidavit that said sample corresponds within reasonable limits to the feeding-stuff which it represents, in the percentage of protein and fat which it contains.

SECT. 4. Each manufacturer, importer, agent, or seller of any concentrated commercial feeding-stuffs, shall pay annually during the month of December to the secretary of the board of agriculture an analysis fee of fifteen dollars, for each brand offered for sale within the state. Whenever a manufacturer, importer, agent, or seller of concentrated commercial feeding-stuff desires at any time to sell such material and has not paid the analysis fee therefor in the preceding month of December, as required by this section, he shall pay the analysis fee prescribed herein before making any such sale. The amount of analysis fees received by said secretary pursuant to the provisions of this section shall be paid by him to the treasurer of the State of New Hampshire. The treasurer of the State of New Hampshire shall pay from such amount when duly approved the moneys required for the expense incurred in making the inspection required by this act and enforcing the provisions thereof. The secretary of the board of agriculture shall report biennially to the legislature the amount received pursuant to this act, and the expense incurred for salaries, laboratory expenses, chemical supplies, traveling expenses, printing, and other

necessary matters. Whenever the manufacturer, importer, or shipper of concentrated commercial feeding-stuff shall have filed the statement required by section 1 of this act and paid the analysis fee as prescribed in this section, no agent or seller of such manufacturer, importer, or shipper shall be required to file such statement or pay such fee.

SECT. 5. The secretary of the board of agriculture shall annually cause to be analyzed at the New Hampshire College Agricultural Experiment Station, at least one sample, to be taken in the manner hereinafter prescribed, of every concentrated commercial feeding-stuff sold or offered for sale under the provisions of this act. Said secretary shall cause a sample to be taken, not exceeding two pounds in weight, for said analysis, from any lot or package of such commercial feeding-stuff which may be in the possession of any manufacturer, importer, agent, or dealer in this state; but said sample shall be drawn in the presence of the parties in interest, or their representatives, and taken from a parcel or a number of packages, which shall not be less than ten per centum of the whole lot sampled, and shall be thoroughly mixed, and then divided into two equal samples, and placed in glass vials and carefully sealed and a label placed on each stating the name of the party from whose stock the sample was drawn and the time and place of drawing, and said label shall also be signed by the person taking the sample, and by the party or parties in interest or their representatives at the drawing and sealing of said samples; one of said duplicate samples shall be retained by the secretary and the other by the party whose stock was sampled, and the sample or samples retained by the secretary shall be for comparison with the certified statement named in section 3 of this act. The result of the analysis of the sample or samples so procured, together with such additional information as circumstances advise, shall be published in reports or bulletins from time to time.

SECT. 6. Any manufacturer, importer, or person who shall sell, offer or expose for sale or for distribution in this state any concentrated commercial feeding-stuff, without complying with the requirements of this act, or any feeding-stuff which contains substantially a smaller percentage of the constituents than are certified to be contained, shall, on conviction in a court of competent jurisdiction, be fined not more than one hundred dollars for the first offense, and not more than two hundred dollars for each subsequent offense.

SECT. 7. Any person who shall adulterate any kind of meal or ground grain with milling or manufacturing offals, or any other substance whatever, for the purpose of sale, unless the true composition, mixture, or adulteration thereof is plainly marked or indicated upon the package containing the same or in which it is offered for sale; or any person who knowingly sells, or offers for sale, any meal or ground grain which has been so adulterated unless the true composition, mixture, or adulteration is plainly marked or indicated upon the package containing the same, or in which it is offered for sale, shall be fined not less than twenty-five or more than one hundred dollars for each offense.

SECT. 8. Whenever said secretary becomes cognizant of the violation of any of the provisions of this act he shall prosecute the party or parties thus reported; but it shall be the duty of said secretary, upon thus ascertaining any violation of this act, to forthwith notify the manufacturer, importer, or dealer in writing, and give him not less than thirty days thereafter in which to comply with the requirements of this article; but there shall be no prosecution in relation to the quality of any concentrated commercial feeding-stuff if the same shall be found substantially equivalent to the certified statement named in section 3 of this article.

SECT. 9. This act shall take effect December first, nineteen hundred and one.

## THE CONSTITUENTS OF FEEDING-STUFFS.

In the complete chemical analysis of a feeding-stuff the following determinations are made: moisture, ash, protein, fat, fibre, and nitrogen-free extract. The value of a feeding-stuff is generally based on the amount of protein and fat it contains. For that reason these two constituents are often the only ones determined. We are, however, beginning to realize that while the amount of protein and fat is important, at the same time the carbohydrates are also very important and in many classes of feeding-stuffs form the chief source of value.

### MOISTURE.

Water is present to some extent in all classes of feeds. The per cent in most cases varies between five and fifteen. The amount varies with the nature of the feed, the process of manufacture, and the manner of storage.

### ASH.

The ash of a feed is the residue left after burning off the organic matter. It represents the inorganic or mineral constituent of the plant. This part of the feed furnishes the material for the bones of the animal.

### CRUDE PROTEIN.

By crude protein is meant that portion of a feeding-stuff which contains nitrogen. Nitrogenous feeds build up muscular tissue and the proteins are of the greatest importance in determining the value of a feed. Most of the crude protein in the plant is found at the point of growth, or in the leaves and seeds.

### CRUDE FAT.

The term crude fat is rather arbitrarily used to include all the substances of the feed soluble in dry ether or similar solvents. They are the pure fats, such as cottonseed oil, linseed oil, etc., and the waxes, resins, chlorophyl, etc. These latter substances are generally so small in amount that for practical purposes the ether extract of a feed represents the amount of fat which it contains. The fats are readily digested and rank next to protein in value.

### FIBRE.

The crude fibre in a feeding-stuff is that portion which goes to make up the cell-walls and structural material of the plant. It is fairly indigestible and in general a *high* percentage of crude fibre indicates a *low-grade* feed.

### NITROGEN-FREE EXTRACT.

The nitrogen-free extract is that portion of the feed readily extracted by water or dilute acids and composed of non-nitrogenous materials. The principal substances included under the term are the starches and sugars.

### CARBOHYDRATES.

The term carbohydrates is sometimes used in speaking of feeding-stuffs. It is generally used to include both crude fibre and nitrogen-free extract. A feeding-stuff which contains small amounts of moisture, ash and crude fibre must be classed as high grade, if digestible. When these constituents are present in small amounts the total amount of the valuable constituents—protein, fat and nitrogen-free extract—must be high.

## THE VALUE OF A CHEMICAL EXAMINATION OF COMMERCIAL FEEDING-STUFFS.

The chemical analysis of feeding-stuffs is valuable in many ways, chief of which are the following:

1. It shows whether or not the guarantees of the manufacturer are correct.

2. It protects the buyer against the unscrupulous manufacturer or retailer.

3. It aids the buyer in deciding money values in purchasing feed.

4. It affords a clue as to the nature of the constituents of the feed.

5. It furnishes data for making up any desired feeding ration.

6. It enables the consumer to decide whether it is a useful feed for his particular purpose.

The following definitions are given for the use of the consumer and represent the terms used for the particular feeding-stuffs by the general trade:

## GENERAL DEFINITIONS.

### COTTONSEED MEAL.

Cottonseed meal is the meal obtained from the cottonseed kernel after the extraction of the oil. The following standard classification adopted by the Inter-State Cottonseed Crushers' Association will interest the buyer of cottonseed meal:

"*Choice cottonseed meal* must be finely ground, perfectly sound and sweet in odor, yellow, free from excess of lint, and by analysis must contain forty-nine per cent of combined protein and fat."

"*Prime cottonseed meal* must be finely ground, of sweet odor, reasonably bright in color, yellow, not brown or reddish, free from lint, and contain at least forty-six per cent of combined protein and fat."

"*Good cottonseed meal* must be finely ground, of sweet odor, reasonably bright in color, and by analysis must contain at least forty-three per cent of combined protein and fat."

### LINSEED MEAL.

Linseed meal, oil meal, or flaxseed meal is the ground residue from the extraction of oil from flaxseed. The oil is extracted by two processes, known as the old process and the new process. In the old process the oil is simply expressed from the seed by hydraulic pressure. In the new process naphtha or a similar solvent is used to extract the oil. On account of the extraction being more complete when a solvent is used, the new process generally contains less fat than the old process, while they contain about the same per cent protein.

### WHEAT PRODUCTS.

*Wheat bran* is the coarse outer covering of the wheat berry. It contains much of the fibrous material of the grain, but is rich in protein.

*Middlings or shorts.* These terms have generally the same meaning in the trade, and are the fine particles of the outer bran as well as considerable starchy matter. They are the intermediate product between bran and flour.

*Red dog* is a low-grade wheat flour containing the finer particles of bran.*

*Wheat mixed feed* or shipstuff is a mixture of the by-products from the milling of the wheat berry.*

*Mixed feed.* The term mixed feed has been so generally used to mean a mixture of wheat products that it is practically a misrepresentation to use the term to mean a mix-

ture of other cereals. A feed carrying less than fifteen per cent protein and four per cent fat cannot be a good mixed feed.

### CORN PRODUCTS.

*Corn bran* is the outer coating of the corn kernel.* It has a low feeding value.

