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BEING THE
Report on Commercial
Feeding Stuffs

1920

By E. M. BAILEY

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March, 1921.

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Commercial Feeding Stuffs.

By E. M. BAILEY.*

PROVISIONS OF THE STATUTES RELATING TO FEEDING STUFFS.

Under the Connecticut statutes the term "concentrated commercial feeding stuffs" covers 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.

Under the new fertilizer law cottonseed meal is classed as a commercial fertilizer and, as such, is subject to analysis fees and tonnage tax. Provision is made, however, to exempt meal sold exclusively for feeding purposes.¹

Section 4775 requires that every lot or parcel of concentrated commercial feeding stuff shall bear 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. The law forbids the use of any metal in affixing tags.

No registration of feed or payment of analysis or license fees is required.

The penalty for violation of the statute is not more than \$100 fine for the first offense and not more than \$200 for each subsequent offense.

The law authorizes this Station to take samples from any manufacturer or dealer, in a prescribed manner, and requires the Station to analyze annually at least one sample of each brand which it has collected, and to publish these analyses "together with such additional information in relation to the character, composition and use thereof as may be of importance."

CLASSIFICATION OF SAMPLES.

The classification and summary of commercial feeding stuffs and other materials requiring fodder analysis which have been examined during the past year is as follows:

*Analyses are by Messrs. Shepard, Nolan and Merwin.

¹Chap. 204, Public Acts, 1919.

Official samples taken by the Station Agent.....	141
Submitted by the Dairy Commissioner and by individuals.....	56
Examined in connection with field experiments at Storrs.....	362
Examined in connection with field experiments of this Station.....	44
Total.....	603

This report is concerned only with the results of the official inspection and with samples submitted by the Dairy Commissioner and by individuals.

Official samples taken by the Station Agent are classified as follows:

Cottonseed Meal.....	16	Maize Products.....	19
Cottonseed Feed.....	2	Distillers' Grains.....	1
Linseed Meal.....	2	Dried Beet Pulp.....	3
Wheat Bran.....	10	Cocoonut Meal.....	1
Wheat Mixed Feed.....	5	Peanut Oil Cake.....	1
Wheat Middlings.....	16	Proprietary Stock Feeds.....	53
Rye Products.....	2	Poultry Feeds.....	9
Oat Feed.....	1	Total.....	141

ETHER EXTRACT IN MOLASSES FEEDS.

In 1913 Street¹ called attention to the fact that in case of feeds containing molasses, the regular ether extraction method generally failed to remove all of the ether-soluble substances. By first washing out saccharine materials with water, drying and then extracting with ether higher results for "fat" were usually obtained. Since that time this modified procedure for the determination of fat has been followed in such samples as were known, or declared, to contain molasses.

A summary of the results for the period 1913 to 1919 inclusive is as follows:

Year	Ether Extract by Modified Method.		Total number of samples.
	Higher than regular.	Lower than regular.	
1913.....	17	5	22
1914.....	7	12	19
1915.....	18	3	21
1916.....	11	20	31
1917.....	6	2	8
1918.....	0	6	6
1919.....	11	3	14
Totals.....	70	51	121

It appears that out of 121 cases, 51, or about 42 per cent., gave lower figures for ether extract by the modified method than by the regular procedure. Nevertheless it would appear to be a more rational practice to wash out sugars before proceeding to extract

¹Conn. Exp Sta. Report 1913, Part V p. 313 et seq.

with ether and the results, even when lower, are probably nearer the truth so far as true fat is concerned. But since the term fat in a guaranty means crude fat (i. e. ether extract) it has been customary to report the higher figure for this ingredient by whichever method obtained.

Of the nine samples of molasses feeds examined this year eight equaled their guaranties for fat by the regular method and they were not subjected to the modified treatment. The one sample falling below guaranty and which was checked by the modified method gave a higher result by that procedure.

COEFFICIENTS OF DIGESTIBILITY AND NET ENERGY VALUES.

