

CONNECTICUT
AGRICULTURAL EXPERIMENT STATION

NEW HAVEN, CONN.

REPORT ON INSPECTION
OF
COMMERCIAL FEEDING STUFFS

1923

E. M. BAILEY

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CONNECTICUT AGRICULTURAL EXPERIMENT STATION

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April, 1924.

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**ESSENTIAL PROVISIONS OF THE STATUTES RELATING TO
FEEDING STUFFS.**

1. All concentrated feeding stuffs must be labelled.
2. The label may be a printed statement on the bag or a tag attached thereto.
3. The label must declare the number of net pounds in the package, the name, brand or trade mark under which the article is sold, the name and address of the manufacturer or jobber, and must give the analysis.
4. Dealers receiving feeds in bulk are responsible for proper labelling of such feeds when bagged by them to be sold or offered for sale. They should require the consignor of such bulk feeds to furnish analyses and other information necessary for proper labelling.
5. Dealers mixing their own brands of stock feeds, dairy feeds, poultry mashes, etc., are responsible for the proper labelling of their products.
6. Cottonseed meal, whether used for a feeding stuff or a fertilizer, must be registered with this Station as a fertilizer and a registration fee paid for each brand registered. A distinctive brand name or a different analysis constitutes a distinct brand.
7. Feeding stuffs other than cottonseed meal have not heretofore been required to be registered. Section 4777 provides, however, that such registration shall be made upon request of this Station. The Station and the Dairy Commissioner believe that such registration is desirable and it is now being asked for. No fee for such registration or for analysis is required.
8. The use of wire or any metal in affixing tags is prohibited by law.

Commercial Feeding Stuffs.

E. M. BAILEY.*

TEXT OF THE LAW.

Although no substantial changes have been made in the feeding stuffs law in this State in recent years, nevertheless official inspections have shown that some of the provisions of the law are not understood or are being ignored. For the benefit of wholesale and retail dealers in feeding stuffs the text of the law is here given with comment upon those points which require emphasis.

Section 4774 of the General Statutes defines "Concentrated Commercial Feeding Stuff" as follows:

"The term 'concentrated commercial feeding stuff' 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 chop, corn and oat feeds, ground beef, fish scraps, mixed feeds, provenders, bran, middlings and mixed feeds made wholly or in part from wheat, rye or buckwheat and all materials of a similar nature, but shall not include hays and straws, the whole seeds nor the unmixed meals made directly from the seed of wheat, rye, barley, oats, Indian corn, buckwheat or broom corn nor feed ground from whole grain and sold directly from manufacturer to consumer."

From this it appears that practically all feeds excepting hay and straw, whole seed, unmixed meal made directly from any of the cereals or from buckwheat, and feed ground from whole grain and sold directly from manufacturer to consumer, are included in the term "Concentrated Commercial Feeding Stuff".

Section 4775 states the requirements as to labelling. This section reads as follows:

"Every lot or parcel of concentrated commercial feeding stuff, sold, offered or exposed for sale, shall have affixed thereto in a conspicuous place on the outside thereof a plainly printed statement, except as provided in section 4776, certifying the number of net pounds of feeding stuff contained therein, the name, brand or trade-mark under which the article is sold, the name and address of the manufacturer or importer, and a statement of the percentage it contains of crude fat and of crude protein, both constituents to be determined by the methods adopted at the time by the association of official agricultural chemists of the United States, but such lot or parcel shall not be sold, offered or exposed for sale with such statement affixed thereto by any wire or other metal".

*Analyses are chiefly by Messrs. Nolan and Fisher; inspection and sampling by Mr. Churchill; compilation of results largely by Miss Bacon.

In accordance with this section all concentrated feeding stuffs must bear *upon the bag, or a tag attached thereto*, a statement giving the *name and address* of the manufacturer or importer, the *number of net pounds in the package*, the *name of the article* and the *percentage of protein and fat* contained in it. Dealers receiving feeding stuffs in bulk to be bagged and distributed by them should see to it that tags bearing a correct analysis and other information required by law are attached to the bags before the feeds are sold or offered for sale. Dealers mixing their own brands of feeds are responsible for the proper labelling of their products. *It is illegal to use wire or any other metal in affixing tags.*

While the law requires that only the percentage of *protein* and of *fat* be stated, there is no objection to a statement of the complete chemical analysis. Likewise, in the case of mixed feeds, there is no objection to a statement of the ingredients used in compounding them, but the law in this State does not require it. If, however, such additional information is given it is expected to be correct.

If a complete analysis is given the term "*nitrogen-free extract*" as used therein means the figure obtained by deducting the sum of the percentages of moisture, ash, protein, crude fiber and fat from 100 per cent. The term "*carbohydrates*" includes the nitrogen-free extract and crude fiber.

Section 4776 relates to cottonseed meal when sold for fertilizer. It reads as follows:

"Whenever cottonseed meal is sold for fertilizer, the dealer shall, with the consent of the purchaser, issue in lieu of the printed statement provided for in section 4775, a certificate which shall contain the statements required by section 4775'.

Attention is called to the fact that, under the fertilizer law, cottonseed meal is classed as a fertilizer. *All cottonseed meal and each brand thereof, sold, offered or exposed for sale in Connecticut must, therefore, be registered as a fertilizer with this Station and an analysis fee of ten dollars paid thereon. Distinctive names or different guaranties of composition constitute distinct brands.*

Section 4777 relates to registration of feeds as follows.

"Every manufacturer, importer, agent or seller of any concentrated commercial feeding stuff shall, upon request, file with the Connecticut Agricultural Experiment Station a certified copy of the statement prescribed in Sections 4775 and 4776."

The law does not require the registration of feeding stuffs, *except* upon request of this Station. *As already noted, however, it is considered advisable to have feeding stuffs registered and such registrations are now being asked for.*

Section 4778 provides the penalty for violations of the law. It reads as follows:

"Every manufacturer, importer, agent or person selling, offering or exposing for sale any concentrated commercial feeding stuff in relation to which all the provisions of sections 4775, 4776 and 4777 have not been complied with, shall be fined not more than one hundred dollars for the first offense and not more than two hundred dollars for each subsequent offense."

Section 4779 relates to the inspection and analysis of feeds and the publication of the results for public information. This section provides that:

"The Connecticut Agricultural Experiment Station may collect a sample, not exceeding two pounds in weight, for analysis, from any lot, parcel or package of concentrated commercial feeding stuff, or unmixed meals, brans or middlings, which may be in the possession of any manufacturer, importer, agent or dealer, but said sample shall be taken in the presence of the parties in interest or their representatives, and taken from a number of parcels or packages which shall not be less than five per centum of the whole lot inspected, and shall be thoroughly mixed, divided into two samples, placed in glass vessels, carefully sealed, and a label placed on each stating the name or brand of the feeding stuff or material sampled, the name of the party from whose stock the sample was taken, and the time and place of taking the same; said label shall be signed by the station chemist or his deputy, and by the party or parties in interest or their representatives present at the taking and sealing of said sample; one of said samples shall be retained by said chemist or his deputy and the other by the party whose stock is sampled. Said station shall cause at least one sample of each brand of feeding stuff so collected to be analyzed annually by or under the direction of said chemist. Said analysis shall include determinations of crude fat and crude protein and such other determinations as may be advisable. Said station shall cause the analysis so made to be published in station bulletins, together with such additional information in relation to the character, composition and use thereof as may be of importance and issue the same annually or more frequently if advisable".

Section 4780 provides for the enforcement of the law. It says:

"The dairy and food commissioner shall enforce the provisions of this chapter, and when evidence is submitted by the Connecticut Agricultural Experiment Station that said provisions have been violated, he shall make complaint to the proper prosecuting officer".

The dairy and food commissioner is charged with the enforcement of the law and prosecutes violations upon evidence submitted by this Station.

Section 4781 defines the term "importer" as used in the law as follows:

"The term 'importer' shall include such persons as shall bring into or offer for sale within this state concentrated commercial feeding stuffs manufactured without this state".

GRATUITOUS ANALYSES OF FEEDING STUFFS.

SAMPLES SUBMITTED BY INDIVIDUALS.

The foregoing relates to the inspection of feeding stuffs for purposes of official control. The Station is frequently called upon, however, to make analyses of feeds upon samples drawn by the

individuals interested. While the Station assumes no responsibility for the sampling in such cases, it insists that the samples be taken substantially as prescribed by law. Blank forms to be filled out by the person submitting the sample will be supplied by the Station upon request.

Dealers who mix their own formulas sometimes submit samples for the purpose of using our analysis as a basis for their guaranty. The Station assumes no control in such matters, and in no way guarantees that such analysis represents the minimum or average composition of the stock sampled; it is responsible only for the correctness of the analysis of the sample submitted.

While the Station is disposed to cooperate with both farmer and dealer in the matter of gratuitous analyses it reserves the right to refuse this privilege in case samples are submitted from any source with such frequency as to warrant the belief that its resources are being used to exercise systematic control over purchases made by an individual buyer. This policy applies not only in the case of feeding stuffs but to fertilizers and gratuitous work in general.

DESCRIPTION OF SAMPLE.

For a proper description of a sample of feeding stuff the following information should be given:

- Sampler's identification mark or number.
- Name of the feed.
- Name and address of the manufacturer or jobber.
- Name and address of the dealer.
- Car Number.
- Number of sacks from which sample was taken.
- Guaranty:
 - Protein,
 - Fat,
 - Other constituents if given.
- Date of sampling.
- Price per ton.
- Remarks.

INSTRUCTIONS FOR SAMPLING FEEDING STUFFS.

An analysis is of no value if the sample submitted is inadequate or carelessly taken. In cases of special importance the Station may be requested to send its agent to draw samples.

Provide a sampling tube, some large papers, and for each sample a glass jar or tin box that can be tightly closed. Containers, sampling tube, etc., should be clean and dry.

The quantity of the sample should be not less than one pint.

Open at least three full unbroken packages (or bags), or if there are more than thirty, one in every ten packages, or from a car lot not less than twenty packages, remove a *core* from each opened package by inserting the sampling tube the full length of the package, mix the portions thus drawn thoroughly

and as quickly as possible, fill the can or box from the mixture, close tightly and identify the sample with some distinguishing number or letter.

If the feed is in bulk draw portions from various parts of the pile, the number depending upon the size of the pile; twenty portions should be drawn for a sample from a carload.

If a sampling tube is not available a fairly satisfactory sample may be obtained as follows: Mix the contents of each package for a foot in depth, take a cupful from each package, mix the portions thus drawn and prepare the sample as already described.

Samples drawn by means of a sampling tube are much more reliable.

Send the sample prepaid to the Connecticut Agricultural Experiment Station, New Haven, Conn., and enclose with it or mail separately the *description of the sample* as herein described.

RÔLE OF THE NUTRIENTS.

Water. Air dry feeding stuffs, whether concentrates or roughage, still contain some moisture which cannot be seen or felt. The amount of such moisture averages not far from ten per cent. While not a nutrient in the ordinary sense, water is essential to the animal; but since it is obtained in abundance from sources other than the feed, its presence therein is not of importance. Excessive amounts, however, jeopardize the keeping qualities of a feed and automatically reduce the percentage of the more desirable ingredients.

Ash. The importance of mineral constituents in feeds is emphasized by the fact that animals fed upon rations deprived largely or entirely of ash constituents generally die sooner than animals which have been given no food at all. Giving stock mineral matter in addition to that obtained in the daily ration is an old and familiar practice among experienced stockmen who have long "salted their cattle" with common salt (sodium chloride), the commercial grades of which contain small and varying amounts of other minerals such as calcium, magnesium, iron and phosphorus and sulphur. Recent studies in nutrition have shown some of the specific needs which minerals satisfy in the vital processes. Thus big neck in calves, colts and lambs, and hairlessness in pigs are now attributed to iodine deficiency in the feed; and defective skeletal formation in growing animals is due either to a lack of calcium and phosphorous or to an absence of the necessary agency to make the proper utilization of these minerals possible, for it has been shown that without what has been called the fourth, or antirachitic, vitamine which is present in cod liver oil and in green plant tissues, calcium and phosphorous cannot be properly assimilated.

Protein. This nutrient group is estimated by determining the amount of nitrogen which a feed contains and multiplying that amount by the factor 6.25 on the assumption that proteins uniformly contain 16 per cent. of nitrogen. While this method of estimation is not strictly accurate it is as close an approximation as it is generally possible or practicable to get. From protein the

body repairs waste, builds new tissue and, to a lesser extent, derives heat and energy. It was formerly thought that all proteins were adequate for all these processes, but it is a comparatively recent contribution to our knowledge that they are not. Protein is a complex substance made up of nineteen separate parts called amino acids. Proteins which contain some of all the various amino acids are called "complete" proteins; those in which one or more amino acids are lacking are called "incomplete". Undoubtedly all these separate parts play some rôle in vital processes; more particularly we know that tryptophane and lysine are essential to a normal rate of growth. The proteins of cereal grains are relatively low in the two amino acids just mentioned while proteins of animal origin, such as milk, meat, and eggs, are rich in these two substances; thus the logic of supplementing grain rations with skimmed milk or tankage is apparent. Grain mixtures alone may suffice if fed in sufficient quantity but it may happen that the energy requirements of the animal will become satisfied by non-protein constituents of the ration and its appetite fail before enough of the necessary amino acids has been acquired.

Knowledge of digestible nutrients and nutritive ratios are not the final criteria by which rations are to be adjusted. The right kind and quality of protein must be supplied.

Crude Fiber. By this term is meant the coarser and more woody tissue characteristic of all forms of roughage and present in the outer coats of cereal and other fodder grains. It belongs to the carbohydrate group and is, in part, digested by ruminant animals. Its chief value lies in its mechanical effect in the intestinal tract.