*Corn and cob meal* is the ground whole ear of corn. In this case the cobs are not considered an adulterant.

*Gluten meal* is a product obtained in the manufacture of starch and glucose from corn. It is the flinty portion of the kernel which lies in its outer circumference just beneath the hull.*

*Gluten feed* is a product obtained in the manufacture of starch and glucose from corn and is a mixture of gluten meal and corn bran to which may be added the residue resulting from the evaporation of the so-called "steep water."*

*Corn feed meal* is the siftings obtained in the manufacture of cracked corn and table meal made from the whole grain.*

*Hominy meal, feed or chop* is the bran and germs of the corn kernel and may contain a part of the starchy portion of the kernel.*

### DISTILLERY AND BREWERY BY-PRODUCTS.

*Distillers' dried grains* are the dried residue from cereals obtained in the manufacture of alcohol and distilled liquors.*

*Brewers' dried grains* are dried barley grains after they have been malted and the soluble sugar and dextrin extracted.

*Malt sprouts* are the sprouts of the barley grain.*

MISCELLANEOUS PRODUCTS.

*Alfalfa meal* is the entire alfalfa hay ground and does not contain an admixture of ground alfalfa straw or other materials.*

*Meat meal* is finely ground beef scraps.*

*Buckwheat shorts or middlings* are that portion of the buckwheat grain immediately inside of the hull after separation from the flour.*

*Molasses feeds* are generally a mixture of some filler such as oat hulls, oat clippings, flax bran, or grain screenings with molasses and a concentrated feed, such as cottonseed meal, brewers' grains, or malt sprouts.

*Filler* is a term used to designate certain by-products generally of little feeding value used to give weight and bulk to concentrated feeds in the manufacture of compounded feeds. Among the materials commonly used as fillers are: ground corn cobs, peanut hulls, oat hulls, cotton seed hulls, grain screenings, flax plant stems and pods, rice hulls, etc. These materials are ground so fine that their presence is discovered only by careful examination, sometimes only with the aid of a microscope. Most fillers contain relatively small amounts of crude protein and crude fat and large amounts of crude fibre. The presence of a filler in some cases may actually decrease the value of the concentrates present.

*Compound feeds* are those feeds bearing trade names which are not descriptive in any way of the materials which have been used in their manufacture. They may contain any mixture of stock feed materials and therefore cannot be compared with standards of average composition. They often represent various industrial by-products such, for example, as are obtained in the manufacture of breakfast foods.

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* Definitions marked (*) are those adopted by the Association of Feed Control Officials of the United States.

## FEEDING-STUFFS INSPECTION AND ANALYSIS. 1914.

The samples of the various brands of feeding-stuffs for the 1914 inspection were collected by Mr. C. J. Bickford under the direction of the retiring State Board of Agriculture and the new Commissioner of Agriculture. In all 278 samples have been analyzed at the Experiment Station.

It has been the custom for the Experiment Station to analyze miscellaneous samples of feeding-stuffs without cost to the person sending the samples. This practice will be continued provided the person sending the samples will at the same time send the following information:

1. Name of the brand of feeding-stuff.
2. Name and address of the manufacturer.
3. Name and address of the dealer.
4. Guarantee under which feed is sold.
5. Number of bags sampled.
6. Number of bags in lot.

Until the above information can be obtained no analyses will be made.

In taking samples, equal representative portions should be drawn from at least six bags and thoroughly mixed. More bags should be sampled when large lots are involved. A pound of the mixture should be sent for analysis. Samples should be sent in a tight box or a pint fruit jar.

It is worthy of attention to note here at least one sharp practice of the feed trade. Some jobbers are selling their customers cotton seed meal guaranteed to carry 41 per cent. protein. When the meal arrives it is found to be guaranteed 38.62 to 43 per cent. protein. The guarantee bears the statement that a rebate of 50 cents per unit will be paid when the meal fails to meet the invoice guarantee. If the meal is accepted it must be accepted on a 41 per cent. basis, and the retailer is obliged to bear the inconvenience

and expense of having the meal analyzed. The practice is both unfair and sharp. The jobber buys the meal on a 38.62 per cent. basis and sells to the retailer on a 6.1 per cent. advance. If the jobber gets caught he simply pays the rebate and appears virtuous; if he does n't get caught he pockets the 6.1 per cent. profit. The ultimate consumer, the farmer, pays the bill. A matter of 6.1 per cent. means but little to the individual consumer but it aggregates a very large sum where the jobber handles thousands and thousands of tons of the meal. A good many of our dairymen are paying the price of 41 per cent. meal for meal guaranteed to carry only 38.62 per cent. protein. There seems to be no way to get at these exceedingly clever jobbers except through the consumer. There can be no obvious gain for the consumer to contribute 6.1 per cent. additional net profit to the jobber. In some instances it appears that the retailer is taking advantage of the consumer and is making the extra profit himself. The average consumer who reads the guarantee and "rebate" clause may not suspect that often the "invoice" guarantee to the retailer is higher than the guarantee on the tags. The retailer usually does n't care much because he simply adds commission to his cost. These facts are noted here so that the consumer of cotton seed meal may have an opportunity to know the game through which he is made a victim.

The brands of feeding-stuffs sampled the present year are not different from what have been found other years. There are many first-class products on the market and there seems to be no reason why the careful feeder cannot secure first class products for his purpose.

There are also certain very poor feeding-stuffs on the market. Most of these contain large quantities of crude fibre and small quantities of protein. It is doubtful if some of the products can be used profitably for any purpose. This must be true because of the low quality of the goods and the relatively high prices for which they are sold.

It is difficult to understand why a part of the consuming public will continue to purchase low grade feeds which have an unknown feeding value and pay almost, if not altogether, as high a price as must be paid for standard products which have a known feeding value. Freight rates and commissions are no less on oat hulls, corn cobs and sphagnum moss than on wheat feeds, brewers' and distillers' grains, cotton seed meal, etc. However, some very inferior products come on to our market year after year.

The writers wish to acknowledge the assistance rendered by Messrs. H. M. Eastman, M. H. Broggini, G. L. Ham, and A. J. Grant, in preparing the following analytical data.

| Name of Sample. | Manufactured by | Address. | Protein. | | Fat. | | Crude Fibre. | |
|---|---|---|---|---|---|---|---|---|
| | | | Found. | Guaranteed. | Found. | Guaranteed. | Found. | Guaranteed. |
| WHEAT FEEDS. | | | | | | | | |
| Trojan Middlings | Allen & Wheeler Co | Troy, Ohio | 17.16 | 15.00 | 5.00 | 4.00 | ..... | 6.00 |
| Trojan Mixed Feed | Allen & Wheeler Co | Troy, Ohio | 16.81 | 14.50 | 4.79 | 4.00 | ..... | 8.00 |
| Middlings | Ansted & Buck Co | Springfield, Ohio | 19.18 | 14.50 | 4.61 | 4.00 | ..... | 4.50 |
| Wm. Tell Bran | Ansted & Buck Co | Springfield, Ohio | 14.80 | 14.00 | 4.71 | 3.00 | ..... | 9.00 |
| Atlas Bran | Atlas Flour Mills Co | Milwaukee, Wis | 15.24 | 15.00 | 5.59 | 3.50 | 12.01 | 12.00 |
| Fancy Winter Mixed Feed | C. W. Bailey & Co | Montpelier, Vt | 16.99 | 16.00 | 4.89 | 3.70 | ..... | 8.50 |
| Fancy Low Grade Flour Middlings | Barber Milling Co | Minneapolis, Minn. | 18.04 | 18.00 | 4.21 | 5.00 | .91 | 4.00 |
| Winona Bran | Bay State Milling Co | Winona, Minn | 16.64 | 15.00 | 5.57 | 5.00 | ..... | 11.00 |
| Choice Bran | L. G. Campbell Milling Co | Owatonna, Minn | 16.55 | 13.40 | 5.38 | 4.50 | ..... | 12.20 |
| Commander Standard Middlings | Commander Mills | Minneapolis, Minn. | 17.43 | 15.00 | 6.06 | 4.00 | ..... | 9.00 |
| Pure Wheat Flour Middlings | Consolidated Milling Co | Minneapolis, Minn. | 18.48 | 15.50 | 5.81 | 4.50 | ..... | 6.00 |
| Bran (Winter Wheat) | Wm. A. Coombs Milling Co | Coldwater, Mich | 15.33 | 14.00 | 4.68 | 3.00 | ..... | ..... |
| Middlings (Winter Wheat) | Wm. A. Coombs Milling Co | Coldwater, Mich | 16.73 | 15.00 | 4.57 | 3.00 | 5.95 | ..... |
| Mixed Feed (Winter Wheat) | Wm. A. Coombs Milling Co | Coldwater, Mich | 16.99 | 16.00 | 5.44 | 3.00 | ..... | ..... |
| Monogram Fancy Bran | Chas. M. Cox Co | Boston, Mass | 15.50 | 15.00 | 5.31 | 4.00 | ..... | 10.00 |
| Wirthmore Middlings | Chas. M. Cox Co | Boston, Mass | 16.90 | 15.00 | 5.15 | 4.00 | ..... | 7.00 |
| Wirthmore Wheat Feed | Chas. M. Cox Co | Boston, Mass | 16.55 | 16.00 | 5.30 | 4.00 | ..... | 7.00 |
| Tiger Middlings | Detroit Milling Co | Detroit, Mich | 17.08 | 16.00 | 5.50 | 5.00 | ..... | ..... |
| Bran | Dominion Flour Mills Co | Montreal, Can | 16.81 | 15.00 | 5.87 | 4.75 | ..... | 11.00 |
| Boston Mixed Feed | Duluth Superior Milling Co | Duluth, Minn | 16.99 | 15.00 | 5.39 | 4.00 | 8.80 | 9.50 |
| Duluth Imperial Bran | Duluth Superior Milling Co | Duluth, Minn | 16.20 | 15.00 | 5.57 | 4.00 | 9.32 | 11.25 |
| Red Dog Flour Middlings | Duluth Superior Milling Co | Duluth, Minn | 18.39 | 17.00 | 6.14 | 4.50 | ..... | 4.00 |
| Bran and Screenings | B. A. Eckhart Milling Co | Chicago, Ill | 14.80 | 14.00 | 5.30 | 3.00 | 9.24 | ..... |
| E-A-Co Winged Horse Bran | Everett, Aughenbauck & Co | Waseca, Minn | 16.29 | 14.00 | 5.37 | 3.00 | ..... | 12.00 |
| E-A-Co Winged Horse Mixed Feed | Everett, Aughenbauck & Co | Waseca, Minn | 17.51 | 15.00 | 5.30 | 3.00 | 7.70 | 12.00 |
| Lucky Spring Bran | Federal Milling Co | Lockport, N. Y. | 15.85 | 15.00 | 5.52 | 4.50 | ..... | 11.00 |
| Sphinx Fancy Flour Middlings | Federal Milling Co | Lockport, N. Y. | 16.73 | 17.00 | 5.69 | 4.50 | ..... | 9.00 |
| Sphinx Fancy Mixed Feed | Federal Milling Co | Lockport, N. Y. | 16.64 | 15.50 | 5.38 | 4.00 | ..... | 9.00 |
| Grafton Mixed Feed | Grafton Roller Mill Co | Grafton, No. Dak. | 16.99 | 15.50 | 4.51 | 6.10 | ..... | 11.90 |
| Grafton Wheat Feed | Grafton Roller Mill Co | Grafton, No. Dak. | 16.64 | 15.40 | 5.29 | 4.50 | ..... | 9.30 |
| Xtragood Mixed Feed | Griswold & Mackinnon | St. Johnsbury, Vt. | 19.26 | 16.00 | 5.12 | 4.00 | ..... | 7.00 |