The significance of digestion coefficients and net energy values of feeding stuffs has been briefly discussed in previous bulletins.¹ These factors for most of the types of feeds reported herein are given in the following table:

TABLE I.—COEFFICIENTS OF DIGESTIBILITY AND NET ENERGY VALUES OF FEEDING STUFFS.²

Feed	Average dry matter, lbs. per hundred.	Coefficient of digestibility.				Net energy value, Therms per hundred lbs.
		Protein	Fiber.	Carbohydrates.	Fat.	
Cottonseed Meal.....	92.2	84	37	75	95	90.0
Cottonseed Feed.....	...	58	45	61	90	...
Linseed Meal (old process) ..	90.0	89	57	78	89	88.9
Linseed Meal (new process)..	90.4	86	73	87	95	85.1
Wheat Bran.....	89.9	76	43	74	62	53.0
Wheat Feed.....	...	77	36	76	87	...
Wheat Middlings.....	89.6	77	30	78	88	59.1
Red Dog Flour.....	...	88	36	88	86	...
Rye Flour.....	...	80	..	88	90	...
Barley, ground.....	90.7	88	70	93	86	89.9
Barley Bran.....	...	85	20	86	87	...
Corn Gluten Meal.....	90.9	85	55	90	93	84.2
Corn Gluten Feed.....	91.3	85	76	88	85	80.7
Hominy Feed.....	89.9	66	76	90	91	81.3
Brewers' Grains.....	92.5	81	49	57	89	53.4
Malt Sprouts.....	92.4	77	87	80	85	72.7
Distillers' Grains, Corn.....	93.4	73	95	81	95	85.1
Distillers' Grains, Rye.....	92.8	59	..	67	84	56.0
Beet Pulp, dried.....	91.8	52	83	83	..	75.9
Peanut Cake, without shells.	89.3	90	9	84	90	93.6
Soybean Meal, fat extracted.	88.2	92	99	100	68	99.7
Cocconut Cake.....	90.4	90	23	87	100	83.5

¹Conn. Exp. Sta. Bull. 212 p. 357, 1918; Bull. 221 pp. 347-351, 1919.

²Henry and Morrison, 15th ed., pp. 118-119; Armsby and Putney, Penn. Exp. Sta., Bull. 142, 1916.

INSPECTION OF 1920.

REMARKS ON ANALYSES.

(Analyses on pages 306-323)

The definitions of the various feeding stuffs here given are those adopted by the Association of Feed Control Officials of the United States and revised to 1920.

Definitions of the several grades of cottonseed meal are as follows:

Cottonseed Meal is a product of the cottonseed only, composed principally of the kernel with such portion of the hull as is necessary in the manufacture of oil, provided that nothing shall be recognized as cottonseed meal that does not conform to the foregoing definition and that does not contain at least 36 per cent. of protein.

Choice Cottonseed Meal must be finely ground, not necessarily bolted, perfectly sound and sweet in odor, yellow, free from excess of lint, and must contain at least 41 per cent. of protein.

Prime Cottonseed Meal 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 must contain at least 38.6 per cent. of protein.

Good Cottonseed Meal must be finely ground, not necessarily bolted, of sweet odor, reasonably bright in color, and must contain at least 36 per cent. of protein.

Revision of these definitions is contemplated and tentative definitions¹ are as follows:

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 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, and by analysis 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.

Readjustment of prices is particularly conspicuous in this product. The prices given in Table IV were those which prevailed at the time these samples were taken (November and December 1920); the prevailing price at this time (March 1st, 1921) is less than \$50 per ton.

¹Adopted at the annual meeting of the A. F. C. O., November, 1920.

Of the sixteen samples examined three showed a deficiency in protein of more than 1 per cent. None were deficient in fat. Fiber content is not required to be stated under the law in this State but, if given, it should be correct; three samples exceeded the maximum limit for this ingredient by more than 1 per cent. in each case. The average protein content, 39.4 per cent., is substantially higher than the average found for several years past.

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

Two samples were analyzed one of which was slightly below guaranty in both protein and fat.

Linseed Meal is the ground product obtained after extraction of part of the oil from ground flaxseed and cleaned of weed seeds and other foreign materials by the most improved commercial processes, provided that the final product shall not contain over six per cent. of weed seeds and other foreign materials and provided further that no portion of the stated six per cent. of weed seeds and other foreign materials shall be deliberately added.

The two samples examined conformed to their guaranties.

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.

All of the samples examined conformed to their guaranties with respect to protein and fat. One sample, **15652**, showed an excess of fiber.

Wheat Mixed 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.

All of the samples examined conformed to their guaranties.