Nitrogen-free Extract. In this class are included the relatively more digestible carbohydrates of the starch and sugar types. Their principal rôle in nutrition is to supply heat and energy, but they have also the power of sparing protein, by which is meant that when fed together with protein they reduce the amount of the latter food required. An excess of this carbohydrate group over the immediate needs of the body can be transformed into fat and stored in the body tissue.

The term "carbohydrate" as applied to a feeding stuff properly means "crude fiber" and "nitrogen-free extract" combined. Nitrogen-free extract is obtained by deducting from 100 per cent. the sum of the percentages of moisture, ash, protein, fiber and fat (ether extract).

Fat (Ether Extract). Fats, like the carbohydrates, furnish energy to the body and like them also, but to a lesser extent, spare protein. As energy producers their value is 2.25 times greater than that of either carbohydrate or protein. This ether-soluble material is in all cases crude fat, by which we understand that non-fatty substances like chlorophyll and coloring matter may be included therein.

Accessory Nutritive Factors. In this class are included the *vitamines*. There is not likely to be a deficiency of the vitamins A, B, and C in rations of domestic animals but the antirachitic vitamin by reason of its influence on the assimilation of calcium and phosphorus, as already noted, is of very practical importance. Green fodder or properly cured leguminous hay will supply this factor. The beneficial influence of sunlight upon the growth and development of animals has also been strikingly demonstrated, and it may be classed with the vitamins as an accessory nutritive factor.

DIGESTIBLE NUTRIENTS.

The gross amount of nutrient material taken into the animal body is probably never completely utilized. That portion of such material which actual feeding tests have shown is retained in the animal body, is taken to be the coefficient of digestibility of that material and is expressed in per cent.

Thus, for cottonseed meal it has been found that, on the average 85 per cent. of the protein, 37 per cent. of the fiber, 75 per cent. of the carbohydrates and 95 per cent. of the fat are digestible; or, in other words, out of each 100 parts of protein, of fiber, of carbohydrates and of fat that an animal eats, 85, 37, 75 and 95 parts, respectively, are retained in the body; i.e., not excreted. These figures are taken, therefore, to be the coefficients of digestibility for the several nutrients as they are found in cottonseed meal.

Coefficients of digestibility for some common commercial concentrates are given in the following table.

TABLE I. COEFFICIENTS OF DIGESTIBILITY OF FEEDING STUFFS.¹

Feed.	Average dry matter, lbs. per hundred.	Coefficient of digestibility.			
		Protein.	Carbohydrate.		Fat.
			Fiber.	Nitrogen free extract.	
Cottonseed Meal.....	92.2	84	37	75	95
Cottonseed Feed.....	91.7	58	45	61	90
Linseed Meal (Old Process).....	90.9	89	57	78	89
Wheat Bran.....	89.9	78	31	72	68
Wheat Middlings.....	89.6	77	30	78	88
Wheat Feed.....	89.9	77	36	76	87
Rye Feed.....	88.5	80	..	88	90
Buckwheat Middlings.....	88.0	87	32	86	83
Oat Feed.....	93.5	75	42	46	78
Oat Middlings.....	93.1	80	49	85	93
Corn Gluten Feed.....	91.3	85	76	88	85
Gorn Gluten Meal.....	90.9	85	55	90	93
Hominy Feed.....	89.9	66	76	90	91
Brewers' Grains.....	92.5	81	49	57	89
Dried Beet Pulp.....	91.8	52	83	83	..

¹Henry and Morrison: Feeds and Feeding, 18th Ed.

INSPECTION AND ANALYSES.

CLASSIFICATION OF SAMPLES.

Commercial feeding stuffs and other fodder materials examined during the past year may be classified as follows:

Official samples drawn by the Station agent.....	201
Samples submitted by individuals or drawn by the Station agent on request.....	48
Samples examined for Storrs station.....	100
Samples examined for Department of Plant Breeding.....	3
Total.....	352

Official samples taken in course of the regular inspection are classified as follows:

Cottonseed Products.....	12	Maize Products.....	22
Linseed Products.....	6	Brewers' Products.....	2
Wheat Products.....	41	Dried Beet Pulp.....	5
Rye Products.....	2	Proprietary Stock Feeds...	73
Wheat and Rye Products..	1	Poultry Feeds.....	33
Buckwheat Products.....	2		
Oat Products.....	3	Total.....	201

Only official samples collected by the Station agent and those submitted by individuals are discussed in this report.

REMARKS ON ANALYSES.

(Analyses in Table III, pages 336-355).

The definitions of feeding stuffs here given are those adopted by the Association of Feed Control Officials as revised to November, 1923.

Samples were collected in November and December of 1923 and prices, where given, are those quoted at that time.

COTTONSEED MEAL.

41.12 Per cent. Protein Cottonseed Meal, Choice Quality, must be finely ground, not necessarily bolted, perfectly sound and sweet in odor, yellow, free from excess of lint, and by analysis must contain at least 41.12 per cent. crude protein, equivalent to 8 per cent. of ammonia.

Cotton seed meal not fulfilling the above requirements as to color, odor, or texture, shall be branded Off Quality.

38.56 Per cent. Protein Cottonseed Meal, Prime Quality, must be finely ground, not necessarily bolted, of sweet odor, reasonably bright in color, yellow, not brown or reddish, free from excess of lint, and by analysis must contain at least 38.56 per cent. crude protein, equivalent to 7.5 per cent. of ammonia.

Cottonseed meal not fulfilling the above requirements as to color, odor or texture, shall be branded Off Quality.

36 Per Cent. Protein Cottonseed Meal, Good Quality, must be finely ground, not necessarily bolted, of sweet odor, reasonably bright in color, free from

excess lint and must contain at least 36 per cent. crude protein, equivalent to 7 per cent. of ammonia.

Cottonseed Meal not fulfilling the above requirements as to color, odor or texture, shall be branded Off Quality.

Eleven samples were examined, two of which, **22135** and **22004**, were deficient in protein by more than 1 per cent. One, **22013**, had the tags secured by wire which is illegal.

The average composition as regards protein, fiber and fat was 37.9 per cent., 11.2 per cent. and 6.4 per cent.; in the order named. The average cost per ton was \$56.18.

In the inspection a year ago it was shown that protein was purchased at better advantage in 43 per cent. meal, 14.4 pounds of protein being purchased for \$1.00 in the first named grade as compared with 12.5 pounds in the last named grade. A similar comparison this year shows for 43 per cent. meal 14.4 pounds and for 36 per cent. meal 13.3 pounds. Again the comparison favors the highest grade; the data, however, are based upon a rather limited number of samples, particularly of the 43 per cent. group.

COTTONSEED FEED.

Cottonseed Feed is a mixture of cottonseed meal and cottonseed hulls containing less than 36 per cent. protein.

One sample, *White Mule* brand, was guaranteed to contain 36 per cent. of protein and 39 per cent. was found; in other respects also the guaranty was exceeded.

LINSEED MEAL.

Linseed Cake or Meal is oil cake or meal made from flaxseed, provided that the final product shall contain less than 6 per cent. of weed seeds and other foreign materials and, provided, further that no portion of the stated 6 per cent. of weed seeds and other foreign materials shall be deliberately added.

Old Process Oil Meal, Old Process Linseed Meal is oil meal as defined or linseed meal as defined produced by crushing, cooking and hydraulic pressure.

The six samples examined satisfied their guaranties in all respects. One, **22176**, had tags secured by wire which is illegal.

The average protein content was 31.9 per cent. and the average cost per ton was \$56.83. This is 2 per cent. less protein than was found last year and the price per ton is about \$4.00 less.

WHEAT BRAN.

Wheat Bran is the coarse outer coating of the wheat kernel as separated from cleaned and scoured wheat in the usual process of commercial milling.

Nineteen samples of wheat bran were examined. All substantially met or exceeded the guaranties for protein and no

deficiencies in fat or excesses of fiber were found. Two samples, 22102 and 22117, had tags attached by means of wire.

The quality of the samples examined equals the average of other years, but the cost per ton is about \$4.00 more than last year and nearly \$12.00 in advance of the average price quoted two years ago.

WHEAT MIDLINGS

Standard Middlings consists mostly of fine particles of bran, germ and very little of the fibrous offal obtained from the "tail of the mill." This product must be obtained in the usual commercial process of milling and shall not contain more than 9.5 per cent. crude fiber.

Flour Middlings shall consist of standard middlings and red dog flour combined in the proportions obtained in the usual process of milling and shall not contain more than 6.0 per cent. crude fiber.

Red Dog Flour consists of a mixture of low-grade flour, fine particles of bran and the fibrous offal from the "tail of the mill" and shall not contain more than 4.0 per cent. crude fiber.

Brown Shorts (Red Shorts) consists mostly of the fine particles of bran, germ and very little of the fibrous offal obtained from the "tail of the mill". This product must be obtained in the usual commercial process of milling.

Gray Shorts (Gray Middlings or Total Shorts) consists of the fine particles of the outer bran, the inner bran or bee-wing bran, the germ and the offal or fibrous materials obtained from the "tail of the mill." This product must be obtained in the usual process of commercial milling.

White Shorts or White Middlings consists of a small portion of the fine bran particles and the germ and a large portion of the fibrous offal obtained from the "tail of the mill." This product must be obtained in the usual process of flour milling.

Brown shorts, gray shorts and white shorts are further differentiated on the basis of fiber contents, tentative limits for which have been set at 6.5, 5.5 and 3.5 per cent. for the classes in the order named.

Standard middlings differ from brown shorts (red shorts), in that the latter have less fiber; 3 per cent. less according to the tentative fiber limits which have been adopted.

None of the samples exceeded the limits of fiber set for standard middlings. In many cases the fiber is low enough to classify them as shorts although the labels seldom declare such grade. Protein and fat guaranties were met or exceeded in all cases. The average composition for this group of feeds is protein 17.3 per cent., fiber 6.1 per cent. and fat 5.5 per cent. The average ton price is about \$5.00 in advance of that quoted in the previous inspection.

MIXED FEED.

Wheat Mixed Feed (Mill Run Wheat Feed) consists of pure wheat bran and the gray or total shorts or flour middlings combined in the proportions obtained in the usual process of commercial millings.

The tentative limits for fiber content of mixed feed in 8.5 per cent.; and for hard wheat mixed feed 9.5 per cent.

The average fiber content for this group as shown by analyses was 7.1 per cent. and no single sample exceeded 8.5 per cent. No deficiencies in protein or in fat were found. The average composition was found to be protein 16.3 per cent., fiber 7.1 per cent. and fat 5.4 per cent. An increase in price of about \$4.00 per ton is noted as compared with the inspection a year ago.

RYE PRODUCTS.

Rye Middlings or *Rye Feed* is the by-product obtained from the manufacture of ordinary "100 per cent." rye flour from cleaned and scoured rye grain.

Two samples of rye middlings were examined both of which satisfied their guaranties in all respects.

WHEAT AND RYE PRODUCTS.

A sample of the mixed middlings of wheat and rye was found to fully conform to its guaranty.

BUCKWHEAT PRODUCTS.

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

Two samples were examined one of which was described as consisting of middlings, buckwheat hulls and buckwheat screenings. This last named feed was high in fiber, as might be expected, but did not exceed the limit of fiber declared. The sample of buckwheat middlings, 22148, was without a statement of guaranty.

OAT PRODUCTS.

Oat Middlings are the floury portions of the oat groat (kernel), obtained in the milling of rolled oats.

Oat Shorts are the covering of the oat grain lying immediately inside the hull, being a fuzzy material carrying with it considerable portions of the fine floury part of the groat obtained in the milling of rolled oats.

Two samples were examined. One, *Corno*, was described as a mixture of oat middlings, oat shorts and oat hulls.

Both samples conformed to their guaranties.

CORN GLUTEN FEED.

Corn Gluten Feed is that portion of commercial shelled corn that remains after the separation of the larger part of the starch and the germs by the processes employed in the manufacture of cornstarch and glucose. It may or may not contain corn solubles.

Five samples were examined and all substantially equalled or exceeded their guaranties for protein and fat. The average price per ton, \$55.20, is about \$6.00 higher than quoted a year ago.

CORN GLUTEN MEAL.

Corn Gluten Meal is that part of commercial shelled corn that remains after the separation of the larger part of the starch, the germ and the bran, by the processes employed in the manufacture of cornstarch and glucose. It may or may not contain corn solubles.

The one sample examined considerably exceeded the guaranty for protein and fat.

HOMINY FEED.

Hominy Feed, Hominy Meal or Hominy Chop is the kiln-dried mixture of the mill run bran coating, the mill run germ, with or without a partial extraction of the oil and a part of the starchy portion of the white corn kernel obtained in the manufacture of hominy, hominy grits and corn meal by the degerminating process.

Sixteen samples were analyzed and no deficiencies in protein or excesses of fiber were found. Five samples showed deficiencies in ether extract (crude fat), greater than 0.25 per cent. One sample, **22175**, bore tags attached by means of wire.

BREWERS' GRAINS.

Brewers' Dried Grains are the properly dried residue from cereals obtained in the manufacture of beer.

Two samples were examined one of which, **22067**, was 1.12 per cent. low in protein.

DRIED BEET PULP.

Dried Beet Pulp is the dried residue from sugar beets which have been cleaned and freed from crowns, leaves and sand, and which have been extracted in the process of manufacturing sugar.

Five samples were examined all of which satisfied the requirements of their guaranties.

PROPRIETARY MIXED FEEDS.

These feeds aim to supply ready mixed so-called balanced rations for the various classes of farm animals. Some, no doubt, are compounded carefully and with the best available information of feed values. Chemical analyses will furnish data as to the gross amounts of the several nutrients from which may be estimated the digestible nutrients; but only feeding practice will demonstrate the quality of the nutrients.