| WHEAT FEEDS.—*Continued.* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Red Dog Flour | The Gwinn Milling Co | Columbus, Ohio | 20.40 | ..... | 3.98 | ..... | 2.41 | ..... |
| Wheat Bran | The Gwinn Milling Co | Columbus, Ohio | 16.38 | 15.70 | 4.33 | 4.40 | ..... | 1.80 |
| Wheat Middlings | The Gwinn Milling Co | Columbus, Ohio | 17.08 | 17.00 | 5.70 | 4.00 | ..... | 8.00 |
| Hecker's Standard Middlings | Hecker-Jones-Jewell Milling Co. | Buffalo, N. Y. | 17.86 | 16.00 | 6.99 | 5.50 | 8.53 | 8.00 |
| Purity Mixed Feed | The Wm. S. Hills Co | Boston, Mass. | 16.90 | 15.00 | 5.67 | 4.00 | ..... | 10.00 |
| Ben-Hur Flour Middlings | Hennepin Mill Co | Minneapolis, Minn. | 18.13 | 17.00 | 5.57 | 5.00 | ..... | 6.00 |
| Pure Wheat Middlings | John Hoffer Flouring Mill Co. | Steelton, Pa. | 17.16 | ..... | 3.95 | ..... | ..... | ..... |
| Robin Hood Bran | Robbin Hood Mills, Ltd. | Canada | 16.25 | 16.25 | 5.38 | 5.20 | ..... | 9.80 |
| Vixen Flour Middlings | E. C. & W. L. Hopkins (Agt.) | Greenfield, N. H. | 20.49 | ..... | 3.96 | ..... | ..... | ..... |
| Pure Flaky Bran | Hubbard Milling Co | Mankato, Minn. | 16.38 | 15.00 | 5.80 | 4.80 | ..... | 11.50 |
| Standard Fine Middlings | Hubbard Milling Co | Mankato, Minn. | 16.90 | 14.50 | 6.22 | 5.10 | ..... | 10.00 |
| Sunshine Mixed Feed | Hunter-Robinson-Wing Mill. Co | St. Louis, Mo. | 15.85 | 14.50 | 4.45 | 4.00 | 7.12 | 2.06 |
| Jenks White Middlings | The Huron Milling Co | Harbor Beach, Mich. | 14.19 | 13.00 | 3.43 | 3.50 | ..... | 2.50 |
| Standard Spring Wheat Bran and Mill Run Screenings | Indiana Milling Co | Terre Haute, Ind. | 16.51 | 14.00 | 5.31 | 4.00 | ..... | 11.00 |
| Paleface Bran | Kehlor Flour Mills Co | St. Louis, Mo. | 17.08 | 14.00 | 4.56 | 3.50 | 5.88 | 10.00 |
| Anchor Mixed Feed | Kemper Mill & Elevator Co | Kansas City, Mo. | 16.11 | 16.00 | 4.91 | 4.00 | ..... | 10.00 |
| Carnation Gray Middlings | Kemper Mill & Elevator Co | Kansas City, Mo. | 19.26 | 16.00 | 5.48 | 4.30 | ..... | 6.00 |
| Buckwheat Middlings | Larrowe Milling Co | Detroit, Mich. | 11.91 | ..... | 2.00 | ..... | 25.08 | ..... |
| Snow Flake Mixed Feed | Lawrenceburg Roller Mills Co. | Lawrenceburg, Ind. | 17.43 | 15.20 | 4.26 | 4.30 | ..... | 8.00 |
| Elmco Fancy Bran | Listman Mill Co | La Crosse, Wis. | 15.94 | 15.80 | 4.91 | 4.72 | ..... | 8.43 |
| Waseo Bran | Lyon & Greenleaf | Wauseon, Ohio. | 14.80 | 14.50 | 5.15 | 4.00 | ..... | 9.50 |
| Waseo Middlings | Lyon & Greenleaf | Wauseon, Ohio. | 16.99 | 16.00 | 5.49 | 4.00 | ..... | 6.00 |
| Waseo Mixed Feed | Lyon & Greenleaf | Wauseon, Ohio. | 15.06 | 15.00 | 5.28 | 4.00 | ..... | 8.00 |
| Wheat Bran | J. G. Lysle Milling Co | Leavenworth, Kan. | 14.71 | 15.00 | 4.23 | 4.00 | ..... | 10.00 |
| Flour Middlings | Medelia Roller Mills C. S. Christensen Co | Madelia, Minn. | 16.85 | 14.25 | 5.59 | 3.00 | ..... | 5.35 |
| Bran | Maple Leaf Milling Co | Canada | 14.89 | ..... | 5.22 | ..... | ..... | ..... |
| Rex Middlings | Maple Leaf Milling Co | Canada | 16.73 | 16.00 | 5.58 | 5.50 | ..... | 10.00 |
| Brooks' Fancy Mixed Feed | A. H. McLeod Milling Co | St. Johnsbury, Vt. | 17.18 | 16.00 | 5.34 | 4.00 | ..... | 8.00 |
| Frese Ground Mixed Feed | Geo. O. Moon & Co | Binghampton, N. Y. | 16.81 | 16.50 | 5.36 | 5.00 | 8.89 | 7.00 |
| Mystic Bran | Mystic Milling Co | Sioux City, Iowa | 15.85 | 14.00 | 4.89 | 4.50 | ..... | 15.00 |
| Osota Pure Wheat Bran and Pure Wheat Middlings | National Milling Co | Toledo, Ohio | 17.08 | 17.00 | 5.00 | 4.50 | ..... | 8.00 |
| Pennant Mixed Feed | National Milling Co | Toledo, Ohio | 17.41 | 16.00 | 4.82 | 3.75 | ..... | 8.50 |
| Pure Wheat Bran | National Milling Co | Toledo, Ohio | 16.11 | 16.50 | 5.36 | 5.50 | 11.42 | 12.50 |
| Hiawatha, Special Mixed Feed | New England Flour Co | Boston, Mass. | 16.87 | 15.00 | 5.21 | 3.00 | ..... | 10.00 |
| Powerful, Standard Bran | New England Flour Co | Boston, Mass. | 14.10 | 14.00 | 5.83 | 3.00 | ..... | 12.00 |
| Seal of Minnesota Bran | New Prague Flouring Mills Co. | New Prague, Mo. | 14.94 | 14.60 | 5.58 | 4.76 | 10.85 | 11.00 |