Standard Middlings (Red Shorts or Brown 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 or "bee-wing" bran, the germ, and the offal or fibrous material contained 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.

All of the samples examined conformed to their guaranties with the exception of **15640** which was deficient in both protein and fat.

Rye Middlings or Rye Feed consists of the products other than the flour obtained in the manufacture of the ordinary "100 per cent." rye flour from the rye grain which has been cleaned and scoured.

The two samples examined conformed to their guaranties for both protein and fat.

Oat Products. Only one sample of oat feed was analyzed and this satisfied the requirements of the guaranty.

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

All of the samples examined were found to meet their guaranties. In one case, however, no guaranty was given.

Corn Meal. Only one sample was analyzed for which there was no statement of guaranty.

Hominy Feed 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.

The only deficiency found was in 15608 which was 0.95 per cent. below guaranty in fat.

Distillers' Products. Only one sample of distillers' dried grains was examined. It was of normal composition and quality.

Dried Beet Pulp is the material obtained by drying the 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.

The three samples examined conformed to their guaranties for protein and fat and no excess of fiber greater than 1 per cent. was found.

Cocoanut Oil Meal ("*Copra Oil Meal*") is the ground residue from the extraction of part of the oil from the dried meat of the cocoanut.

The single sample examined contained 0.94 per cent. less than the guaranteed amount of protein.

Peanut Oil Meal is the ground residue after the extraction of part of the oil from peanut kernels.

The single sample examined was deficient in protein by 2.06 per cent.

Proprietary Mixed Feeds. When compounded with materials of good quality these feeds possess undoubted merit. The variety of sources from which they derive their nutrients makes possible a supplementing of nutritive elements which modern ideas of efficient feeding endorse as a rational practice. They should not be made an outlet, however, for refuse or low-grade materials of little worth.

The law in this State does not require a statement of the ingredients of which such feeds are composed but information is valuable to the feeder and it is furnished in case of the following brands:

Acorn Dairy Feed. Cottonseed meal, linseed meal, wheat bran with mill run screenings, corn gluten feed, ivory nut meal, cocoanut meal, corn feed meal, starch mill corn solubles with calcium salts, salt, kafir meal.

Algrane Milk Feed. Cotton seed meal, linseed oil meal, corn gluten feed, ground corn, wheat midds (with mill run screenings) ground barley, molasses, salt $\frac{1}{2}$ of 1 per cent., oat hulls, oat shorts, oat clippings not over 600 lbs. per ton.

Biles Ready Dairy Ration. Corn distillers' dried grains, choice cottonseed meal, old process linseed meal, white wheat middlings, winter wheat bran, hominy meal, cocoanut oil meal, corn gluten feed, brewers' dried grains, barley malt sprouts, one-half per cent. fine table salt, and nothing else.

Bull Brand Stock Feed. Hominy feed, corn feed meal, barley feed, linseed oil meal, wheat bran, wheat middlings, second clear flour clipped oat by-product and three-fourths of one per cent. salt (wheat bran and wheat middlings may contain ground screenings not exceeding mill run).

Crosby's Stock Food. Ground barley, ground hominy feed, ground oats, oat feed (oat hulls, oat shorts, oat middlings).

Fourex Dairy Ration. Cottonseed meal, old process linseed meal, hominy meal, wheat bran and middlings, gluten feed, reground oat feed (oat hulls, oat shorts, oat middlings). Rye middlings, malt sprouts and salt.

Hamlin's Quality Feed. Corn, oats, alfalfa and cane syrup.

National Dairy Feed. Ground corn, ground oats, wheat bran, screenings from bran, oats, wheat and barley, cottonseed meal, copra meal, alfalfa meal, molasses, one per cent. salt.

Portage Stock Feed. Either white or yellow shelled corn, barley, oat shorts, oat hulls, oat middlings, wheat middlings, and $\frac{1}{2}$ of one per cent. salt.

Purina Cow Chow. Linseed oil meal (old process), gluten feed from corn, hominy feed, cottonseed meal, ground alfalfa, molasses and one per cent. salt.

Purina Pig Chow. Hominy feed, cane molasses, gluten feed from corn, corn meal, digester tankage, linseed oil meal (old process), alfalfa, charcoal (made from humus) and one per cent. salt.