A study of the analyses tabulated under the heading of "Horse, Dairy and Stock Feeds", p. 346, shows that there are, exclusive of three calf meals, seventy samples which may be divided into three nearly equal groups on the basis of their protein content, viz., 10 per cent., 20 per cent. and 25 per cent. As there are only four samples which would fall in a 15 per cent. group no separate classification was made for these, but they were placed in the 10

per cent. or the 20 per cent. groups. The 10 per cent. group includes feeds of protein content ranging roughly from 8 to 14 per cent.; the 20 per cent. group ranges from 17 to 22 per cent.; and the 25 per cent. group includes all those having above 22 per cent. of protein.

The average composition of each of these three groups as regards protein, nitrogen-free extract and fat and the average price per ton is given in the following summary:

AVERAGE PERCENTAGES OF NUTRIENTS AND PRICES PER TON IN THREE GROUPS OF PROPRIETARY FEEDS.

Group	No. of Samples.	Protein.	Nitrogen-free Extract.	Fat.	Price Per Ton.
Protein 10 per cent.	26	10.11%	63.92%	4.22%	\$44.52
Protein 20 per cent.	23	19.60	53.62	5.08	51.27
Protein 25 per cent.	21	24.16	48.85	5.29	53.76

On the basis of amounts of nutrients secured for one dollar in each of these three groups the following comparison can be made.

NUTRIENTS FOR ONE DOLLAR IN THREE GROUPS OF PROPRIETARY FEEDS.

Group	Protein. lbs.	Nitrogen-free extract. lbs.	Fat. lbs.
Protein 10 per cent.	4.5	28.3	1.9
Protein 20 per cent.	7.7	20.9	2.0
Protein 25 per cent.	9.0	13.2	2.0

These comparisons are based upon the gross amounts of nutrients. By reason of the miscellaneous sources from which the nutrients in proprietary feeds are derived and the difficulty in ascertaining the exact proportions of the ingredients, digestible nutrients cannot be accurately computed. The comparative figures given show that the price per ton increases as the protein content of the feed increases; protein is the most expensive of the nutrients. Fat does not vary greatly in the three groups and the amounts secured for the unit price are practically identical. For the same amount of money the feeder secures in the 20 per cent. protein group two-thirds more protein and one-fourth less nitrogen-free extract than in the 10 per cent. protein group; in the 25 per cent. protein group he secures twice as much protein and one-third less nitrogen-free extract than in the 10 per cent. protein group. So far as protein is concerned the lowest priced feeds are, on the average, its most expensive source.

SUMMARY OF DEFICIENCIES.

In Table II is given a summary of those feeds which were found not to meet the requirements of their guaranties or were otherwise illegal. Only variations from guaranty greater than 1 per cent. in protein and fiber and 0.25 per cent. in fat are noted.

TABLE II. FEEDS NOT CONFORMING TO GUARANTIES OR OTHERWISE ILLEGAL.

Station No.	Manufacturer and Brand	Protein Deficiency	Fat Deficiency	Fiber Excess	Remarks
	COTTONSEED MEAL.	%	%	%	
22135	Paramount. Ashcraft-Wilkinson Co., Atlanta, Ga.	1.50	.....	.....	.....
22004	Good. The Cameron-Daniel Co., Atlanta, Ga.	1.25	.....	.....	.....
22013	Buckeye. Buckeye Cotton Oil Co., Cincinnati, Ohio.	.....	.....	.....	Wire tags, illegal.
	LINSEED MEAL.				
22176	Kellogg & Miller, Amsterdam, N. Y.	.....	.....	.....	Wire tags, illegal.
	WHEAT BRAN.				
22102	Larabee Flour Mills Corp., Wellington, Kansas.	.....	.....	.....	Wire tags, illegal.
22117	Leavenworth Milling Co., Leavenworth, Kansas.	.....	.....	.....	Wire tags, illegal.
	HOMINY FEED.				
22030	Acme. Acme Evans Co., Indianapolis, Ind.	.....	1.04	.....	.....
22120	Badger. Chas. A. Krause Milling Co., Milwaukee, Wis.	.....	0.27	.....	.....
22002	Sonny South. Louisville Milling Co., Louisville, Ky.	.....	0.90	.....	.....
22175	Patent Cereals Co., Geneva, N. Y.	.....	0.32	.....	Wire tags, illegal.
22162	Paragon. Chas. M. Cox, Boston, Mass.	.....	1.13	.....	.....
	BREWER'S PRODUCTS.				
22067	Bull. Farmers' Feed Co., New York City.	1.12	.....	.....	.....
	PROPRIETARY MIXED FEEDS.				
22021	Portage Stock Feed. Akron Feed & Milling Co., Akron, Ohio.	.....	0.50	1.41	.....
22147	Direct Stock Feed. Thomas-Boyce Feed Co., Attica, N. Y.	.....	1.43	.....	.....
22168	Nobotheration Stock Feed. C. W. Campbell Co., Westerly, R. I.	.....	1.62	.....	.....
22185	Davis Stock Feed. R. G. Davis & Sons, New Haven, Conn.	1.87	1.79	.....	.....

TABLE II. FEEDS NOT CONFORMING TO GUARANTIES OR OTHERWISE ILLEGAL—Concluded.

Station No.	Manufacturer and Brand	Protein Deficiency	Fat Deficiency	Fiber excess	Remarks
		%	%	%	
	PROPRIETARY MIXED FEEDS—Concluded.				
22079	Milkmore Dairy Ration. Eastern States Farmers' Exchange, Springfield, Mass.	.....	0.89	.....	.....
22121	Elmore Milk Grains. Elmore Milling Co., Oneonta, N. Y.	.....	0.85	.....	.....
22023	Algrane Milk Feed. H-O Cereal Co., Inc., Buffalo, N. Y.	.....	0.63	.....	.....
22058	Red Star Dairy Feed. E. Manchester & Sons, Winsted, Conn.	2.87	.....	.....	.....
22108	Red Wing Dairy Ration. Meech & Stoddard, Inc., Middletown, Conn.	3.87	.....	.....	.....
22131	Red Wing Junior Dairy Ration. Meech & Stoddard, Inc., Middletown, Conn.	2.12	0.73	.....	.....
22134	Red Wing Stock Feed. Meech & Stoddard, Inc., Middletown, Conn.	.....	.....	2.47	.....
22183	Red Wing Junior Dairy Ration. Meech & Stoddard, Inc., Middletown, Conn.	1.81	0.62	.....	.....
22115	Ryde's Cream Calf Meal. Ryde & Company, Chicago, Ill.	.....	0.85	.....	.....
22145	Mill Stream Boomerang Dairy Feed. Winchell Smith, Farmington, Conn.	5.62	1.23	.....	.....
22075	Iowa Stock Feed. Purity Oats Co., Chicago, Ill.	.....	0.59	.....	.....
22140	Quisenberry "Big 4" Laying Mash. Quisenberry Feed Mfg. Co., Buffalo, N. Y.	.....	.....	1.65	.....

TABLE III. ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand	Retail Dealer
OIL SEED PRODUCTS.		
<i>Cottonseed Meal.</i>		
22011	Good. E. T. Allen Co., Atlanta, Ga.	Waterbury. Spencer Grain Co. Guaranty
22187	Rainbow. American Oil Cake & Feed Co. Dallas, Texas	New Haven: R. G. Davis & Sons. Guaranty
22135	Paramount. Ashcraft-Wilkinson Co., Atlanta, Ga.	Middletown: Meech & Stoddard, Inc. Guaranty
22013	¹ Buckeye. Buckeye Cotton Oil Co., Cin- cinnati, Ohio	West Cheshire: G. W. Thorpe Guaranty
22004	Good. The Cameron-Daniel Co., Atlanta, Ga.	Seymour: Seymour Grain & Coal Co. Guaranty
22066	Bull. Humphreys-Godwin Co., Memphis, Tenn.	New Milford: Geo. T. Soule Guaranty
22049	Danish. Humphreys-Godwin Co., Mem- phis, Tenn.	Canaan: Ives & Pierce Guaranty
22157	Lovit. L. B. Lovitt & Co., Memphis, Tenn.	Rockville: Rockville Grain & Coal Co. Guaranty
22084	Thirty-six. L. B. Lovitt & Co., Memphis, Tenn.	Hamden: I. W. Beers Guaranty
22149	Triangle. R. N. Neal & Co., Memphis, Tenn.	New Hartford: Geo. W. Case Guaranty
22044	Prime Quality. Texas Refining Co., San Antonio, Texas	Torrington: Litch. Co. Co-op. Assn. Guaranty Average guaranty Average of analyses Average digestible
<i>Cottonseed Feed.</i>		
22092	White Mule. Marianna Cotton Oil Co., Marianna, Ark.	Bristol: Goodsell Bros. Guaranty
<i>Linseed Meal, Old Process.</i>		
22041	Amco. American Milling Co., Peoria, Ill.	Torrington: D. L. Talcott Guaranty
21993	Archer Daniels Linseed Co., Edgewater, N. J.	Derby: Peterson-Hendee Co. Guaranty
22176	¹ Kellogg & Miller, Amsterdam, N. Y.	Danielson: Quinnibaug Mills Guaranty
22010	Kellogg's. Kellogg & Sons, Buffalo, N. Y.	Waterbury: Spencer Grain Co. Guaranty
22093	Argentine. Mann Bros. Co., Buffalo, N. Y.	Bristol: Goodsell Bros. Guaranty
22186	Midland Linseed Products Co., Edge- water, N. J.	New Haven: R. G. Davis & Sons. Guaranty Average guaranty Average of analyses Average digestible

¹ Wire tags.

INSPECTION OF 1923.

Station No.	Pounds per Hundred						Price per ton
	Water	Ash	Protein (N x 6.25)	Fiber	Nitrogen-free Extract (Starch, gum, etc.)	Ether Extract (Crude fat)	
22011	6.82	5.95	36.25	11.87	31.95	7.16	\$55.00
.....	.....	.....	36.00	14.00	.....	5.50	.....
22187	7.58	5.82	36.38	12.03	31.82	6.37	54.00
.....	.....	.....	36.00	.....	.....	5.00	.....
22135	6.92	5.57	34.50	13.33	34.15	5.53	54.00
.....	.....	.....	36.00	14.00	.....	5.50	.....
22013	6.68	6.30	36.00	12.09	33.14	5.79	53.00
.....	.....	.....	36.00	.....	.....	5.00	.....
22004	8.21	6.08	34.75	11.19	32.82	6.95	55.00
.....	.....	.....	36.00	14.00	.....	5.50	.....
22066	8.00	6.18	42.88	7.19	28.65	7.10	60.00
.....	.....	.....	43.00	10.00	.....	5.00	.....
22049	7.13	5.81	36.75	12.24	31.94	6.13	55.00
.....	.....	.....	36.00	15.00	.....	5.00	.....
22157	6.48	6.78	41.31	8.78	30.17	6.48	64.00
.....	.....	.....	41.00	10.00	.....	6.00	.....
22084	6.88	6.23	39.25	10.05	31.24	6.35	56.00
.....	.....	.....	36.00	14.00	.....	5.00	.....
22149	6.20	5.92	36.50	12.08	33.09	6.21	54.00
.....	.....	.....	36.00	14.00	.....	5.00	.....
22044	6.78	5.29	42.13	12.00	28.03	5.77	58.00
.....	.....	.....	43.00	12.00	.....	6.00	.....
.....	.....	.....	37.73	13.00	.....	5.32	.....
.....	7.06	5.99	37.88	11.17	31.55	6.35	56.18
.....	.....	.....	32.7	4.1	23.7	6.0	.....
22092	6.45	6.05	39.00	10.53	31.48	6.49	55.00
.....	.....	.....	36.00	14.00	28.50	5.00	.....
22041	8.53	5.90	30.44	8.78	39.84	6.51	53.00
.....	.....	.....	30.00	.....	.....	5.00	.....
21993	8.88	6.03	33.19	6.98	37.71	7.21	58.00
.....	.....	.....	31.00	.....	.....	5.00	.....
22176	7.67	6.27	30.94	6.85	40.89	7.38	63.00
.....	.....	.....	30.00	9.00	.....	4.00	.....
22010	7.45	6.12	32.38	7.30	40.17	6.58	55.00
.....	.....	.....	31.00	.....	.....	5.00	.....
22093	8.61	5.95	31.69	7.44	37.90	8.41	58.00
.....	.....	.....	31.00	10.00	.....	6.00	.....
22186	7.04	6.17	32.50	7.33	40.04	6.92	54.00
.....	.....	.....	32.00	.....	.....	5.00	.....
.....	.....	.....	30.83	9.50	.....	5.00	.....
.....	8.03	6.07	31.86	7.45	39.43	7.17	56.83
.....	.....	.....	28.4	4.3	30.8	6.4	.....