| Name of Sample. | Manufactured by | Address. | Protein. | | Fat. | | Crude Fibre. | |
|---|---|---|---|---|---|---|---|---|
| | | | Found. | Guaranteed. | Found. | Guaranteed. | Found. | Guaranteed. |
| WHEAT FEEDS.—*Continued.* | | | | | | | | |
| Low Grade Flour Middlings | Niagara Falls Milling Co | Niagara Falls, N. Y. | 16.20 | 16.00 | 3.85 | 3.00 | 1.45 | 1.25 |
| Bran | Northwestern Consol. Mill. Co., | Minneapolis, Minn. | 16.64 | 14.50 | 5.62 | 4.00 | ..... | 11.00 |
| Flour Middlings | Northwestern Consol. Mill. Co.. | Minneapolis, Minn. | 16.38 | 15.50 | 6.20 | 4.50 | ..... | 6.00 |
| Middlings | Northwestern Consol. Mill. Co.. | Minneapolis, Minn. | 15.41 | 15.00 | 6.02 | 4.50 | ..... | 10.00 |
| Mixed Feed | Northwestern Consol. Mill. Co.. | Minneapolis, Minn. | 17.43 | 15.00 | 5.75 | 4.00 | ..... | 10.00 |
| Planet Feed | Northwestern Consol. Mill. Co.. | Minneapolis, Minn. | 17.51 | 15.00 | 5.99 | 4.00 | 6.70 | 8.00 |
| XXX Comet | Northwestern Consol. Mill. Co.. | Minneapolis, Minn. | 18.04 | 16.50 | 6.43 | 4.00 | ..... | 3.00 |
| Pillsbury's Bran | Pillsbury Milling Co | Minneapolis, Minn. | 15.76 | 14.50 | 6.12 | 4.00 | 10.80 | 11.00 |
| Pillsbury's Fancy Mixed Feed | Pillsbury Milling Co | Minneapolis, Minn. | 17.25 | 16.00 | 5.14 | 4.50 | ..... | 8.00 |
| B Middlings | Pillsbury Milling Co | Minneapolis, Minn. | 15.85 | 15.00 | 5.24 | 4.00 | ..... | 8.00 |
| Pillsbury XX Daisy | Pillsbury Milling Co | Minneapolis, Minn. | 17.51 | 10.00 | 4.84 | 4.00 | ..... | 4.00 |
| Normal, Flour Middlings | C. Plummer (Agent) | E. Jaffrey, N. H.. | 17.86 | ..... | 4.76 | ..... | ..... | ..... |
| Champion Mixed Feed | Portland Milling Co | Portland, Mich | 16.99 | 13.56 | 5.03 | 8.47 | 6.37 | 3.58 |
| Middlings | Porter & Co | Winona, Minn | 16.55 | 15.00 | 6.42 | 4.50 | ..... | 10.00 |
| Wheat Bran | Postum Cereal Co., Ltd | Battle Creek, Mich. | 15.68 | 15.00 | 4.01 | 2.00 | ..... | 24.00 |
| Bran | C. D. Prescott (Agent) | Greenville, N. H... | 15.59 | ..... | 4.61 | ..... | 10.03 | ..... |
| Bell Cow Middlings | Quaker Oats Co | Chicago, Ill | 16.20 | 15.30 | 5.77 | 5.50 | ..... | 7.60 |
| Buckeye Mixed Feed | Quaker Oats Co | Chicago, Ill | 19.00 | 15.50 | 5.57 | 4.50 | ..... | 8.50 |
| Middlings | A. H. Randall Mill Co | Tekonsha, Mich | 16.64 | 14.00 | 4.96 | 5.00 | ..... | 3.50 |
| Bran | Russell-Miller Milling Co | Minneapolis, Minn. | 15.85 | 13.00 | 5.27 | 4.00 | ..... | 11.00 |
| Occident Wheat Feed | Russell-Miller Milling Co | Minneapolis, Minn. | 18.48 | 15.00 | 5.81 | 4.50 | 6.81 | 10.00 |
| Regular Wheat Feed | Russell Flour Co | Albany, N. Y | 17.16 | 15.00 | 5.48 | 4.50 | ..... | 10.00 |
| Standard Middlings | Russell-Miller Milling Co | Minneapolis, Minn. | 17.25 | 15.00 | 6.09 | 4.00 | ..... | 9.00 |
| Gold Mine Wheat Feed | Sheffield-King Milling Co | Minneapolis, Minn. | 17.08 | 15.90 | 5.55 | 4.80 | ..... | 8.80 |
| Shredded Wheat Waste | The Shredded Wheat Co | Niagara Falls, N. Y. | 12.61 | 10.00 | 2.16 | 1.50 | ..... | 2.00 |
| Rich Bran or Mill Run | Standard-Tilton Milling Co | St. Louis, Mo | 16.73 | 14.00 | 4.85 | 4.00 | 7.67 | ..... |
| Star Wheat Bran | Star & Crescent Milling Co | Chicago, Ill | 16.11 | 15.00 | 5.17 | 4.00 | ..... | 10.00 |
| Wheat Middlings | F. W. Stock & Sons | Hillsdale, Mich | 16.55 | 15.00 | 6.62 | 4.00 | ..... | 8.00 |
| Winter Wheat Bran | F. W. Stock & Sons | Hillsdale, Mich | 15.33 | 15.00 | 4.39 | 4.00 | ..... | 10.00 |
| Superior Wheat Feed | F. W. Stock & Sons | Hillsdale, Mich | 16.55 | 16.00 | 5.10 | 4.50 | ..... | 7.00 |
| Try-Me Mixed Feed | Sparks Milling Co | Alton, Ill | 16.55 | 16.00 | 4.62 | 3.50 | ..... | 8.00 |

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| WHEAT FEEDS.—*Continued.* | | | | | | | | |
| Fine White Middlings | David Stott | Detroit, Mich. | 15.85 | 16.00 | 4.30 | 5.00 | ..... | 6.00 |
| Heavy Mixed Feed | David Stott | Detroit, Mich. | 16.64 | 16.00 | 5.00 | 4.00 | ..... | 9.00 |
| Honest Mixed Feed | David Stott | Detroit, Mich. | 17.34 | 16.50 | 5.06 | 5.00 | ..... | ..... |
| Pennant Middlings | David Stott | Detroit, Mich. | 17.51 | 17.00 | 5.11 | 5.50 | ..... | 7.00 |
| Stott's Pure Spring Wheat Bran | David Stott | Detroit, Mich. | 16.46 | 10.00 | 4.93 | 4.00 | ..... | 10.00 |
| Stag Flour | David Stott | Detroit, Mich. | 15.00 | 15.00 | 2.38 | 1.50 | ..... | 3.00 |
| Middlings | Stratton & Co | Concord, N. H. | 15.76 | 16.20 | 4.80 | 4.26 | ..... | 6.50 |
| Mill Bran | Stratton & Co | Concord, N. H. | 16.55 | ..... | 4.66 | ..... | ..... | ..... |
| Mixed Feed | Stratton & Co | Concord, N. H. | 14.19 | 14.00 | 4.77 | 4.00 | 7.09 | 9.00 |
| Chippewa Fancy Middlings | Traders & Producers Supply Co. | Buffalo, N. Y. | 16.99 | 16.00 | 5.22 | 5.50 | ..... | 10.00 |
| Wheat Bran | Union Mill Co | Cedar Falls, Iowa. | 14.71 | 14.00 | 5.50 | 4.00 | 9.98 | 10.50 |
| Farmers' Favorite Cow Feed | Valley City Milling Co | Grand Rapids, Mich. | 17.33 | 14.18 | 4.98 | 4.25 | 7.71 | 7.50 |
| Farmers' Favorite Middlings | Valley City Milling Co | Grand Rapids, Mich. | 15.94 | 15.50 | 4.99 | 4.25 | 5.92 | 5.50 |
| Vimco Winter Wheat Bran | Valley City Milling Co | Grand Rapids, Mich. | 16.55 | 14.38 | 5.31 | 5.00 | ..... | 10.00 |
| Middlings | Voigt Milling Co | Grand Rapids, Mich. | 15.59 | ..... | 4.84 | ..... | ..... | ..... |
| Mixed Feed | Voigt Milling Co | Grand Rapids, Mich. | 16.55 | 16.50 | 4.78 | 5.50 | ..... | 5.00 |
| Pure Bran | Voigt Milling Co | Grand Rapids, Mich. | 17.69 | 17.00 | 4.58 | 6.50 | ..... | 7.50 |
| Adrian Red Dog Flour Middlings | Washburn-Crosby Co | Minneapolis, Minn. | 19.18 | 17.00 | 6.21 | 5.00 | ..... | 4.00 |
| Coarse Bran | Washburn-Crosby Co | Minneapolis, Minn. | 14.63 | 14.50 | 5.95 | 4.00 | ..... | 11.00 |
| Flour Middlings | Washburn-Crosby Co | Minneapolis, Minn. | 17.43 | 17.00 | 5.20 | 5.00 | ..... | 6.00 |
| Standard Pure Hard Wheat Middlings | Washburn-Crosby Co | Minneapolis, Minn. | 16.73 | 15.00 | 6.00 | 4.00 | 6.19 | 5.50 |
| Wheat Bran with Ground Screenings | Washburn-Crosby Co | Minneapolis, Minn. | 16.64 | 14.50 | 5.81 | 4.00 | 10.73 | 11.00 |
| Wheat Superior Mixed Feed | Washburn-Crosby Co | Minneapolis, Minn. | 16.46 | 16.00 | 5.69 | 4.50 | ..... | 9.00 |
| Bran | Webster Mill Co | Webster, So. Dak. | 16.11 | 15.10 | 5.46 | 4.60 | ..... | 11.70 |
| Mixed Feed | Webster Mill Co | Webster, So. Dak. | 16.73 | 15.30 | 5.89 | 4.80 | ..... | 10.40 |
| Bran | Western Canada Flouring Mills Co. | | 16.64 | 16.82 | 5.42 | 5.50 | ..... | 10.86 |
| Kent Mixed Feed | The Williams Bros. Co | Kent, Ohio | 14.28 | 12.00 | 3.87 | 2.00 | 6.63 | 8.00 |
| COTTON SEED MEAL. | | | | | | | | |
| Red Tag Cottonseed Meal | American Cotton Oil Co | Clarksdale, Miss. | 39.69 | 38.55 | 9.11 | 7.00 | ..... | 11.50 |
| Cottonseed Meal | American Oil Co | Americus, Ga. | 39.84 | ..... | 7.18 | ..... | ..... | ..... |
| Cub Prime Cottonseed Meal | F. W. Brode & Co | Memphis, Tenn. | 39.76 | 40.00 | 8.02 | 6.00 | ..... | 10.00 |
| Dove, High-grade Cottonseed Meal | F. W. Brode & Co | Memphis, Tenn. | 38.70 | 38.63 | 8.35 | 6.00 | ..... | 10.00 |
| Owl High-grade Cottonseed Meal | F. W. Brode & Co | Memphis, Tenn. | 42.73 | 41.00 | 9.03 | 6.00 | ..... | 10.00 |
| Buckeye Prime Cottonseed Meal | Buckeye Cotton Oil Co | Cincinnati, O. | 39.03 | 38.50 | 8.49 | 6.50 | ..... | 10.00 |
| Old Gold High Grade Cottonseed Meal | T. H. Bunch Commission Co | Little Rock, Ark. | 40.19 | 38.62 | 7.52 | 6.00 | ..... | 8.00 |