Red Star Dairy Feed. Gluten feed, wheat bran, wheat middlings, old process oil meal, ground barley, cottonseed meal, corn distillers' grains, hominy and 1% salt.

Syragold Milk Ration. Dried brewers' grains, malt sprouts, corn gluten feed, linseed meal, wheat bran with mill run screenings, cottonseed meal, ground cottonseed hulls and salt.

Ti-O-Ga Dairy Feed. Cottonseed meal, old process linseed meal, wheat bran, cane molasses, wheat middlings, cocoanut oil meal, dried brewers' grains, corn gluten meal, corn gluten feed, barley, salt.

H-O Company's Laying Mash. Linseed oil meal, corn gluten feed, bone meal, ground corn, oat middlings, wheat middlings and wheat bran (with mill run screenings), hominy feed, rolled oats, ground peas.

SUMMARY OF DEFICIENCIES.

Variations from guaranty greater than 1 per cent. in protein and crude fiber and 0.25 per cent. in fat together with other remarks or criticisms are summarized in Table II.

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

Station No.	Brand and Manufacturer.	Protein deficiency.	Fat deficiency.	Fiber excess.	Remarks.
<i>Cottonseed Meal.</i>					
15601	Crown. Ashcraft-Wilkinson Co., Atlanta, Ga.....	%	%	%	
		1.37		1.21	
15606	Paramount. Ashcraft-Wilkinson Co., Atlanta, Ga.....				Wire tags, illegal.
15635	Jay. F. W. Brode & Co., Memphis, Tenn.....				Wire tags, illegal.
15628	Prime. Cotton Seed Products Co., Louisville, Ky.....				Wire tags, illegal.
15564	Good. W. D. Hall Co., Atlanta, Ga.....				Wire tags, illegal.
15548	Memphis. L. B. Lovitt & Co., Memphis, Tenn.....			1.12	Wire tags, illegal.
15540	Danish. Humphreys-Godwin Co., Memphis, Tenn.....	1.44			
15631	Thirty Six. L. B. Lovitt & Co., Memphis, Tenn.....				Wire tags, illegal.
15532	Holstein. Steele-Kolb By-Products Co., Inc., Birmingham, Ala.....	2.50		3.20	
<i>Cottonseed Feed.</i>					
15523	77. Humphreys-Godwin Co., Memphis, Tenn.....		0.37		Wire tags, illegal.
<i>Wheat Bran.</i>					
15620	The Anthony Mills, Anthony, Kansas.....				Wire tags, illegal.
15652	The Hunter Milling Co., Wellington, Kansas.....				Wire tags, illegal.
15522	Maple Leaf Milling Co., Limited, Toronto, Canada.....				Wire tags, illegal.
<i>Wheat Middlings.</i>					
15640	Shorts. James Goldie Co., Guelph, Ont....	1.25	1.38		
<i>Corn Gluten Feed.</i>					
15561	Hubinger Bros. Co., Keokuk, Iowa‡.....				No guaranty.
<i>Corn Meal.</i>					
15664	Unknown.....				No guaranty.
<i>Hominy Feed.</i>					
15559	Aunt Jemima Mills Co., St. Joseph, Mo.....				Wire tags, illegal.
15570	The Patent Cereal Co., Geneva, N. Y.....				Wire tags, illegal.
15608	Plymouth's Pure. Plymouth Milling Co., Lemars, Iowa.....	0.95			
<i>Peanut Oil Meal.</i>					
15657	Beta. Oil Seeds Co., Bayonne, N. J.....	2.06			
<i>Proprietary Feeds.</i>					
15653	Stock Feed. Hales & Edwards, Chicago‡.....		0.83		
15531	Vitality Stock Feed. Rosenbaum Bros., Chicago.....	1.69			

‡Statement of dealer.

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

Station No.	Brand and Manufacturer.	Protein deficiency.	Fat deficiency.	Fiber excess.	Remarks.
15553	Acorn Dairy Feed. Chapin & Co., Hammond, Ind.	%	%	%	Wire tags, illegal.
15629	Crosby's Quality Feed Dairy Ration. E. Crosby & Co., Brattleboro, Vt.	1.12			
15599	Eshelman's 20 Dairy Feed. John W. Eshelman & Sons, Lancaster, Pa.	2.44			No guaranty.
15546	Syragold Milk Ration. Syracuse Milling Co., Syracuse, N. Y.			2.74	
15667	Unknown.				
15656	Pioneer Hog Feed. Hales & Edwards, Chicago.		0.68		

MISCELLANEOUS SAMPLES, ETC.