TABLE III. ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand	Retail Dealer
WHEAT PRODUCTS.		
<i>Wheat Bran.</i>		
22125	Chas. M. Cox & Co., Boston, Mass.	<i>East Haven:</i> F. A. Forbes. Guaranty.
22060	² Lucky. Federal Mill & Elevator Co., Lockport, N. Y.	<i>Torrington:</i> F. L. Wadhams & Sons. Guaranty.
21994	² Wm. Hamilton & Son, Inc., Honeoye Falls, N. Y.	<i>Derby:</i> Peterson-Hendee Co. Guaranty.
22129	² Wm. Hamilton & Son, Inc., Honeoye Falls, N. Y.	<i>Guilford:</i> Fred C. Morse. Guaranty.
22038	² Choice. Hecker-Jones-Jewell Milling Co., New York.	<i>Waterbury:</i> H. S. Coe & Co. Guaranty.
22107	² Choice. Hecker-Jones-Jewell Milling Co., New York.	<i>Meriden:</i> Meriden Grain & Coal Co. Guaranty.
22102	^{1,2} Larabee Flour Mills Corp, Wellington, Kansas.	<i>Wallingford:</i> A. E. Hall. Guaranty.
22117	^{1,2} Leavenworth Milling Co., Leavenworth, Kansas.	<i>Granby:</i> E. H. Rollins. Guaranty.
22000	Niagara. Niagara Falls Milling Co., Niagara Falls, N. Y.	<i>Ansonia:</i> Ansonia Flour & Grain Co. Guaranty.
22062	Ogilvie Flour Mills Co., Fort William, Canada.	<i>Litchfield:</i> Wadhams & Co. Guaranty.
22051	Bell Cow. Quaker Oats Co., Chicago, Ill.	<i>Canaan:</i> Ives & Pierce. Guaranty.
22190	Royal. Royal Milling Co., Great Falls, Mont.	<i>New Haven:</i> Crittenden-Benham Co. Guaranty.
22073	Occident. Russell Miller Milling Co., Minneapolis, Minn.	<i>Danbury:</i> H. E. Meeker Guaranty.
22114	Dakota Maid. State Mill & Elevator Co., Grand Forks, North Dakota.	<i>Willimantic:</i> Willimantic Grain Co.. Guaranty.
22078	² Crescent. Star & Crescent Milling Co., Chicago, Ill.	<i>Norwalk:</i> Francis H. Leggett & Co. . Guaranty.
22019	St. Laurance Flour Milling Co., Montreal, Canada.	<i>Southport:</i> C. Buckingham & Co. . . . Guaranty.
22032	² Angelus. Thompson Milling Co., Lock- port, N. Y.	<i>Stamford:</i> Francis H. Leggett & Co.. Guaranty.
22043	² Gold Medal. Washburn-Crosby Co., Minneapolis, Minn.	<i>Torrington:</i> D. L. Talcott. Guaranty.
22008	Pioneer. Western Canada Flour Mills Co., Winnipeg, Canada.	<i>Waterbury:</i> Spencer Grain Co. Guaranty. Average guaranty. Average of analyses. Average digestible.
<i>Wheat Middlings.</i>		
22124	C. M. Cox & Co., Boston, Mass.	<i>East Haven:</i> F. A. Forbes. Guaranty.
22127	Wirthmore. C. M. Cox & Co., Boston, Mass.	<i>Branford:</i> S. V. Osborn. Guaranty.

¹ Wire tags.² With screenings.

INSPECTION OF 1923—Continued.

Station No.	Pounds per Hundred						Price per ton
	Water	Ash	Protein (N x 6.25)	Fiber	Nitrogen-free Extract (Starch, gum, etc.)	Ether Extract (Crude fat)	
22125	10.07	5.82	16.06	8.63	53.36	6.06	\$38.00
22060	8.73	6.73	14.75	9.82	54.59	5.38	41.00
21994	9.96	6.45	15.00	8.06	56.02	4.00	42.00
22129	9.43	5.95	15.25	11.60	56.83	4.26	44.00
22038	10.21	6.18	13.25	11.60	53.83	4.36	44.00
22107	9.35	6.76	14.50	9.63	54.26	5.22	41.00
22102	9.61	6.47	13.00	9.23	53.64	3.50	42.00
22117	10.35	6.65	15.75	14.00	54.52	5.27	37.00
22000	9.56	5.93	13.00	8.66	54.91	4.86	39.00
22062	9.36	6.22	15.00	10.00	54.91	3.50	42.00
22051	9.05	5.62	15.63	8.16	54.91	5.02	42.00
22190	8.99	5.88	14.50	10.00	54.92	3.50	42.00
22073	9.42	6.44	16.25	8.32	54.07	6.06	42.00
22114	10.43	6.08	15.00	9.60	54.29	3.00	42.00
22078	10.24	6.68	15.75	7.88	53.82	6.18	38.00
22019	8.12	6.08	15.00	8.73	53.49	3.00	42.00
22032	10.73	6.55	16.13	8.73	53.49	5.79	42.00
22043	9.14	5.88	14.00	9.34	52.70	4.00	42.00
22008	10.06	6.23	14.88	9.06	54.50	6.20	39.00
22124	10.06	4.10	14.00	9.08	54.98	5.00	40.00
22127	10.18	3.60	16.19	9.17	53.58	5.55	40.00
.....	.....	.....	15.00	9.13	54.43	3.50	42.00
.....	.....	.....	14.00	.....	.....	4.00	43.00
.....	.....	.....	15.88	8.98	53.00	5.29	43.00
.....	.....	.....	15.00	.....	.....	4.00	41.00
.....	.....	.....	14.31	11.44	.....	5.85	41.00
.....	9.62	6.24	15.66	8.86	54.32	3.50	40.74
.....	.....	.....	12.2	2.7	39.1	3.6	.....
22124	10.06	4.10	18.44	5.73	54.87	6.80	38.00
22127	10.18	3.60	17.00	5.16	58.80	5.26	44.00
.....	.....	.....	14.00	8.00	.....	4.00	.....

TABLE III. ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand	Retail Dealer
WHEAT PRODUCTS—Concluded.		
<i>Wheat Middlings—Concluded.</i>		
22056	² Commander. Commander Milling Co., Minneapolis, Minn.	<i>Winsted:</i> E. Manchester & Sons Guaranty
22130	² Dominion Flour Mills Co., Montreal, Canada	<i>Guilford:</i> Fred C. Morse Guaranty
22119	Elmore Red Dog Flour Middlings. Elmore Milling Co., Oneonta, N. Y.	<i>Thompsonville:</i> Geo. S. Phelps & Co.
22026	² H. Hecker-Jones-Jewell Milling Co., New York	<i>Stamford:</i> Francis H. Leggett & Co. Guaranty
22109	Niagara. Niagara Falls Milling Co., Niagara Falls, New York	<i>Meriden:</i> H. Grulich Guaranty
22100	² Northwestern Consolidated Milling Co., Minneapolis, Minn.	<i>North Haven:</i> W. L. Thorpe Guaranty
22009	Bell Cow. Quaker Oats Co., Peterborough, Canada	<i>Waterbury:</i> Spencer Grain Co. Guaranty
22017	A. H. Randall Milling Co., Tekonsha, Michigan	<i>West Cheshire:</i> G. W. Thorpe Guaranty
22111	² Dakota. State Mill. & Elevator Co., Grand Forks, North Dakota	<i>New Britain:</i> S. Svea Grain & Coal Co. Guaranty
21999	² Gold Medal. Washburn-Crosby Co., Minneapolis, Minn.	<i>Ansonia:</i> Ansonia Flour & Grain Co. Guaranty Average guaranty Average of analyses Average digestible
<i>Wheat Feed (Mixed Feed)</i>		
22110	² St. Paul Queen. Capitol City Milling & Grinding Co., St. Paul, Minn.	<i>New Britain:</i> S. Svea Grain & Coal Co. Guaranty
22158	Boston. Duluth Superior Milling Co., Duluth, Minn.	<i>Rockville:</i> Rockville Grain & Coal Co. Guaranty
22177	Durum. Duluth Superior Milling Co., Duluth, Minn.	<i>Danielson:</i> Dayville Grain & Coal Co. Guaranty
22181	Dairy Maid. Federal Mill & Elevator Co., Lockport, N. Y.	<i>Putnam:</i> Bosworth Bros. Guaranty
22099	² Northwestern Consolidated Milling Co., Minneapolis, Minn.	<i>No. Haven.</i> W. L. Thorpe Guaranty
22005	² Fancy. Pillsbury Flour Mills, Minneapolis, Minn.	<i>Seymour:</i> Seymour Grain & Coal Co. Guaranty
22072	Occident. Russell Miller Milling Co., Minneapolis, Minn.	<i>Danbury:</i> H. E. Meeker Guaranty
22001	Gold Mine. Sheffield King Milling Co., Minneapolis, Minn.	<i>Ansonia:</i> Ansonia Flour & Grain Co. Guaranty
22047	² Syracuse. Syracuse Milling Co., Syracuse, N. Y.	<i>Norfolk:</i> Aug. P. Curtis Guaranty
22059	² Gold Medal. Washburn-Crosby Mills, Minneapolis, Minn.	<i>Torrington:</i> F. L. Wadhams & Sons Guaranty Average guaranty Average of analyses Average digestible

² With Screenings.

INSPECTION OF 1923—Continued.

Station No.	Pounds per Hundred						Price per ton
	Water	Ash	Protein (N x 6.25)	Fiber	Nitrogen-free Extract (Starch, gum, etc.)	Ether Extract (Crude fat)	
22056	10.32	4.48	17.13	6.73	56.09	5.25	\$45.00
.....	.....	.....	16.50	.....	.....	5.00	.....
22130	9.58	4.61	17.63	7.35	54.58	6.25	44.00
.....	.....	.....	16.00	.....	.....	5.00	.....
22119	10.67	3.05	15.94	3.69	62.18	4.47	49.00
.....	.....	.....	15.00	6.00	.....	4.00	.....
22026	7.78	4.66	16.81	8.08	57.63	5.04	.....
.....	.....	.....	14.00	9.50	.....	5.00	.....
22109	9.07	4.13	17.31	6.21	57.70	5.58	44.00
.....	.....	.....	15.50	.....	.....	4.00	.....
22100	9.23	3.78	17.06	5.38	58.97	5.58	45.00
.....	.....	.....	15.00	.....	.....	4.00	.....
22009	8.59	3.94	17.50	5.94	57.82	6.21	41.00
.....	.....	.....	16.00	8.00	.....	4.00	.....
22017	7.64	4.96	18.13	6.35	58.40	4.52	42.00
.....	.....	.....	13.00	12.00	.....	3.00	.....
22111	10.45	3.83	17.63	5.31	56.89	5.89	44.00
.....	.....	.....	16.10	.....	.....	5.70	.....
21999	9.69	4.55	17.06	6.72	56.68	5.30	39.00
.....	.....	.....	15.00	.....	.....	4.00	.....
.....	.....	.....	15.10	8.70	.....	4.34	.....
.....	9.44	4.14	17.30	6.05	57.56	5.51	43.18
.....	.....	.....	13.3	1.8	44.9	4.8	.....
22110	9.47	3.65	15.69	6.75	58.61	5.83	44.00
.....	.....	.....	15.70	.....	.....	4.60	.....
22158	8.51	5.30	16.25	7.97	56.22	5.75	44.00
.....	.....	.....	15.00	.....	.....	3.50	.....
22177	9.31	4.59	16.63	7.24	56.00	6.23	36.00
.....	.....	.....	15.00	.....	.....	5.00	.....
22181	8.40	5.28	15.75	7.05	58.77	4.75	42.00
.....	.....	.....	13.00	.....	.....	4.00	.....
22099	9.03	4.73	16.25	7.10	57.11	5.78	43.00
.....	.....	.....	15.00	.....	.....	4.00	.....
22005	10.36	4.10	16.50	5.16	59.27	4.61	43.00
.....	.....	.....	15.00	.....	.....	4.00	.....
22072	9.53	5.13	17.25	7.25	54.99	5.85	44.00
.....	.....	.....	15.00	.....	.....	4.00	.....
22001	9.26	5.20	15.13	8.23	56.87	5.31	40.00
.....	.....	.....	15.00	.....	.....	4.50	.....
22047	8.98	4.63	16.63	7.42	56.56	5.78	41.00
.....	.....	.....	15.00	10.00	.....	4.00	.....
22059	9.79	5.02	16.44	6.31	58.03	4.41	45.00
.....	.....	.....	16.00	.....	.....	4.00	.....
.....	.....	.....	14.97	.....	.....	4.16	.....
.....	9.26	4.76	16.25	7.05	57.25	5.43	42.20
.....	.....	.....	12.5	2.5	43.5	4.7	.....

TABLE III. ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand	Retail Dealer
RYE PRODUCTS.		
22103	Choice Rye Middlings. Miner-Hillard Mill Co., Wilkes-Barre, Pa.....	Wallingford: A. E. Hall..... Guaranty.....
22042	Gold Medal Rye Middlings. Washburn-Crosby Co., Minneapolis, Minn.....	Torrington: D. L. Talcott..... Guaranty.....
WHEAT AND RYE PRODUCTS.		
22055	Palmo Midds. Newsome Feed and Grain Co., Pittsburgh, Pa.....	Winsted: E. Manchester & Sons..... Guaranty.....
BUCKWHEAT PRODUCTS.		
22123	³ Buckwheat Offal Feed. Larowe Buckwheat Flour Corp., Cohocton, N. Y....	East Haven: F. A. Forbes..... Guaranty.....
22148	Buckwheat Middlings. Winchell Smith, Farmington, Conn.....	Farmington: Winchell Smith..... Guaranty.....
OAT PRODUCTS.		
22160	Corno Oat Feed. Corno Mills Co., East St. Louis, Ill.....	Rockville: Rockville Grain & Coal Co. Guaranty.....
22053	Oat Middlings. Armour Grain Co., Chicago, Ill.....	Winsted: E. Manchester & Sons..... Guaranty.....
MAIZE PRODUCTS.		
<i>Corn Gluten Feed.</i>		
22163	Clinton. Clinton Corn Syrup Refining Co., Clinton, Iowa.....	New London: P. Schwartz Co..... Guaranty.....
22089	Buffalo. Corn Products Refining Co., New York.....	Plantsville: C. A. Cowles..... Guaranty.....
22083	KKK. J. C. Hubinger Bros Co., Keokuk, Iowa.....	Hamden: I. W. Beers..... Guaranty.....
22061	Douglas. Penick & Ford, Ltd., Inc., Grand Rapids, Mich.....	Litchfield: Wadhams & Co..... Guaranty.....
21995	Staley's. A. E. Staley Mfg. Co., Decatur, Ill.....	Derby: Peterson-Hendee Co..... Guaranty..... Average guaranty..... Average of analyses..... Average digestible.....
<i>Corn Gluten Meal.</i>		
22170	Diamond. Corn Products Refining Co., New York.....	Westerly: C. W. Campbell Co..... Guaranty.....
<i>Hominy Feed.</i>		
22030	Acme. Acme Evans Co., Indianapolis, Ind.....	Stamford: Francis H. Leggett & Co.. Guaranty.....
22022	⁴ Akron Feed & Milling Co., Akron, Oniq..	So. Norwalk: Roodner Feed Co..... Guaranty.....
22054	Homco. American Hominy Co., Indianapolis, Ind.....	Winsted: E. Manchester & Sons..... Guaranty.....
22045	Yellow. Armour Grain Co., Chicago, Ill.	Torrington: Litch. Co. Coop. Assoc.. Guaranty.....