| Name of Sample. | Manufactured by | Address. | Protein. | | Fat. | | Crude Fibre. | |
|---|---|---|---|---|---|---|---|---|
| | | | Found. | Guaranteed. | Found. | Guaranteed. | Found. | Guaranteed. |
| COTTON SEED MEAL.—*Cont'd.* | | | | | | | | |
| Good Luck Cottonseed Meal | S. P. Davis | Little Rock, Ark. | 41.70 | 41.00 | 10.50 | 7.00 | ..... | 10.50 |
| Medium Grade Cottonseed Meal | Enterprise Cotton Oil Co. | | 39.84 | ..... | 8.37 | ..... | 8.47 | ..... |
| Dixie Cottonseed Meal | Humphreys-Godwin Co. | Memphis, Tenn. | 42.12 | 38.62 | 7.12 | 6.00 | ..... | 8.00 |
| Forfat Cottonseed Meal | Humphreys-Godwin Co. | Memphis, Tenn. | 38.87 | 38.62 | 8.94 | 6.00 | 11.11 | 8.00 |
| Peacock Cottonseed Meal | Keeton-McArthur Co. | Atlanta, Ga. | 39.93 | 41.00 | 6.73 | 6.00 | ..... | 10.00 |
| Pilgrim Cottonseed Meal | J. E. Soper & Co. | Boston, Mass. | 40.89 | 38.50 | 7.75 | 5.00 | ..... | 10.00 |
| Pioneer Cottonseed Meal | J. E. Soper & Co. | Boston, Mass. | 42.99 | 41.00 | 7.71 | 7.00 | ..... | 10.00 |
| Cottonseed Meal | Stratton & Co. | Concord, N. H. | 28.68 | ..... | 6.64 | ..... | ..... | ..... |
| Creamo Cottonseed Meal | Stratton & Co. | Concord, N. H. | 37.83 | 20.00 | 6.37 | 5.00 | ..... | ..... |
| Cottonseed Meal | Stratton & Co. | Concord, N. H. | 42.64 | ..... | 6.50 | ..... | ..... | ..... |
| HOMINY FEEDS. | | | | | | | | |
| Homco Feed | American Hominy Co. | Indianapolis, Ind. | 11.12 | 9.50 | 8.22 | 7.00 | 5.34 | 7.00 |
| Hiquality Hominy Feed | Donahue-Stratton Co. | Milwaukee, Wis. | 10.42 | 10.00 | 7.62 | 7.00 | ..... | 7.00 |
| Buffeco Hominy Feed | Buffalo Cereal Co. | Buffalo, N. Y. | 10.86 | 10.00 | 6.30 | 7.00 | ..... | 3.00 |
| Hominy Meal | Chas. M. Cox Co. | Boston, Mass. | 10.68 | 9.50 | 8.13 | 7.50 | 5.02 | 5.00 |
| Paragon Hominy Feed | Chas. M. Cox Co. | Boston, Mass. | 10.59 | 10.50 | 6.89 | 7.50 | ..... | ..... |
| Badger Hominy Feed | Chas. A. Krause Milling Co. | Milwaukee, Wis. | 11.99 | 10.00 | 6.79 | 6.00 | 5.33 | 5.00 |
| Hominy Feed | The Patent Cereals Co. | Geneva, N. Y. | 11.73 | 10.00 | 6.62 | 7.00 | 4.39 | 4.00 |
| Yellow Hominy Feed | The Quaker Oats Co. | Chicago, Ill. | 10.24 | 9.00 | 7.19 | 4.00 | 4.50 | 4.00 |
| Blue Ribbon Hominy Chop | J. E. Soper Co. | Boston, Mass. | 10.42 | 10.00 | 6.81 | 6.00 | 4.77 | 5.00 |
| MOLASSES FEEDS. | | | | | | | | |
| Sucrene Dairy Feed | American Milling Co. | Peoria, Ill. | 16.55 | 16.50 | 5.93 | 3.50 | 12.71 | 12.00 |
| Climax Feed | International Sugar Feed Co. | Minneapolis, Minn. | 14.45 | 12.50 | 5.79 | 3.50 | 11.80 | 12.00 |
| Special Dairy Feed | International Sugar Feed Co. | Minneapolis, Minn. | 15.17 | 15.00 | 6.33 | 3.50 | 12.98 | 12.00 |
| Molassine Meal | The Molassine Co., Ltd. | London, Eng. | 7.09 | 7.00 | 1.77 | .75 | 6.80 | 7.00 |
| Quaker Dairy Molasses Feed | The Quaker Oats Co. | Chicago, Ill. | 15.06 | 16.00 | 4.47 | 3.50 | 13.86 | 12.00 |
| Purina Molasses Feed | Ralston Purina Co. | St. Louis, Mo. | 9.81 | 9.00 | 3.05 | 1.50 | 10.81 | 12.00 |
| POULTRY FEEDS. | | | | | | | | |
| Egg Mash | Blatchfords Calf Meal Factory. | Waukegan, Ill. | 17.08 | 9.00 | 5.06 | 4.00 | 9.89 | 10.00 |