³ Contains middlings, hulls and screenings from buckwheat.⁴ Statement of dealer. No tags.

INSPECTION OF 1923—Continued.

Station No.	Pounds per Hundred						Price per ton
	Water	Ash	Protein (N x 6.25)	Fiber	Nitrogen-free Extract (Starch, gum, etc.)	Ether Extract (Crude fat)	
22103	10.40	3.15	14.63	3.31	65.53	2.98	\$41.00
.....	.....	.....	12.00	5.00	.....	2.50	.....
22042	9.30	4.57	14.94	6.06	61.62	3.51	41.00
.....	.....	.....	14.00	.....	.....	3.00	.....
22055	6.27	5.07	16.69	6.00	58.69	7.28	36.00
.....	.....	.....	16.00	9.00	.....	7.00	.....
22123	8.89	4.03	10.13	18.09	54.84	4.02	41.00
.....	.....	.....	10.00	30.00	.....	2.25	.....
22148	10.46	2.76	15.81	5.00	61.79	4.18	45.00
.....
22160	4.78	6.23	7.88	22.57	56.13	2.41	25.00
.....	.....	.....	6.00	28.00	.....	2.00	.....
22053	6.45	3.20	16.63	5.94	61.68	6.10	47.00
.....	.....	.....	15.00	10.00	.....	5.00	.....
22163	8.29	3.64	25.25	5.72	53.81	3.29	53.00
.....	.....	.....	23.00	.....	.....	2.00	.....
22089	7.77	4.83	26.25	6.65	49.44	5.06	55.00
.....	.....	.....	23.00	.....	.....	1.00	.....
22083	8.59	2.03	22.75	6.62	56.40	3.61	53.00
.....	.....	.....	23.00	.....	.....	1.00	.....
22061	7.77	4.03	29.06	5.49	50.49	3.16	57.00
.....	.....	.....	23.00	.....	.....	1.00	.....
21995	8.88	4.77	27.69	4.97	52.03	1.66	58.00
.....	.....	.....	23.00	.....	.....	1.00	.....
.....	.....	.....	23.00	.....	.....	1.20	.....
.....	8.26	3.86	26.20	5.89	52.43	3.36	55.20
.....	.....	.....	22.3	4.5	46.1	2.9	.....
22170	8.62	1.04	42.19	2.19	43.02	2.94	66.00
.....	.....	.....	40.00	.....	.....	1.00	.....
22030	10.56	1.95	10.63	3.23	67.67	5.96	50.00
.....	.....	.....	10.00	6.00	.....	7.00	.....
22022	7.22	2.51	11.88	4.23	66.34	7.82	47.00
.....
22054	8.29	2.17	10.25	4.28	68.14	6.87	49.00
.....	.....	.....	10.00	6.00	.....	6.00	.....
22045	10.47	2.57	11.13	4.27	64.49	7.07	49.00
.....	.....	.....	9.50	5.00	.....	5.00	.....

TABLE III. ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand	Retail Dealer
<i>MAIZE PRODUCTS—Concluded.</i> <i>Hominy Feed—Concluded.</i>		
22014	Aunt Jemima Mills Co., St. Joseph, Mo...	<i>West Cheshire:</i> G. W. Thorpe..... Guaranty.....
22162	Paragon. Chas. M. Cox, Boston, Mass.	<i>Chester:</i> Leet Bros..... Guaranty.....
22118	Emco. Evans Milling Co., Indianapolis, Ind.....	<i>Suffield:</i> Spencer Bros..... Guaranty.....
22172	The Forbes Milling Co., Topeka, Kansas..	<i>Norwich:</i> Yantic Grain & Products Co. Guaranty.....
22120	Badger. Chas. A. Krause Milling Co., Milwaukee, Wis.....	<i>Thompsonville:</i> Geo. S. Phelps & Co.. Guaranty.....
22002	Sonny South. Louisville Milling Co., Louisville, Ky.....	<i>Seymour:</i> Seymour Grain & Coal Co.. Guaranty.....
22133	Choice Steam Cooked. Miner-Hillard Milling Co., Wilkes-Barre, Pa.....	<i>Middlefield:</i> Middlefield Gr. & Cl. Co. Guaranty.....
22175	Patent Cereals Co., Geneva, N. Y.....	<i>Moosup:</i> T. E. Main & Sons..... Guaranty.....
22007	Pure. Plymouth Milling Co., Lemars, Iowa.....	<i>Waterbury:</i> Spencer Grain Co..... Guaranty.....
22048	Burt's. Postum Cereal Co., Inc., Battle Creek, Mich.....	<i>Norfolk:</i> Aug. P. Curtis..... Guaranty.....
22039	Yellow. Quaker Oats Co., Chicago, Ill...	<i>Waterbury:</i> H. S. Coe & Co..... Guaranty.....
22126	White. Quaker Oats Co., Peterborough, Canada.....	<i>Branford:</i> S. V. Osborn..... Guaranty..... Average guaranty..... Average of analyses..... Average digestible.....
<i>BREWER'S PRODUCTS.</i>		
22067	Bull. Farmers' Feed Co., New York City	<i>New Milford:</i> Geo. T. Soule..... Guaranty.....
22153	Dried Grains. Dawes Brewery, Montreal, Quebec.....	<i>Hazardville:</i> A. D. Bridges' Sons..... Guaranty.....
<i>DRIED BEET PULP.</i>		
22028	Great Western Sugar Co., Denver, Col...	<i>Stamford:</i> Francis H. Leggett & Co.. Guaranty.....
22132	Great Western Sugar Co., Denver, Col...	<i>Middlefield:</i> Middlefield Gr. & Cl. Co. Guaranty.....
22137	Great Western Sugar Co., Denver, Col...	<i>Middletown:</i> Meech & Stoddard, Inc. Guaranty.....
21997	Larowe Milling Co., Detroit, Mich.....	<i>Derby:</i> Peterson-Hendee Co..... Guaranty.....
22154	Mich. Sugar Co., Saginaw, Mich.....	<i>Hazardville:</i> A. D. Bridges Sons..... Guaranty..... Average guaranty..... Average of analyses..... Average digestible.....

1 Wire tags.

INSPECTION OF 1923—Continued.

Station No.	Pounds per Hundred						Price per ton
	Water	Ash	Protein (N x 6.25)	Fiber	Nitrogen-free Extract (Starch, gum, etc.)	Ether Extract (Crude fat)	
22014	9.72	2.28	10.25	5.73	66.04	5.98	\$48.00
.....	.....	.....	10.00	6.00	.....	5.00	.....
22162	9.39	2.39	10.50	3.43	67.92	6.37	49.00
.....	.....	.....	9.50	7.00	.....	7.50	.....
22118	9.72	2.53	10.81	4.19	65.18	7.57	49.00
.....	.....	.....	10.00	7.00	.....	7.50	.....
22172	6.18	2.70	11.00	5.61	65.83	8.68	45.00
.....	.....	.....	10.00	7.00	.....	8.00	.....
22120	10.42	1.80	10.75	2.93	69.37	4.73	48.00
.....	.....	.....	10.00	.....	.....	5.00	.....
22002	8.78	2.90	11.50	5.30	65.42	6.10	47.00
.....	.....	.....	10.00	6.00	.....	7.00	.....
22133	9.46	2.35	10.75	3.88	68.21	5.35	45.00
.....	.....	.....	10.00	5.00	.....	4.00	.....
22175	9.60	2.68	10.81	3.97	68.26	4.68	41.00
.....	.....	.....	10.00	5.00	.....	5.00	.....
22007	7.77	2.29	11.19	4.08	67.31	7.36	49.00
.....	.....	.....	10.00	4.80	.....	6.30	.....
22048	8.62	2.68	11.63	4.86	65.67	6.54	46.00
.....	.....	.....	10.00	5.00	.....	6.00	.....
22039	8.89	2.30	11.38	3.61	67.99	5.83	48.00
.....	.....	.....	10.50	6.00	.....	5.00	.....
22126	7.57	2.03	10.94	3.15	69.95	6.36	46.00
.....	.....	.....	10.50	5.00	.....	6.00	.....
.....	.....	.....	10.00	5.77	.....	6.02	.....
.....	8.92	2.38	10.96	4.17	67.11	6.45	47.25
.....	.....	.....	7.2	3.2	60.4	5.9	.....
22067	4.58	4.03	20.88	16.22	46.47	7.82	50.00
.....	.....	.....	22.00	.....	.....	6.00	.....
22153	5.71	3.67	23.88	12.16	46.41	8.17	52.00
.....	.....	.....	21.00	19.58	.....	6.25	.....
22028	8.06	5.69	8.75	18.43	58.15	0.92	51.00
.....	.....	.....	8.00	20.00	.....	0.50	.....
22132	7.12	3.08	8.50	19.58	61.09	0.63	49.00
.....	.....	.....	8.00	22.00	.....	.....	.....
22137	4.30	7.97	9.00	14.21	64.14	0.38	44.00
.....	.....	.....	8.00	.....	.....	0.50	.....
21997	10.14	3.26	9.63	17.87	57.69	1.41	46.00
.....	.....	.....	8.00	20.00	.....	0.50	.....
22154	6.60	2.93	9.50	19.32	61.04	0.61	51.00
.....	.....	.....	8.00	20.00	.....	0.50	.....
.....	.....	.....	8.00	20.50	.....	0.50	.....
.....	7.24	4.59	9.08	17.88	60.42	0.79	48.20
.....	.....	.....	4.7	14.8	50.1	.....	.....

TABLE III. ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand	Retail Dealer
PROPRIETARY MIXED FEEDS.		
<i>Horse, Dairy and Stock Feeds.</i>		
22021	Portage Stock Feed. Akron Feed & Milling Co., Akron, Ohio.....	<i>So. Norwalk:</i> Roodner Feed Co. Guaranty.....
21998	Sunshine Dairy Feed. Ansonia Flour and Grain Co., Ansonia, Conn.	<i>Ansonia:</i> Ansonia Flour & Grain Co. Guaranty.....
22033	Armour's Steam Cooked Feed. Armour Grain Co., Chicago, Ill.	<i>Stamford:</i> W. L. Crabb..... Guaranty.....
22167	Favorite Dairy Ration. E. W. Bailey & Co., Swanton, Vt.	<i>Mystic:</i> Mystic Grain Co. Guaranty.....
22166	Pennant Brand Stock Feed. E. W. Bailey & Co., Swanton, Vt.	<i>Mystic:</i> Mystic Grain Co. Guaranty.....
22138	Blatchford's Calf Meal. Blatchford Calf Meal Co., Waukegan, Ill.	<i>Middletown:</i> Meech & Stoddard, Inc. Guaranty.....
22179	Parex Stock Feed. Bosworth Bros, Putnam, Conn.	<i>Putnam:</i> Bosworth Bros. Guaranty.....
22146	Direct Dairy Feed. Thomas-Boyce Feed Co., Attica, N. Y.	<i>Farmington:</i> Winchell Smith..... Guaranty.....
22147	Direct Stock Feed. Thomas-Boyce Feed Co., Attica, N. Y.	<i>Farmington:</i> Winchell Smith..... Guaranty.....
22164	Nobotheration Dairy Feed. C. W. Campbell Co., Westerly, R. I.	<i>Mystic:</i> J. L. Manning & Co. Guaranty.....
22168	Nobotheration Stock Feed. C. W. Campbell Co., Westerly, R. I.	<i>Westerly:</i> C. W. Campbell Co. Guaranty.....
22128	Paragon Dairy Feed. Chas. M. Cox Co., Boston, Mass.	<i>Branford:</i> S. V. Osborn..... Guaranty.....
22015	Wirthmore Stock Feed. Chas. M. Cox Co., Boston, Mass.	<i>West Cheshire:</i> G. W. Thorpe..... Guaranty.....
22068	Wirthmore Balanced Ration for Milch Cows. Chas. M. Cox Co., Boston, Mass.	<i>Danbury:</i> F. C. Benjamin..... Guaranty.....
22069	Ajax Dairy Ration. Chapin & Co., Hammond, Ind.	<i>Danbury:</i> F. C. Benjamin..... Guaranty.....
22088	Unicorn Dairy Ration. Chapin & Co., Hammond, Ind.	<i>Plantsville:</i> C. A. Cowles..... Guaranty.....
22098	Advanced Registry Dairy Feed. Clover Leaf Milling Co., Buffalo, N. Y.	<i>North Haven:</i> W. L. Thorpe..... Guaranty.....
22101	Clover Leaf Stock Feed. Clover Leaf Milling Co., Buffalo, N. Y.	<i>North Haven:</i> W. L. Thorpe..... Guaranty.....
22027	Fortune Stock Feed. Coles Company, Middletown, Conn.	<i>Stamford:</i> Francis H. Leggett & Co. Guaranty.....
22074	Basic Dairy Ration. R. G. Davis & Sons, New Haven, Conn.	<i>Southford:</i> H. R. Stone..... Guaranty.....
22185	Davis Stock Feed. R. G. Davis & Sons, New Haven, Conn.	<i>New Haven:</i> R. G. Davis & Sons..... Guaranty.....
22094	Delaware Dairy Feed. Delaware Mills, Deposit, N. Y.	<i>Plainville:</i> Eaton Bros. Guaranty.....
22079	Milkmore Dairy Ration. Eastern States Farmers' Exchange, Springfield, Mass.	<i>New Canaan:</i> C. H. Fairty Co. Guaranty.....
22096	Fitting Ration. Eastern States Farmers' Exchange, Springfield, Mass.	<i>Farmington:</i> C. E. Stephenson..... Guaranty.....