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|---|---|---|---|---|---|---|---|
| POULTRY FEEDS.—*Continued.* | | | | | | | |
| Wirthmore Poultry Feed | Chas. M. Cox Co. | Boston, Mass. | 18.21 | 17.00 | 3.79 | 4.00 | 5.87 | 9.50 |
| Queen Poultry Mash | The Albert Dickinson Co. | Chicago, Ill. | 11.21 | 11.60 | 3.75 | 2.50 | 5.18 | 10.00 |
| Fish Mash | Greene Chicken Feed Co. | Marblehead, Mass. | 16.81 | 12.00 | 7.53 | 3.00 | ..... | ..... |
| Meat Mash | Greene Chicken Feed Co. | Marblehead, Mass. | 14.98 | 12.00 | 5.82 | 3.00 | 7.22 | 7.00 |
| Hen-o-la Dry Mash | Hen-e-ta Bone Co. | Blairsville, Pa. | 12.43 | 12.00 | 3.53 | 2.00 | 3.58 | 3.00 |
| Purity Poultry Mash | The Wm. S. Hills Co. | Boston, Mass. | 19.14 | 17.00 | 6.38 | 4.00 | 6.24 | 8.00 |
| Hoods Dry Mash | H. P. Hood & Son | Derry, N. H. | 20.31 | 18.00 | 5.72 | 5.00 | 7.92 | ..... |
| Poultry Mash | McQuestion & Lewis | Manchester, N. H. | 18.11 | 11.00 | 4.82 | 2.50 | 8.47 | 7.00 |
| Dry Mash | Park & Pollard Co. | Boston, Mass. | 18.36 | 18.00 | 4.43 | 3.50 | 6.82 | 12.00 |
| Growing Feed | Park & Pollard Co. | Boston, Mass. | 15.24 | 10.00 | 3.96 | 3.50 | 8.63 | 8.00 |
| Chicken Chowder | Purina Mills | St. Louis, Mo. | 17.01 | 17.00 | 5.44 | 3.00 | 8.68 | 9.00 |
| Quaker Poultry Mash | The Quaker Oats Co. | Chicago, Ill. | 17.31 | 17.50 | 5.36 | 4.00 | 6.90 | 10.00 |
| Dry Mash | Stratton & Co. | Concord, N. H. | 20.00 | 18.00 | 4.11 | 3.50 | 10.89 | 9.00 |
| Oat Feed | Robin Hood Mills, Ltd. | Canada | 5.60 | 7.00 | 2.79 | 3.00 | 23.35 | 30.00 |
| Ground Oats | J. Cushing & Co. | Fitchburg, Mass. | 13.49 | ..... | 5.20 | ..... | 8.25 | ..... |
| COMPOUNDED FEEDS. | | | | | | | |
| Milk Mash | Blatchford's Calf Meal Factory. | Waukegan, Ill. | 19.41 | 20.00 | 5.17 | 4.00 | ..... | 7.50 |
| Unicorn Dairy Ration | Chapin & Co. | Hammond, Ind. | 29.33 | 26.00 | 7.46 | 5.50 | 10.05 | 10.00 |
| Empire State Dairy Feed | Clark Bros. & Co. | Peoria, Ill. | 31.18 | 30.00 | 11.60 | 12.00 | 11.30 | 9.00 |
| Peerless Dairy Ration | Clover Leaf Milling Co. | Buffalo, N. Y. | 22.33 | 21.00 | 5.39 | 7.00 | 9.36 | 9.00 |
| Wirthmore Balanced Ration for Milch Cows | Chas. M. Cox Co. | Boston, Mass. | 25.57 | 25.50 | 5.74 | 5.20 | 8.90 | 9.08 |
| Wirthmore Stock Feed | Chas. M. Cox Co. | Boston, Mass. | 10.68 | 9.00 | 6.26 | 4.00 | 8.54 | 7.00 |
| Corn and Oat Feed | S. A. Dow | No. Hampton, N. H. | 11.03 | ..... | 4.31 | ..... | 3.97 | ..... |
| Empire Feed | Empire Mills | Oleon, N. Y. | 9.37 | 7.50 | 4.98 | 3.00 | 7.37 | 9.00 |
| Provender | Fowler Bros. | Suncook, N. H. | 9.98 | ..... | 4.56 | ..... | 4.32 | ..... |
| Grendin's Stock Feed | D. R. Grendin Milling Co. | Jamestown, N. Y. | 9.02 | 8.50 | 5.00 | 3.50 | 11.30 | 10.00 |
| Xtragood Stock Feed | Griswold & Mackinnon | St. Johnsbury, Vt. | 11.21 | 10.00 | 3.84 | 3.25 | 4.18 | ..... |
| Dairy Feed | The Gwinn Milling Co. | Columbus, Ohio | 16.20 | 16.00 | 5.24 | 4.00 | 6.81 | 7.00 |
| Yellow Feed Meal | The Gwinn Milling Co. | Columbus, Ohio | 9.28 | ..... | 4.24 | ..... | 1.87 | ..... |
| Haskell's Stock Feed | W. A. Haskell & Co. | Toledo, Ohio | 9.46 | 8.00 | 7.08 | 4.00 | 9.70 | 6.00 |
| Purity Horse Feed | The Wm. S. Hills Co. | Boston, Mass. | 9.63 | 8.50 | 4.34 | 3.00 | 8.21 | 5.00 |
| Purity Milk Maker | The Wm. S. Hills Co. | Boston, Mass. | 22.68 | 24.00 | 8.12 | 8.00 | ..... | 9.00 |
| Purity Stock Feed | The Wm. S. Hills Co. | Boston, Mass. | 17.25 | 10.00 | 5.81 | 3.25 | 13.60 | 9.00 |
| Re-ground Oat Feed Mill-Run | Robin Hood Mills | Moos Jaw, Sask. | 6.31 | 7.00 | 2.51 | 3.50 | 27.65 | 30.00 |
| Provender | E. C. & W. L. Hopkins | Greenfield, N. H. | 14.71 | ..... | 3.93 | ..... | 3.87 | ..... |
| Imperial Steam and Cooked Feed | The Imperial Grain & Milling Co. | Toledo, Ohio | 9.60 | 9.50 | 4.60 | 4.00 | 5.00 | 4.00 |
| Regal Stock Feed | The Imperial Grain & Milling Co. | Toledo, Ohio | 8.67 | 8.00 | 3.33 | 3.50 | 11.90 | 13.00 |
| Holstein Feed | Indiana Milling Co. | Terre Haute, Ind. | 12.17 | 12.00 | 4.09 | 3.00 | 13.86 | 14.00 |

| Name of Sample. | Manufactured by | Address. | Protein. | | Fat. | | Crude Fibre. | |
|---|---|---|---|---|---|---|---|---|
| | | | Found. | Guaranteed. | Found. | Guaranteed. | Found. | Guaranteed. |
| COMPOUNDED FEEDS.—*Cont'd.* | | | | | | | | |
| Larro-Feed. The Ready Ration.. | The Larrowe Milling Co..... | Detroit, Mich..... | 20.84 | 19.00 | 4.98 | 3.00 | 13.44 | 14.00 |
| Brooks Fancy Stock Feed..... | A. H. McLeod Milling Co..... | St. Johnsbury, Vt.. | 9.63 | 9.00 | 3.54 | 3.00 | ..... | 7.50 |
| Blue Ribbon Dairy Feed..... | The Quaker Oats Co..... | Chicago, Ill..... | 25.74 | 25.00 | 5.54 | 4.00 | 10.93 | 9.00 |
| Daisy Dairy Feed..... | The Quaker Oats Co..... | Chicago, Ill..... | 16.03 | 10.00 | 5.48 | 3.50 | 11.09 | 14.50 |
| Schumacher Stock Feed..... | The Quaker Oats Co..... | Chicago, Ill..... | 10.24 | 10.00 | 3.68 | 3.25 | 10.31 | 10.00 |
| Purina Dairy Feed..... | Ralston Purina Co..... | St. Louis, Mo..... | 16.90 | 16.50 | 3.42 | 3.00 | 20.22 | 15.00 |
| Winner Feed..... | David Stott..... | Detroit, Mich..... | 10.68 | 9.00 | 6.50 | 5.00 | 6.46 | 10.00 |
| Winner Chop Feed..... | David Stott..... | Detroit, Mich..... | 9.87 | 8.00 | 6.40 | 5.00 | 6.30 | 10.00 |
| Provender ..... | Stratton & Co..... | Concord, N. H..... | 10.86 | ..... | 4.58 | ..... | 4.92 | ..... |
| Stock Feed ..... | Stratton & Co..... | Concord, N. H..... | 10.42 | 9.00 | 5.13 | 4.00 | 11.03 | 9.00 |
| Star Feed ..... | The Toledo Elevator Co..... | Indianapolis, Ind.. | 8.64 | 7.00 | 6.18 | 5.50 | 11.85 | 10.00 |
| Blue Grass Feed..... | A. Waller & Co..... | Henderson, Ky.... | 16.90 | 16.50 | 3.42 | 3.00 | 20.22 | 15.00 |
| Hammond Dairy Feed..... | Western Grain Products Co.... | Hammond, Ind.... | 17.08 | 16.50 | 5.63 | 3.50 | ..... | 11.00 |
| Hammond Horse Feed..... | Western Grain Products Co... | Hammond, Ind.... | 14.98 | 12.00 | 5.08 | 2.80 | 10.85 | 11.00 |
| ALFALFA MEALS. | | | | | | | | |
| Cub Alfalfa ..... | Joseph Breck & Sons..... | Boston, Mass. .... | 12.78 | 12.00 | 2.96 | 1.00 | ..... | 30.00 |
| Pure Alfalfa Meal..... | The Consolidated Alfalfa Milling Co. | Newton, Kans..... | 14.10 | 14.00 | 3.23 | 1.20 | ..... | 33.00 |
| Alfalfa Meal..... | The Albert Dickinson Co..... | Chicago, Ill..... | 15.00 | 12.00 | 3.08 | 1.00 | ..... | 35.00 |
| Pioneer Alfalfa Meal..... | Kornfalfa Feed Milling Co.... | Kansas City, Mo... | 15.85 | 12.00 | 2.46 | 1.50 | ..... | 35.00 |
| Pure Dustless Alfalfa Meal..... | The Otto Weiss Alfalfa Stock Food Co..... | Wichita, Kan..... | 16.64 | 14.00 | 2.43 | 1.50 | ..... | 30.00 |
| CALF MEALS. | | | | | | | | |
| Blatchford's Calf Meal..... | The Blatchford Calf Meal Factory | Waukegan, Ill..... | 23.99 | 24.00 | 5.30 | 5.00 | 5.82 | 5.00 |
| Schumacher Calf Meal..... | The Quaker Oats Co..... | Chicago, Ill..... | 20.93 | 19.00 | 7.63 | 8.00 | 1.40 | 3.00 |
| BEET PULPS. | | | | | | | | |
| Dried Beet Pulp..... | Menominee River Sugar Co.... | Menominee, Mich.. | 8.32 | 8.00 | .75 | .50 | ..... | 20.00 |
| Dried Beet Pulp..... | Michigan Sugar Co..... | Alma, Mich..... | 8.32 | 8.00 | 1.39 | .50 | 18.20 | 20.00 |
| Dried Beet Pulp..... | Michigan Sugar Co..... | Caro, Mich..... | 8.14 | 8.00 | 1.46 | .50 | ..... | 20.00 |
| Dried Beet Pulp..... | Michigan Sugar Co..... | Saginaw, Mich.... | 8.38 | 8.00 | 1.50 | .50 | ..... | 20.00 |