INSPECTION OF 1923—Continued.

Station No.	Pounds per Hundred						Price per ton
	Water	Ash	Protein (N x 6.25)	Fiber	Nitrogen-free Extract (Starch, gum, etc.)	Ether Extract (Crude fat)	
22021	6.09	3.97	8.25	11.41	66.78	3.50	\$44.00
.....	.....	.....	8.50	10.00	.....	4.00	.....
21998	9.19	5.22	20.50	7.11	52.56	5.42	53.00
.....	.....	.....	20.00	9.00	.....	5.00	.....
22033	8.27	5.66	10.94	10.88	59.29	4.96	41.00
.....	.....	.....	9.00	.....	.....	4.00	.....
22167	7.33	4.08	23.13	5.82	54.23	5.41	50.00
.....	.....	.....	18.00	9.50	.....	4.50	.....
22166	7.20	3.63	9.88	9.31	63.46	6.52	44.00
.....	.....	.....	9.00	12.00	.....	5.00	.....
22138	9.39	6.00	24.13	6.03	49.65	4.80	96.00
.....	.....	.....	24.00	.....	.....	5.00	.....
22179	7.79	4.54	10.00	10.26	62.84	4.57	47.00
.....	.....	.....	9.00	.....	.....	3.00	.....
22146	8.28	4.87	24.00	7.84	50.15	4.86	55.00
.....	.....	.....	24.00	10.00	.....	5.00	.....
22147	7.78	3.90	10.94	11.24	63.57	2.57	41.00
.....	.....	.....	10.00	12.75	.....	4.00	.....
22164	8.59	3.87	26.13	6.08	49.88	5.45	49.00
.....	.....	.....	20.00	9.00	.....	4.00	.....
22168	7.88	4.03	11.75	10.65	62.31	3.38	42.00
.....	.....	.....	10.00	14.00	.....	5.00	.....
22128	7.45	5.09	21.63	11.17	49.90	4.76	50.00
.....	.....	.....	22.00	14.00	.....	4.00	.....
22015	6.26	3.63	9.50	10.35	63.66	6.60	46.00
.....	.....	.....	9.00	9.50	.....	4.00	.....
22068	8.17	4.88	26.63	7.84	46.62	5.86	54.00
.....	.....	.....	25.00	.....	.....	5.50	.....
22069	7.51	6.03	21.00	7.64	51.72	6.10	54.00
.....	.....	.....	20.00	.....	.....	5.00	.....
22088	8.57	6.01	25.25	7.20	47.04	5.93	55.00
.....	.....	.....	24.00	.....	.....	5.00	.....
22098	8.10	4.50	25.19	7.62	48.80	5.79	57.00
.....	.....	.....	25.00	10.00	.....	5.00	.....
22101	8.65	3.30	10.25	9.79	63.74	4.27	46.00
.....	.....	.....	9.00	.....	.....	3.50	.....
22027	5.81	3.99	8.31	13.52	63.97	4.40	.....
.....	.....	.....	7.00	.....	.....	3.00	.....
22074	9.54	5.57	20.19	7.26	52.69	4.75	49.00
.....	.....	.....	20.00	9.00	.....	5.00	.....
22185	7.61	5.40	8.63	14.62	61.53	2.21	39.00
.....	.....	.....	10.50	.....	.....	4.00	.....
22094	9.01	4.84	23.38	8.11	49.60	5.06	56.00
.....	.....	.....	23.00	.....	.....	4.00	.....
22079	9.28	5.30	25.88	6.65	48.78	4.11	56.00
.....	.....	.....	24.00	9.00	.....	5.00	.....
22096	9.26	4.59	17.00	6.40	58.20	4.55	.....
.....	.....	.....	12.00	8.00	.....	3.50	.....

TABLE III. ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand	Retail Dealer
PROPRIETARY MIXED FEEDS—Continued.		
<i>Horse, Dairy and Stock Feeds—Continued.</i>		
22097	Fulpail Dairy Ration. Eastern States Farmers' Exchange, Springfield, Mass..	Farmington: C. E. Stephenson..... Guaranty.....
22192	Fulpail Dairy Ration. Eastern States Farmers' Exchange, Springfield, Mass..	Middletown: Arthur Congdon..... Guaranty.....
22193	Fulpail Dairy Ration. Eastern States Farmers' Exchange, Springfield, Mass..	Newtown: Benjamin Bernstein..... Guaranty.....
22155	Elmore Horse Feed. Elmore Milling Co., Oneonta, N. Y.....	Somers: W. C. Everitt..... Guaranty.....
22121	Elmore Milk Grains. Elmore Milling Co., Oneonta, N. Y.....	Thompsonville: Geo. S. Phelps & Co. Guaranty.....
22070	Eshelman's 16% Dairy Feed. John W. Eshelman & Sons, Lancaster, Pa.....	Danbury: F. C. Benjamin..... Guaranty.....
22003	Eshelman's 20% Dairy Feed. John W. Eshelman & Sons, Lancaster, Pa.....	Seymour: Seymour Grain & Coal Co. Guaranty.....
22104	Eshelman's 8.5% Horse Feed. John W. Eshelman & Sons, Lancaster, Pa.....	Wallingford: A. E. Hall..... Guaranty.....
22112	Grandin's 24% Balanced Dairy Ration. D. H. Grandin Milling Co., Jamestown, N. Y.	Willimantic: Willimantic Grain Co.. Guaranty.....
22171	Grandin's Stock Feed. D. H. Grandin Milling Co., Jamestown, N. Y.....	Norwich: Norwich Grain Co..... Guaranty.....
22182	Twin Six Dairy Feed. D. H. Grandin Milling Co., Jamestown, N. Y.....	Willimantic: Willimantic Grain Co.. Guaranty.....
22018	Century Horse Feed. Dwight Hamlin, Inc., Pittsburgh, Pa.....	Southport: C. Buckingham & Co..... Guaranty.....
22023	Algrane Milk Feed. H-O Cereal Co., Inc., Buffalo, N. Y.....	South Norwalk: Roodner Feed Co.. Guaranty.....
22165	New England Stock Feed. H-O Cereal Co., Buffalo, N. Y.....	Mystic: J. L. Manning & Co..... Guaranty.....
22091	Imperial Steam Cooked Feed. Imperial Grain and Mill Co., Toledo, Ohio.....	Bristol: Goodsell Bros..... Guaranty.....
22024	Kramco Dairy Ration. Chas. A. Krause Milling Co., Milwaukee, Wis.....	South Norwalk: Roodner Feed Co.. Guaranty.....
22064	Larro Ready Ration. Larowe Milling Co., Detroit, Mich.....	New Milford: Geo. E. Ackley & Co.. Guaranty.....
22052	Bull Dairy Ration. Maritime Milling Co., Buffalo, N. Y.....	Canaan: Ives & Pierce..... Guaranty.....
22058	Red Star Dairy Feed. E. Manchester & Sons, Winsted, Conn.....	Winsted: E. Manchester & Sons..... Guaranty.....
22136	Barford's Balanced Dairy Ration. Meech & Stoddard, Inc., Middletown, Conn.....	Middletown: Meech & Stoddard, Inc. Guaranty.....
22108	Red Wing Dairy Ration. Meech & Stoddard, Inc., Middletown, Conn.....	Meriden: Meriden Grain & Coal Co.. Guaranty.....
22131	Red Wing Junior Dairy Ration. Meech & Stoddard, Inc., Middletown, Conn.....	Middlefield: Middlefield Gr. & Cl. Co. Guaranty.....
22183	Red Wing Junior Dairy Ration. Meech & Stoddard, Inc., Middletown, Conn.....	Hartford: Meech Grain Co..... Guaranty.....

INSPECTION OF 1923—Continued.

Station No.	Pounds per Hundred						Price per ton
	Water	Ash	Protein (N x 6.25)	Fiber	Nitrogen-free Extract (Starch, gum, etc.)	Ether Extract (Crude fat)	
22097	8.78	4.84	22.81	8.07	51.14	4.36	\$48.94
.....	.....	.....	20.00	9.00	.....	4.50	.....
22192	5.12	9.28	22.13	6.47	52.81	4.19	48.94
.....	.....	.....	20.00	9.00	.....	4.00	.....
22193	9.16	5.63	22.63	7.43	50.10	5.05	48.00
.....	.....	.....	20.00	9.00	.....	4.50	.....
22155	8.34	3.80	19.00	11.90	63.88	3.08	43.00
.....	.....	.....	9.00	14.00	.....	3.00	.....
22121	8.73	6.03	24.44	7.94	47.71	5.15	55.00
.....	.....	.....	25.00	11.00	.....	6.00	.....
22070	7.16	6.46	21.19	11.81	47.78	5.60	45.00
.....	.....	.....	16.00	.....	.....	3.00	.....
22003	8.77	6.94	19.63	10.04	49.76	4.86	48.00
.....	.....	.....	20.00	.....	.....	4.00	.....
22104	5.86	3.76	12.19	7.81	66.09	4.29	50.00
.....	.....	.....	9.00	.....	.....	3.00	.....
22112	9.23	5.05	24.00	7.42	48.44	5.86	55.00
.....	.....	.....	24.00	.....	.....	5.00	.....
22171	7.50	3.42	9.50	8.78	65.55	5.25	46.00
.....	.....	.....	9.00	.....	.....	5.00	.....
22182	7.69	5.22	22.25	8.03	51.36	5.45	53.00
.....	.....	.....	22.00	.....	.....	5.00	.....
22018	4.45	8.14	8.25	9.67	7.47	2.02	37.00
.....	.....	.....	6.00	10.00	.....	2.00	.....
22023	6.91	5.39	17.50	11.33	55.50	3.37	49.00
.....	.....	.....	16.00	15.00	.....	4.00	.....
22165	8.54	5.05	12.81	6.86	61.97	4.77	44.00
.....	.....	.....	9.50	.....	.....	4.00	.....
22091	8.41	2.17	11.25	4.01	69.46	4.70	57.00
.....	.....	.....	9.00	.....	.....	4.00	.....
22024	6.73	5.35	21.63	9.55	51.55	5.19	54.00
.....	.....	.....	20.00	.....	.....	4.00	.....
22064	8.49	5.40	20.63	10.52	50.71	4.25	56.00
.....	.....	.....	20.00	.....	.....	4.00	.....
22052	7.37	7.39	25.13	9.79	44.36	5.96	54.00
.....	.....	.....	24.00	.....	.....	5.00	.....
22058	7.82	4.96	20.13	6.96	53.80	6.33	52.00
.....	.....	.....	23.00	10.00	.....	4.00	.....
22136	7.41	4.41	20.13	7.15	54.19	6.71	51.00
.....	.....	.....	19.00	.....	.....	5.50	.....
22108	7.64	4.07	20.13	7.05	55.13	5.98	57.00
.....	.....	.....	24.00	9.00	.....	6.00	.....
22131	7.54	5.47	17.88	6.93	56.91	5.27	51.00
.....	.....	.....	20.00	.....	.....	6.00	.....
22183	7.19	5.42	18.19	7.66	56.16	5.38	52.00
.....	.....	.....	20.00	.....	.....	6.00	.....