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| BEET PULPS—*Continued* | | | | | | | | |
| Dried Beet Pulp | Michigan Sugar Co | Schewaing, Mich | 8.58 | 8.00 | 1.03 | .50 | 17.50 | 20.00 |
| Dried Beet Pulp | The Toledo Sugar Co | Toledo, Ohio | 9.54 | 8.00 | 1.29 | .50 | ..... | 20.00 |
| Dried Beet Pulp | West Bay City Sugar Co | Bay City, Mich | 8.14 | 8.00 | 1.68 | .50 | ..... | 20.00 |
| DISTILLERS' GRAINS. | | | | | | | | |
| Ajax Falkes | Ajax Milling & Feed Co | New York, N. Y | 30.38 | 30.00 | 16.03 | 11.00 | ..... | 14.00 |
| Brewers' Dried Grains | Farmers' Grain & Feed Co | Chicago, Ill | 32.14 | ..... | 1.65 | ..... | 12.80 | ..... |
| Eagle DDD Grains | The Dewey Bros. Co | Blanchester, Ohio | 28.89 | 30.00 | 15.59 | 10.00 | 8.04 | 8.00 |
| Eagle Grains | The Dewey Bros. Co | Blanchester, Ohio | 30.63 | 30.00 | 14.76 | 10.00 | 12.63 | 9.00 |
| Hester Distillers Dried Grains | Hottelet & Co | Milwaukee, Wis | 32.84 | 30.00 | 13.75 | 12.00 | 12.21 | 14.00 |
| Crown Brewers' Dried Grains | Milwaukee Grains & Feed Co | Milwaukee, Wis | 25.74 | 25.00 | 6.89 | 5.00 | 13.98 | 15.00 |
| Union Grains (Ubiko) | The Ubiko Milling Co | Cincinnati, Ohio | 24.69 | 24.00 | 7.79 | 7.00 | ..... | 9.00 |
| FLAXSEED MEALS. | | | | | | | | |
| Cleveland Flax Meal | American Linseed Co | Chicago, Ill | 35.00 | 36.00 | 3.23 | 2.00 | 9.19 | 9.00 |
| Linseed Oil Meal | American Linseed Co | Chicago, Ill | 36.34 | 36.00 | 3.75 | 2.00 | ..... | 9.00 |
| Old Process Oil Meal | American Linseed Co | New York, N. Y | 34.06 | 32.00 | 6.69 | 5.00 | ..... | 5.50 |
| Old Process Oil Meal | American Linseed Co | New York, N. Y | 35.03 | 34.00 | 5.97 | 5.00 | ..... | 8.00 |
| Old Process Oil Meal | American Linseed Co | New York, N. Y | 32.49 | 32.00 | 7.21 | 5.00 | ..... | 5.50 |
| Amco. Old Process Linseed Meal | American Milling Co | Superior, Wis | 32.45 | 32.00 | 8.68 | 6.00 | ..... | 11.00 |
| Pure Old Process Oil Meal | Kellogg & Miller | Amsterdam, N. Y | 33.89 | 32.00 | 6.11 | 4.00 | ..... | 6.00 |
| Old Process Oil Meal | The Guy G Major Co | Toledo, Ohio | 34.41 | 30.00 | 6.58 | 5.00 | ..... | 2.00 |
| Pure Old Process Linseed Oil Meal | The Mann Bros. Co | Buffalo, N. Y | 32.23 | 34.00 | 7.51 | 6.00 | ..... | 5.00 |
| Old Process Ground Linseed Cake | Midland Linseed Products Co | Minneapolis, Minn. | 32.84 | 32.00 | 8.03 | 5.00 | ..... | 9.00 |
| Major Old Process Oil Meal | The Toledo Seed & Oil Co | Toledo, Ohio | 31.53 | 30.00 | 6.39 | 5.00 | ..... | 2.00 |
| Old Process Oil Meal | The Toledo Seed & Oil Co | Toledo, Ohio | 32.75 | 30.00 | 6.35 | 5.00 | ..... | 2.00 |
| GLUTEN FEEDS. | | | | | | | | |
| Gluten Feed, Cream of Corn | American Maize Products Co | New York | 25.04 | 23.00 | 2.04 | 2.50 | 8.39 | 8.50 |
| Clinton Gluten Feed | Clinton Sugar Refining Co | Clinton, Iowa | 23.12 | 20.00 | 3.32 | 3.00 | 7.13 | 8.00 |
| Continental Gluten Feed | Continental Cereal Co | Peoria, Ill | 31.53 | 29.00 | 12.78 | 12.50 | ..... | 8.50 |
| Buffalo Gluten Reed | Corn Products Refining Co | New York | 24.61 | 23.00 | 4.48 | 2.00 | 7.23 | 8.50 |
| Crescent Gluten Feed | Corn Products Refining Co | New York | 24.43 | 23.00 | 4.80 | 2.00 | ..... | 8.50 |
| Diamond Gluten Meal | Corn Products Refining Co | New York | 39.58 | 40.00 | 1.63 | 1.50 | 2.35 | 4.00 |
| Globe Gluten Feed | Corn Products Refining Co | New York | 25.57 | 23.00 | 2.50 | 2.00 | ..... | 8.50 |
| Jenk's Gluten Feed | The Huron Milling Co | Harbor Beach, Mich. | 22.68 | 22.00 | 3.91 | 3.00 | 7.93 | 8.00 |
| P. Bros. Gluten Feed | Piel Bros. Starch Co | Indianapolis, Ind. | 25.92 | 21.00 | 3.49 | 2.00 | 9.48 | 8.00 |
| Gluten Feed | A. E. Staley Mfg. Co | Decatur, Ill | 22.03 | 20.00 | 2.45 | 2.50 | 8.15 | 9.00 |
| Staley's Gluten Feed | A. E. Staley Mfg. Co | Decatur, Ill | 24.69 | 23.00 | 4.16 | 2.50 | 8.14 | 9.00 |

| Name of Sample. | Manufactured by | Address. | Protein. | | Fat. | | Crude Fibre. | |
|---|---|---|---|---|---|---|---|---|
| | | | Found. | Guaranteed. | Found. | Guaranteed. | Found. | Guaranteed. |
| WHEAT AND BONE FEEDS. | | | | | | | | |
| Ground Beef Scraps | American Agricultural Chem. Co. | New York | 52.98 | 40.00 | 10.24 | 5.00 | ..... | 5.00 |
| Beef Scraps | Beach Soap Co. | Lawrence, Mass. | 43.61 | 40.00 | 15.08 | 20.00 | ..... | 7.00 |
| Star-Meat and Bone Meal | Beach Soap Co. | Lawrence, Mass. | 32.75 | 30.00 | 9.62 | 10.00 | ..... | 6.00 |
| Animal Meal | Bowker Fertilizer Co. | Boston, Mass. | 43.52 | 40.00 | 9.10 | 5.00 | ..... | 15.00 |
| Bowker's Imperial Meal | Bowker Fertilizer Co. | Boston, Mass. | 48.04 | 40.00 | 10.12 | 5.00 | ..... | 15.00 |
| Ground Beef Scraps | Jos. Breck & Sons. | Boston, Mass. | 44.39 | 43.00 | 14.85 | 12.00 | ..... | ..... |
| Bone and Meat Meal | Burlington Rendering Co. | Burlington, Vt. | 40.72 | 35.00 | 14.16 | 8.00 | ..... | ..... |
| Poultry Scraps | Burlington Rendering Co. | Burlington, Vt. | 42.03 | 40.00 | 12.83 | 8.00 | ..... | ..... |
| Ground Scraps | Carroll S. Page. | Hyde Park, Vt. | 48.00 | 40.00 | 29.05 | 15.00 | ..... | ..... |
| Beef Scraps | John C. Dow Co. | Boston, Mass. | 48.07 | 43.00 | 17.09 | 12.00 | ..... | ..... |
| Old-Fashioned Meat Scraps | The Greene Chicken Feed Co. | Marblehead, Mass. | 37.91 | 30.00 | 10.59 | 5.00 | ..... | ..... |
| Bone and Meat Meal | Hinckley Rendering Co. | Somerville, Mass. | 38.53 | 35.00 | 10.02 | 8.00 | ..... | ..... |
| Poultry Food | Hinckley Rendering Co. | Somerville, Mass. | 38.53 | 35.00 | 10.99 | 8.00 | ..... | ..... |
| Red Star Fish Scraps | International Glue Co. | Boston, Mass. | 53.41 | 45.00 | 2.89 | 2.00 | ..... | ..... |
| Beef Scraps | A. Lord & Co. | Chelsea, Mass. | 33.28 | 30.00 | 19.57 | 17.00 | ..... | ..... |
| Peerless Poultry Food | Lowell Rendering Co. | Lowell, Mass. | 41.59 | 40.00 | 16.12 | 8.00 | ..... | ..... |
| Cracked Bone | Manchester Rendering Co. | Manchester, N. H. | 25.66 | 20.00 | 5.24 | 5.00 | ..... | ..... |
| Bone and Meat Meal | Manchester Rendering Co. | Manchester, N. H. | 36.86 | 35.00 | 8.41 | 8.00 | ..... | ..... |
| Poultry Food | Manchester Rendering Co. | Manchester, N. H. | 39.05 | 40.00 | 13.27 | 8.00 | ..... | ..... |
| Beef Scraps | The Geo. E. Marsh Co. | Lynn, Mass. | 43.59 | 45.00 | 14.13 | 10.00 | ..... | ..... |
| Poultry Scraps | New England Dressed Meat and Wool Co. | Boston, Mass. | 48.51 | 50.00 | 14.23 | 10.00 | ..... | ..... |
| Ground Fish Scraps | Park & Pollard Co. | Boston, Mass. | 58.49 | ..... | 3.08 | ..... | ..... | ..... |
| Portland Poultry Food | Portland Rendering Co. | Portland, Me. | 39.93 | 40.00 | 13.11 | 9.00 | ..... | ..... |
| Beef Scraps | Whitman & Pratt Co. | Lowell, Mass. | 45.00 | 45.00 | 10.12 | 10.00 | ..... | ..... |
| Extra Quality Beef Scraps | Whitman & Pratt Co. | Lowell, Mass. | 63.22 | 55.00 | 17.80 | 10.00 | ..... | ..... |