TABLE III. ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand	Retail Dealer
	PROPRIETARY MIXED FEEDS— <i>Continued.</i> <i>Horse, Dairy and Stock Feeds—Continued.</i>	
22134	Red Wing Stock Feed. Meech & Stoddard, Inc., Middletown, Conn.	<i>Middlefield:</i> Middlefield Gr. & Cl. Co. Guaranty.
21996	Victory Horse Feed. Metropolitan Mills, Hoboken, N. J.	<i>Derby:</i> Peterson-Hendee Co. Guaranty.
22122	Mystic Stock Feed. Mystic Milling Co., Rochester, N. Y.	<i>Thompsonville:</i> Geo. S. Phelps & Co.
22037	Uncle John's 24% Cream Pot Ration. Ontario Milling Co., Oswego, N. Y.	<i>Waterbury:</i> H. S. Coe & Co. Guaranty.
22174	Bison Stock Feed. Park & Pollard Co., Boston, Mass.	<i>Colchester:</i> P. Cutler. Guaranty.
22012	Stevens Mil Kade Calf Meal. Park & Pollard, Boston, Mass.	<i>Waterbury:</i> Spencer Grain Co. Guaranty.
22050	Pillsbury's Dairy Ration. Pillsbury Mills, Minneapolis, Minn.	<i>Canaan:</i> Ives & Pierce. Guaranty.
22116	Pillsbury's Dairy Ration. Pillsbury Mills, Minneapolis, Minn.	<i>Granby:</i> E. H. Rollins. Guaranty.
22031	Purina Cow Chow Feed. Purina Mills, St. Louis, Mo.	<i>Stamford:</i> Francis H. Leggett & Co. Guaranty.
22076	Protena Dairy Feed. Purina Mills, St. Louis, Mo.	<i>Norwalk:</i> Francis H. Leggett & Co. Guaranty.
22159	Purina Pig Chow. Purina Mills, St. Louis Mo.	<i>Rockville:</i> Rockville Grain & Coal Co. Guaranty.
22075	Iowa Stock Feed. Purity Oats Co., Chicago, Ill.	<i>Norwalk:</i> Francis H. Leggett & Co. Guaranty.
22085	Big Q Dairy Ration. Quaker Oats Co., Chicago, Ill.	<i>Hamden:</i> I. W. Beers. Guaranty.
22040	Schumacher's Sugared Feed. Quaker Oats Co., Chicago, Ill.	<i>Waterbury:</i> H. S. Coe & Co. Guaranty.
22188	Schumacher's Feed. Quaker Oats Co., Chicago, Ill.	<i>New Haven:</i> R. G. Davis & Sons. Guaranty.
22077	White Star Fine Feed. Quaker Oats Co., Chicago, Ill.	<i>Norwalk:</i> Francis H. Leggett & Co. Guaranty.
22161	Rosebro Horse Feed. Rosenbaum Bros., Chicago, Ill.	<i>Chester:</i> Leet Bros. Guaranty.
22115	Ryde's Cream Calf Meal. Ryde & Company, Chicago, Ill.	<i>Willimantic:</i> Willimantic Grain Co. Guaranty.
22144	Honest Hog Feed. Winchell Smith, Farmington, Conn.	<i>Farmington:</i> Winchell Smith. Guaranty.
22145	Mill Stream Boomerang Dairy Feed. Winchell Smith, Farmington, Conn.	<i>Farmington:</i> Winchell Smith. Guaranty.
22046	Syracold Dairy Feed. Syracuse Milling Co., Syracuse, N. Y.	<i>Norfolk:</i> Aug. P. Curtis. Guaranty.
22095	Syracold Stock Feed. Syracuse Milling Co., Syracuse, N. Y.	<i>Plainville:</i> Eaton Bros. Guaranty.
22016	Red Brand Ti-O-Ga Dairy Feed. Tioga Mill & Elevator Co., Waverly, N. Y.	<i>West Cheshire:</i> G. W. Thorpe. Guaranty.
22082	White Brand Dairy Feed. Tioga Mill & Elevator Co., Waverly, N. Y.	<i>New Canaan:</i> C. H. Fairty Co. Guaranty.

INSPECTION OF 1923—Continued.

Station No.	Pounds per Hundred						Price per ton
	Water	Ash	Protein (N x 6.25)	Fiber	Nitrogen-free Extract (Starch, gum, etc.)	Ether Extract (Crude fat)	
22134	7.34	5.00	9.69	9.47	63.30	5.20	\$46.00
.....	.....	.....	9.00	7.00	.....	3.00	.....
21996	7.74	6.55	8.50	11.17	64.56	1.48	48.00
.....	.....	.....	8.00	15.00	.....	1.00	.....
22122	8.67	4.27	14.19	7.50	60.85	4.52	43.00
.....	.....	.....	9.00	.....	.....	3.00	.....
22037	8.49	5.41	23.50	7.96	48.58	6.06	55.00
.....	.....	.....	24.00	.....	.....	5.50	.....
22174	7.43	6.50	8.25	13.45	61.91	2.46	44.00
.....	.....	.....	8.00	.....	.....	2.00	.....
22012	7.92	7.12	20.38	5.40	52.33	6.85	89.00
.....	.....	.....	20.00	.....	.....	3.00	.....
22050	7.99	7.05	20.44	8.78	50.33	5.41	51.00
.....	.....	.....	20.00	11.00	.....	4.00	.....
22116	8.37	7.61	20.13	7.82	50.70	5.37	47.00
.....	.....	.....	20.00	.....	.....	4.00	.....
22031	8.66	6.60	24.31	11.44	43.78	5.21	63.00
.....	.....	.....	24.00	.....	.....	4.30	.....
22076	8.55	6.55	17.38	11.66	51.58	4.28	45.00
.....	.....	.....	16.50	.....	.....	3.50	.....
22159	7.81	6.72	20.50	6.94	53.05	4.98	69.00
.....	.....	.....	20.00	.....	.....	3.20	.....
22075	7.54	3.90	9.88	10.50	63.27	4.91	43.00
.....	.....	.....	10.00	12.00	.....	5.50	.....
22085	8.25	5.44	23.00	9.94	48.53	4.84	54.00
.....	.....	.....	21.00	.....	.....	4.00	.....
22040	7.72	4.79	10.63	10.34	61.95	4.57	45.00
.....	.....	.....	10.00	.....	.....	3.25	.....
22188	7.51	4.10	10.00	11.15	63.41	3.83	44.00
.....	.....	.....	10.00	.....	.....	3.25	.....
22077	8.09	4.41	7.88	12.53	63.88	3.21	40.00
.....	.....	.....	8.00	.....	.....	3.00	.....
22161	7.35	3.10	10.94	6.85	67.23	4.53	48.00
.....	.....	.....	10.00	.....	.....	2.00	.....
22115	8.84	6.20	25.00	4.91	50.90	4.15	95.00
.....	.....	.....	25.00	.....	.....	5.00	.....
22144	8.78	6.13	16.88	3.54	59.86	4.81	45.00
.....
22145	7.79	4.86	17.38	9.19	56.01	4.77	52.00
.....	.....	.....	23.00	.....	.....	6.00	.....
22046	8.01	4.87	24.88	8.86	48.00	5.38	54.00
.....	.....	.....	24.00	.....	.....	4.50	.....
22095	2.95	5.07	10.44	10.61	66.52	4.41	43.00
.....	.....	.....	9.00	12.00	.....	3.00	.....
22016	7.11	6.61	25.00	9.14	46.63	5.51	53.00
.....	.....	.....	24.00	10.00	.....	4.50	.....
22082	9.14	6.44	21.75	5.84	51.27	5.56	55.00
.....	.....	.....	20.00	10.00	.....	4.50	.....

TABLE III. ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand	Retail Dealer
	<i>PROPRIETARY MIXED FEEDS—Continued.</i>	
	<i>Horse, Dairy and Stock Feeds—Concluded.</i>	
22087	Biles Ready Dairy Ration. Ubiko Milling Co., Cincinnati, Ohio.....	Plantsville: C. A. Cowles.....
22173	Red Tag Big Y Stock Feed. The Yantic Grain & Products Co., Norwich, Conn.	Guaranty..... Norwich: Yantic Grain & Products Co. Guaranty.....
	<i>Poultry Feeds.</i>	
22063	Cak-Cak Laying Mash. Armour Grain Co., Chicago, Ill.....	New Milford: Geo. E. Ackley & Co.. Guaranty.....
22034	Iroquois Poultry Mash. Armour Grain Co., Chicago, Ill.....	Stamford: W. L. Crabb.....
22036	Basic Laying Mash No. 93. Basic Feeds Co., Lockport, Ill.....	Guaranty..... Stamford: W. L. Crabb.....
22180	Parex Dry Mash. Bosworth Bros., Putnam, Conn.....	Guaranty..... Putnam: Bosworth Bros.....
22142	Servus Egg Mash, With Milk. Thomas-Boyce, Attica, N. Y.....	Guaranty..... Farmington: Winchell Smith.....
22169	Egg Dry Mash. C. W. Campbell Co., Westerly, R. I.....	Guaranty..... Westerly: C. W. Campbell Co.....
22143	Peerless Laying Mash. Clover Leaf Milling Co., Buffalo, N. Y.....	Guaranty..... Farmington: Winchell Smith.....
22080	Conkey's Starting Feed. C. E. Conkey Co. Cleveland, Ohio.....	Guaranty..... New Canaan: C. H. Fairty Co.....
22086	Laying Mash. C. A. Cowles, Plantsville, Conn.....	Guaranty..... Plantsville: C. A. Cowles.....
22065	Wirthmore Buttermilk Mash Feed. Chas. M. Cox Co., Boston, Mass.....	Guaranty..... New Milford: Geo. T. Soule.....
22189	Poultry Mash. Crittenden-Benham Co., New Haven, Conn.....	Guaranty..... New Haven: Crittenden-Benham Co.....
22156	Elmore Egg Mash. Elmore Milling Co., Oneonta, N. Y.....	Guaranty..... Somers: W. C. Everett.....
22025	Eshelman's Laying Mash. John W. Eshelman & Sons, Lancaster, Pa.....	Guaranty..... South Norwalk: Roodner Feed Co.....
22151	Golden Egg Laying Mash. Flory Milling Co., Bangor, Pa.....	Guaranty..... Bloomfield: Bloomfield Farmers' Ex.....
22150	Flory's Superior Egg Mash. Flory Milling Co., Bangor, Pa.....	Guaranty..... Bloomfield: Bloomfield Farmers' Ex.....
22113	Grandin's Poultry Dry Mash with Buttermilk. D. H. Grandin Mill. Co., Jamestown, N. Y.....	Guaranty..... Willimantic: Willimantic Grain Co.....
22020	Algrane Laying Mash. H-O Cereal Co., Inc., Buffalo, N. Y.....	Guaranty..... South Norwalk: Roodner Feed Co.....
22057	Storrs Egg Mash. E. Manchester & Sons, Winsted, Conn.....	Guaranty..... Winsted: E. Manchester & Sons.....
22035	Bull Laying Mash. Maritime Milling Co., Buffalo, N. Y.....	Guaranty..... Stamford: W. L. Crabb.....
22105	Red Wing Dry Mash. Meech & Stoddard, Inc., Middletown, Conn.....	Guaranty..... Meriden: Meriden Grain & Coal Co.....

INSPECTION OF 1923—Continued.

Station No.	Pounds per Hundred						Price per ton
	Water	Ash	Protein (N x 6.25)	Fiber	Nitrogen-free Extract (Starch, gum, etc.)	Ether Extract (Crude fat)	
22087	8.06	5.76	23.75	7.57	49.30	5.56	\$55.00
.....	.....	.....	24.00	10.00	.....	5.00	.....
22173	7.72	3.72	9.94	8.73	63.27	6.62	45.00
.....	.....	.....	9.00	12.00	.....	4.00	.....
22063	8.36	6.60	20.00	3.26	57.13	4.65	68.00
.....	.....	.....	20.00	.....	.....	3.00	.....
22034	8.86	4.65	15.81	6.06	58.97	5.65	55.00
.....	.....	.....	15.00	.....	.....	4.00	.....
22036	9.32	7.15	22.13	4.44	51.76	5.20	65.00
.....	.....	.....	20.00	5.00	.....	5.00	.....
22180	8.64	5.78	18.94	6.23	55.52	4.89	67.00
.....	.....	.....	18.00	.....	.....	4.00	.....
22142	8.17	6.27	19.44	5.47	55.15	5.50	69.00
.....	.....	.....	18.00	8.00	.....	4.00	.....
22169	7.33	9.35	20.94	6.89	49.10	6.39	61.00
.....	.....	.....	18.00	.....	.....	2.00	.....
22143	8.13	6.03	18.44	6.69	55.55	5.16	59.00
.....	.....	.....	18.00	10.00	.....	4.00	.....
22080	9.42	4.26	12.00	2.52	67.07	4.73	74.00
.....	.....	.....	12.00	.....	.....	3.00	.....
22086	9.13	7.79	20.13	4.47	52.27	6.21	59.00
.....	.....	.....	20.00	4.50	.....	4.00	.....
22065	8.24	9.13	21.38	5.17	51.02	5.06	65.00
.....	.....	.....	20.00	.....	.....	4.00	.....
22189	7.38	10.64	21.88	6.05	47.35	6.70	56.00
.....	.....	.....	18.00	.....	.....	4.00	.....
22156	7.59	6.93	21.75	5.44	53.01	5.28	62.00
.....	.....	.....	18.00	.....	.....	4.00	.....
22025	6.48	8.68	23.75	4.78	49.59	6.72	61.00
.....	.....	.....	20.00	.....	.....	5.00	.....
22151	6.79	7.26	20.81	10.21	49.00	5.93	55.00
.....	.....	.....	18.00	10.00	.....	4.00	.....
22150	7.46	8.97	20.50	7.59	49.76	5.72	62.00
.....	.....	.....	20.00	8.00	.....	5.50	.....
22113	8.78	9.25	21.38	5.20	50.48	4.91	59.00
.....	.....	.....	20.00	.....	.....	3.00	.....
22020	6.79	9.57	17.13	3.71	57.19	5.61	64.00
.....	.....	.....	17.00	6.00	.....	4.50	.....
22057	7.36	10.01	21.88	5.83	47.64	7.28	56.00
.....	.....	.....	18.00	.....	.....	4.00	.....
22035	9.70	8.43	21.38	5.21	49.86	5.42	65.00
.....	.....	.....	20.00	.....	.....	5.00	.....
22105	8.24	8.03	17.00	5.40	55.15	6.18	63.00
.....	.....	.....	17.00	.....	.....	5.50	.....