## TABLE NO. 1

### Average Composition of Feeding-Stuffs—Per Cent.

(Henry's, Jordan's and Lindsay's Compilations.)

| | Dry Matter | Water | Ash | Protein | Fat | Carbohydrates Nitrogen Free Ext'ct Fibre | |
|---|---|---|---|---|---|---|---|
| Corn | 89.4 | 10.6 | 1.5 | 10.3 | 5.0 | 2.2 | 70.4 |
| Corn Meal | 85.0 | 15.0 | 1.4 | 9.2 | 3.8 | 1.9 | 68.7 |
| Corn Bran | 90.6 | 9.4 | 1.2 | 11.2 | 6.2 | 11.9 | 60.1 |
| Corn Chops | 87.2 | 12.3 | 1.5 | 9.8 | 4.4 | 2.0 | 69.5 |
| Hominy Meal | 90.4 | 9.6 | 2.7 | 10.5 | 8.0 | 4.9 | 64.3 |
| Gluten Feed | 90.8 | 9.2 | 2.0 | 25.0 | 3.5 | 6.8 | 53.5 |
| Corn and Cob Meal | 84.9 | 15.1 | 1.5 | 8.5 | 3.5 | 6.6 | 64.8 |
| Corn Cob | 89.3 | 10.7 | 1.4 | 2.4 | 0.5 | 30.1 | 54.9 |
| Oats | 89.6 | 10.4 | 3.2 | 11.4 | 4.8 | 10.8 | 59.4 |
| Oat Middlings | 91.2 | 8.8 | 4.5 | 16.2 | 6.9 | 7.1 | 56.5 |
| Oat Feed | 93.0 | 7.0 | 5.3 | 8.0 | 2.9 | 21.5 | 55.3 |
| Wheat | 89.5 | 10.5 | 1.8 | 11.9 | 2.1 | 1.8 | 71.9 |
| Wheat Bran | 88.1 | 11.9 | 5.8 | 15.4 | 4.0 | 9.0 | 53.9 |
| Wheat Middlings (shorts) | 88.8 | 11.2 | 4.4 | 16.9 | 5.1 | 6.2 | 56.2 |
| Flour Middlings | 90.0 | 10.0 | 3.2 | 19.2 | 4.8 | 3.2 | 59.6 |
| Shipstuff | 89.1 | 10.9 | 5.6 | 16.3 | 4.6 | 7.5 | 55.1 |
| Barley | 89.2 | 10.8 | 2.5 | 12.0 | 1.8 | 4.2 | 68.7 |
| Buckwheat | 86.6 | 13.4 | 2.0 | 10.8 | 2.4 | 11.7 | 59.7 |
| Buckwheat Feed | 88.4 | 11.6 | 3.9 | 18.3 | 4.9 | 19.2 | 42.1 |
| Brewers' Dried Grains | 91.3 | 8.7 | 3.7 | 25.0 | 6.7 | 13.6 | 42.3 |
| Distillers' Dried Grains | 92.4 | 7.6 | 2.0 | 31.2 | 12.2 | 11.6 | 35.4 |
| Malt Sprouts | 90.5 | 9.5 | 6.1 | 26.3 | 1.6 | 11.6 | 44.9 |
| Flax Seed | 90.8 | 9.2 | 4.3 | 22.6 | 33.7 | 7.1 | 23.2 |
| Linseed Meal (O. proc's) | 90.2 | 9.8 | 5.5 | 33.9 | 7.8 | 7.3 | 35.7 |
| Linseed Meal (N. proc's) | 91.0 | 9.0 | 5.5 | 37.5 | 2.0 | 8.9 | 36.4 |
| Cotton Seed | 89.7 | 10.3 | 3.5 | 18.4 | 19.9 | 23.2 | 24.7 |
| Cotton Seed Meal | 93.0 | 7.0 | 6.6 | 45.3 | 10.2 | 6.3 | 24.6 |
| Alfalfa Hay | 91.6 | 8.4 | 7.4 | 14.3 | 2.2 | 25.0 | 42.7 |
| Dried Beet Pulp | 91.6 | 8.4 | 4.5 | 8.1 | 0.7 | 17.5 | 60.8 |
| Meat Scraps | 89.3 | 10.7 | 4.1 | 71.2 | 13.7 | ... | 0.3 |
| Molasses Feed | 89.6 | 10.4 | 6.5 | 17.1 | 2.9 | 11.9 | 51.2 |

## TABLE NO. 2.

### Average Digestible Nutrients of Feeds—Per Cent.

(Henry's, Jordan's and Lindsay's Compilations.)

| | Dry Matter | Protein | Fat | Carbohydrates Fibre | Nitrogen Free Extract |
|---|---|---|---|---|---|
| Corn | 81.35 | 7.83 | 4.30 | 1.28 | 65.47 |
| Corn Meal | 74.8 | 6.07 | 3.46 | ... | 63.29 |
| Corn Bran | 63.42 | 6.05 | 4.74 | 6.78 | 45.68 |
| Corn Chop | 78.00 | 6.95 | 3.88 | 1.25 | 64.38 |
| Hominy Meal | 74.13 | 6.83 | 7.36 | 3.28 | 57.23 |
| Gluten Feed | 79.0 | 21.25 | 2.87 | 5.17 | 47.62 |
| Corn and Cob Meal | 67.07 | 4.42 | 2.94 | 2.97 | 57.02 |
| Corn Cob | 52.67 | 0.4 | 0.25 | 19.57 | 32.94 |
| Oats | 62.72 | 8.78 | 4.27 | 3.35 | 45.74 |
| Oat Middlings | 82.08 | 13.12 | 6.49 | 3.48 | 54.24 |
| Oat Feed | 37.20 | 5.20 | 2.61 | 1.88 | 23.23 |
| Wheat | .... | 10.2 | 1.7 | 69.2 | |
| Wheat Bran | 58.15 | 11.86 | 2.5 | 3.69 | 38.27 |
| WheatMiddlings(shorts) | .... | 13.0 | 4.5 | 1.86 | 43.84 |
| Flour Middlings | 73.8 | 16.9 | 4.1 | 1.15 | 52.45 |
| Shipstuff | 65.04 | 12.7 | 4.0 | 4.65 | 42.43 |
| Barley | 76.71 | 8.4 | 1.6 | 2.10 | 63.2 |
| Buckwheat | 61.49 | 8.1 | 2.4 | 2.81 | 45.37 |
| Buckwheat Feed | .... | 15.6 | 4.4 | 38.2 | |
| Brewers' Dried Grains. | 56.61 | 20.0 | 6.0 | 6.8 | 25.38 |
| Distillers' Dried Grains | 73.00 | 22.78 | 11.6 | 11.02 | 28.67 |
| Malt Sprouts | 70.59 | 20.3 | 1.4 | 9.63 | 36.37 |
| Flax Seed | 69.92 | 20.6 | 29.0 | 4.26 | 12.76 |
| Linseed Meal(O. proc's) | 71.26 | 30.2 | 6.9 | 4.16 | 27.85 |
| Linseel Meal(N. proc's) | 74.62 | 31.5 | 2.4 | 6.59 | 29.12 |
| Cotton Seed | 59.2 | 12.5 | 17.3 | 17.63 | 12.35 |
| Cotton Seed Meal | 71.61 | 37.6 | 9.6 | 2.21 | 19.19 |
| Alfalfa Hay | .... | 10.44 | 0.31 | 10.00 | 29.89 |
| Dried Beet Pulp | 70.53 | 4.1 | .... | 12.6 | 52.29 |
| Meat Scraps | 83.05 | 66.2 | 13.4 | ... | .... |
| Molasses Feed | 64.51 | 10.8 | 2.2 | 6.55 | 41.47 |