TABLE III. ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand	Retail Dealer
PROPRIETARY MIXED FEEDS— <i>Concluded.</i>		
<i>Poultry Feed—Concluded.</i>		
22106	Red Wing Growing Feed. Meech & Stoddard, Inc., Middletown, Conn.	<i>Meriden:</i> Meriden Grain & Coal Co. Guaranty
22152	Marathon Laying Mash. Nowak Milling Co., Hammond, Ind.	<i>Bloomfield:</i> Bloomfield Farmers' Ex. Guaranty
22090	Lay or Bust Dry Mash. Park & Pollard, Boston, Mass.	<i>Plantsville:</i> C. A. Cowies. Guaranty
21992	Platco Laying Mash Mixture. Frank S. Platt Co., New Haven, Conn.	<i>New Haven:</i> Frank S. Platt Co. Guaranty
22071	Purina Chicken Chowder. Purina Mills, St. Louis, Mo.	<i>Danbury:</i> H. E. Meeker. Guaranty
22178	Ful-O-Pep Dry Mash. Quaker Oats Co., Chicago, Ill.	<i>Putnam:</i> F. M. Cole. Guaranty
22140	Quisenberry "Big 4" Laying Mash. Quisenberry Feed Mfg. Co., Buffalo, N. Y.	<i>Farmington:</i> Winchell Smith. Guaranty
22141	Quisenberry Quality Buttermilk Laying Mash. Quisenberry Feed Mfg. Co., Buffalo, N. Y.	<i>Farmington:</i> Winchell Smith. Guaranty
22029	Vitality Egg Mash. Rosenbaum Bros., Chicago, Ill.	<i>Stamford:</i> Francis H. Leggett & Co. Guaranty
22184	Chic-Chuk Poultry Food. Russia Cement Co., Gloucester, Mass.	<i>Hartford:</i> Meech Grain Co. Guaranty
22006	Home Made Milk Mash. Seymour Grain & Coal Co., Seymour, Conn.	<i>Seymour:</i> Seymour Grain & Coal Co. Guaranty
22139	Mill Streams Lightnin Laying Mash. Winchell Smith, Farmington, Conn.	<i>Farmington:</i> Winchell Smith. Guaranty
22081	Egatine. Tioga Mill & Elevator Co., Waverly, N. Y.	<i>New Canaan:</i> C. H. Fairty Co. Guaranty

INSPECTION OF 1923—Concluded.

Station No.	Pounds per Hundred						Price per ton
	Water	Ash	Protein (N x 6.25)	Fiber	Nitrogen free Extract (Starch, gum, etc.)	Ether Extract (Crude fat)	
22106	7.87	14.86	17.88	4.61	48.79	5.99	\$63.00
.....	.....	.....	10.00	.....	.....	6.00	.....
22152	7.78	6.82	20.75	5.92	53.61	5.12	56.00
.....	.....	.....	20.00	.....	.....	4.50	.....
22090	8.50	9.14	19.38	6.16	51.71	5.11	60.00
.....	.....	.....	18.00	.....	.....	1.50	.....
21992	9.93	8.80	18.88	5.70	49.74	6.95	67.00
.....	.....	.....	18.94	.....	.....	5.38	.....
22071	8.38	6.89	19.75	7.25	52.56	5.17	75.00
.....	.....	.....	19.00	.....	.....	4.00	.....
22178	7.56	9.46	20.88	6.88	49.49	5.73	76.00
.....	.....	.....	20.00	.....	.....	4.00	.....
22140	8.01	6.27	17.88	7.65	55.10	5.09	67.00
.....	.....	.....	17.00	6.00	.....	4.00	.....
22141	7.85	6.84	20.63	5.28	54.11	5.29	71.00
.....	.....	.....	18.00	5.00	.....	4.00	.....
22029	9.09	7.56	21.13	4.68	52.29	5.25	82.00
.....	.....	.....	20.00	7.00	.....	4.00	.....
22184	3.21	30.15	63.31	.....	1.06	2.27	90.00
.....	.....	.....	45.00	.....	.....	2.00	.....
22006	9.89	8.28	18.75	5.22	53.22	4.64	69.00
.....
22139	8.22	8.99	20.88	5.51	51.10	5.30	61.00
.....	.....	.....	16.00	.....	.....	3.00	.....
22081	8.58	8.36	26.63	3.35	47.18	5.90	64.00
.....	.....	.....	23.00	.....	.....	2.50	.....

TABLE IV. ANALYSES OF FEEDING STUFFS

Station No.	Material	Submitted by
OIL SEED PRODUCTS.		
<i>Cottonseed Meal:</i>		
22206	.....	Canterbury: Park B. Smith.....
20802	Danish.....	Middletown: The Coles Company....
21780	Cameron-Daniell Co.....	The Coles Company.....
21745	Thirty-six.....	The Coles Company.....
CORN PRODUCTS.		
22342	Hominy.....	Bloomfield: Bloomfield Farmers' Ex..
PROPRIETARY MIXED FEEDS.		
<i>Horse, Dairy and Stock Feeds.</i>		
22405	Eastern States Dairy Ration.....	Hartford: Francis P. Nolan.....
22406	Cornell Ration.....	Francis P. Nolan.....
19711	Dairy Feed.....	Meriden: Raymond Ives.....
22446	Dairy Ration 24%.....	Middletown: The Coles Company....
22679	Dairy Ration 24%.....	The Coles Company.....
22560	Dairy Ration 24%.....	The Coles Company.....
20894	Uncle John 24% Cream Pot Ration.....	The Coles Company.....
21259	Uncle John 24% Cream Pot Ration.....	The Coles Company.....
21797	Uncle John 24% Cream Pot Ration.....	The Coles Company.....
21260	Uncle John 18% Dairy Ration.....	The Coles Company.....
21796	Uncle John 18% Dairy Ration.....	The Coles Company.....
21825	Uncle John 18% Dairy Ration.....	The Coles Company.....
21982	Special Dairy Feed.....	The Coles Company.....
22594	Eastern States Milkmore Dairy Ration...	Rockville: H. B. Pomeroy.....
21106	Algrane Milk Feed.....	South Norwalk: Roodner Feed Co....
20826	Feed No. 1.....	Yantic: John H. Ryan.....
20827	Feed No. 2.....	John H. Ryan.....
<i>Poultry Feeds.</i>		
22626	Eastern States-Egg Mash, No. 1.....	Central Village: Birchwood Farm Co.
22627	Eastern States Egg Mash, No. 2.....	Birchwood Farm, Inc.....
21879	Chicken Feed.....	Centerville: S. Thomson.....
21859	Fortune Egg Mash.....	Middletown: The Coles Company....
22593	Eastern States Egg Mash.....	Norwich: F. W. Browning.....
21315	Feed.....	The Yantic Grain & Products Co..
22538	Eastern States Egg Mash.....	The Yantic Grain & Products Co..
20750	Ground Navy Soup Beans.....	Pittsburgh, Pa.: Dwight Hamlin, Inc.
MISCELLANEOUS.		
21841	Wheat Bran.....	New Haven: Station Agent, stock of R. G. Davis.....
21842	Cottonseed Meal.....	Station Agent.....
21843	Corn Meal.....	Station Agent.....
21844	Dairy Ration.....	Station Agent.....

SUBMITTED BY INDIVIDUALS.

Station No.	Pounds per Hundred						Remarks
	Water	Ash	Protein (N x 6.25)	Fiber	Nitrogen-free Extract (Starch, gum, etc.)	Ether Extract (Crude fat)	
22206	.....	.....	36.13	.....	.....	.....
20802	.....	.....	37.44	.....	.....	.....
21780	.....	.....	35.69	.....	.....	.....
21745	.....	.....	34.75	.....	.....	.....
22342	9.54	2.34	10.00	3.78	68.08	6.26	
22405	5.84	5.12	22.63	6.38	54.70	5.33	
22406	5.31	9.28	19.69	6.31	53.60	5.81	
19711	12.57	5.85	19.69	6.17	51.41	4.31	
22446	8.11	5.27	22.75	6.44	51.75	5.68	
22679	5.53	.....	23.50	.....	.....	6.59	Guaranty; protein 24 per cent.
22560	.....	.....	23.31	.....	.....	.....
20894	.....	.....	24.81	.....	.....	.....	Guaranty; protein 24 per cent.
21259	.....	.....	24.00	.....	.....	.....	Guaranty; protein 24.90 per cent.
21797	.....	.....	24.56	.....	.....	.....	Guaranty; protein 24 per cent.
21260	.....	.....	17.50	.....	.....	.....	Guaranty; protein 18.90 per cent.
21796	.....	.....	16.75	.....	.....	.....	Guaranty; protein 18 per cent.
21825	.....	.....	16.75	.....	.....	.....	Guaranty; protein 18 per cent.
21982	9.22	5.84	20.88	7.50	50.02	6.54	
22594	.....	.....	25.00	.....	.....	.....	Guaranty; protein 24 per cent.
21106	.....	.....	17.50	.....	.....	.....	Guaranty; protein 16 per cent.
20826	.....	.....	11.88	.....	.....	.....
20827	.....	.....	6.13	.....	.....	.....
22626	.....	.....	23.63	.....	.....	.....	Guaranty; protein 20 per cent.
22627	.....	.....	25.38	.....	.....	.....	Guaranty; protein 20 per cent.
21879	10.59	7.76	21.50	4.43	50.72	5.00	
21859	9.03	11.02	18.25	5.46	51.20	5.04	
22593	.....	.....	23.50	.....	.....	.....	Guaranty; protein 22 per cent.
21315	.....	.....	22.63	.....	.....	.....
22538	10.20	5.10	22.75	5.79	51.75	4.41	
20750	7.19	5.73	24.00	4.89	56.53	1.66	
21841	11.46	5.57	15.38	9.96	51.58	6.05	Feeding Experiments, Storrs.
21842	8.91	5.27	34.50	15.37	29.77	6.18	Feeding Experiments, Storrs.
21843	13.36	1.07	9.75	2.60	70.21	3.08	Feeding Experiments, Storrs.
21844	11.51	3.75	17.81	8.52	53.53	4.88	Feeding-Experiments, Storrs.

TABLE IV. ANALYSES OF FEEDING STUFFS,

Station No.	Material	Submitted by
MISCELLANEOUS— <i>Concluded.</i>		
21835	Eastern States Milkmore Ration.....	Meriden: Station Agent, stock of Minor Ives.....
21836	Eastern States Egg Mash.....	Station Agent, stock of Minor Ives
22234	Eastern States Milkmore Ration.....	Farmington: Station Agent, stock of C. E. Stephenson.....
22235	Eastern States Milkmore Ration.....	Station Agent, stock of C. E. Stephenson.....
22236	Eastern States Milkmore Ration.....	Station Agent, stock of C. E. Stephenson.....
20514	Mill Sweepings.....	Wadsworth & Wadsworth.....
22612	Spratt's Dog Biscuit.....	Hartford: Dairy & Food Comm'r.....
22613	Austin's Dog Biscuit.....	Dairy & Food Commissioner.....

MISCELLANEOUS SAMPLES.

SAMPLES SUBMITTED BY INDIVIDUALS OR DRAWN AT THEIR REQUEST.

Table IV summarizes analyses made for individuals. In most cases samples were drawn by the senders; but in a few cases samples were officially drawn by our agent on request.

These samples come under the head of gratuitous analyses which have been discussed elsewhere in this report.

MATERIALS EXAMINED FOR POISONS.¹

19794. *Stock Feed.* Submitted by a purchaser. With the aid of a lense green particles were plainly seen in this sample. Qualitative tests showed copper and arsenic (the essential constituents of Paris Green), in considerable amounts.

21570. *Poultry Mash.* Submitted by a dealer. Thirty chickens died after eating this mash. The feed was composed chiefly of corn meal, bran, oats, etc. Green particles were seen in the feed and there were lumps in which the green substance was present. Chemical tests showed the presence of considerable quantities of copper and arsenic. Paris Green had become mixed with the feed accidentally or otherwise.

18658, 20858, 21915, 22219, 22287, and 22288. These feeds were examined but nothing was found to explain the unfavorable or fatal results reported to have followed the feeding of these products.

CONDIMENTAL FOODS.¹

22361. *Stock Conditioner.* Guarantee Feed Co. of Pennsylvania, Lewisburg, Pa. The company guarantees to indemnify the

¹Examined by C. E. Shepard.

SUBMITTED BY INDIVIDUALS—*Concluded.*

Station No.	Pounds per Hundred						Remarks
	Water	Ash	Protein (N x 6.25)	Fiber	Nitrogen-free Extract (Starch, gum, etc.)	Ether Extract (Crude fat)	
21835	9.51	6.42	24.81	8.78	45.53	4.95	Guaranty; protein 24.00, fat 5.00, fiber 9.00 per cent.
21836	10.84	4.75	23.88	5.44	50.25	4.84	Guaranty, protein 22.00, fat 3.5, fiber 7.00 per cent.
22234	10.53	4.65	25.50	7.10	47.26	4.96	Guaranty; protein 24.00, fat 5.00 per cent.
22235	9.04	6.93	25.19	8.75	45.36	4.73	Guaranty; protein 24.00 per cent.
22236	8.02	7.06	26.75	8.57	44.17	5.43	Guaranty; protein 24.00; fat 5.00 per cent.
20514	6.41	6.85	28.63	15.81	36.58	5.72	
22612	6.20	3.59	19.88	0.49	66.18	3.66	
22613	7.52	1.99	13.00	0.30	75.02	2.17	

user of this product against loss of his stock by contagious disease provided he has fed the conditioner continuously and in accord with directions.

Examination of a sample of this product submitted by a prospective agent was made with the following results:

Moisture 9.88 per cent.; nitrogen 1.12 per cent.; ash (mineral matter), 9.58 per cent.; vegetable bitters, none detected; emodin-like substances, none found; saltpeter, none found; fenugreek bicarbonate of soda, ferrous sulphate and magnesium sulphate, present; seed coats or hulls, large amount present.

Seed coats (resembling cotton hulls) comprised a large proportion of the product. There was about 10 per cent. of mineral matter consisting chiefly of, or containing, bicarbonate of soda, iron and epsom salt. No vegetable bitters or vegetable cathartics were detected.

The mineral ingredients found in this preparation are not uncommon in so-called stock conditioners and tonics. We have no information as to what the directions for feeding this remedy (as specified in the guaranty), are. However, the observation of a leading authority¹ on feeds and feeding seems pertinent in this connection. This text says: "The stock foods are usually accompanied by directions which advocate liberal feeding and good care for the animals to be fed in order to secure the benefits from the tonic". In other words some benefit is bound to arise from the increased care and attention which the animals will be given.

¹ Henry and Morrison.