CAROB BEANS.

Three analyses of carob beans, otherwise known as locust beans and St. John's bread are here given. Sample **15974** was obtained through the courtesy of Meech & Stoddard, Inc., Middletown, who also submitted a sample of bean and pod meal, No. **15833**. The third analysis is taken from the literature¹. Analyses are of the bean and pod.

ANALYSES OF CAROB BEANS.

Sample No.	15974 %	15833 %	Quoted analysis. %
Moisture	13.29	6.09	15.00
Ash	2.57	16.97	2.50
Protein	4.67	5.19	5.90
Fiber	5.91	6.67	75.30
Nitrogen-free Extract	73.12	62.76	
Fat	0.44	2.32	1.30

The high ash content in **15833** is due to a large amount (12.72 per cent.) of sand from dirt adhering to the beans.

CRUDE FIBER.

A sample of feed sent out by Mr. G. L. Bidwell, of the Bureau of Chemistry, Washington, Referee on methods for crude fiber determination, was examined in this laboratory by Mr. Shepard. His result, by the method proposed, was 13.35 per cent. By the procedure employed here he obtained 13.07 per cent.

¹Farmer's Bulletin 121, p. 17, 1900.

SAMPLES SUBMITTED BY THE DAIRY COMMISSIONER.

Three samples have been examined.

18528. *Chick feed*, was found to consist largely of cracked corn, oats, rye, millet and screenings. No decomposed or injurious material was detected.

17501 R and **11376 J.** *Interstate samples of Cottonseed meal* by Inspector W. J. Warner to check a sample, **13864**, drawn by our Station Agent. They contained respectively, 5.77 per cent. and 5.82 per cent. of nitrogen. Our original sample, **13864**, contained about 1 per cent. less nitrogen, five determinations on two separate sub-samples giving results of 4.92, 4.84, 4.91, 4.78 and 4.78 per cent. The various samples were taken from what was said to be the same shipment but there were evidently two different grades of meal in the lot. The goods were sold under a guaranty of 5.76 per cent. nitrogen, equivalent to 36 per cent. protein.

SAMPLES SUBMITTED BY INDIVIDUALS.

Corn Products. **14404.** Sweet corn, sent by F. C. Hubbard, Middletown, contained 10.4 per cent. of moisture.

14472. Farmers' Gluten, sent by The Coles Co., Middletown, contained 30.63 per cent. of protein.

15813. Gluten Feed, sent by A. S. Tanner, New Preston, contained 24.88 per cent. of protein.

14426. Gluten Feed, sent by H. R. Stone, Southbury, was analyzed as follows:

Moisture 6.30; ash 2.79; protein 25.19; fiber 6.52; nitrogen free extract 55.84; fat 3.36. per cent.

14889. Hominy, sent by Middlefield Grain and Coal Co., Middlefield, contained 11.13 per cent. of protein.

14430. Hominy, sent by Powder Hill Dairy Farm, Wallingford, contained 11.75 per cent. of protein.

14428. Hominy, sent by A. Gerosia, Plainfield, contained 8.85 per cent. of crude fat.

16194. Hominy Feed, sent by the Yantic Grain and Products Co., Norwich, contained 10.50 per cent. of protein and 4.15 per cent. of fiber.

Wheat Products. **15840.** Flour Middlings, sent by M. Asher, Andover, contained 17 per cent. of protein.

14755. Treated Bran, sent by Meech & Stoddard, Inc., Middletown. It consisted of coarse bran, probably wheat, with a small proportion of charred material, evidently the result of toasting or scorching.

15354. Shredded Wheat Waste for poultry, sent by Z. N. Beach, Wallingford, contained 12 per cent. of protein.

Proprietary Mixed Feeds. Fifteen samples have been submitted.

16077. Horse Feed, sent by L. A. Bevan, County Agent, Danbury.

- 15459.** Cow Feed, sent by Miss A. P. Bingham, Rockfall.
15972. Dairy Feed; and **15973.** Dry Mash, both sent by L. B. Merriman, Torrington.
15978 and **15979.** Special Mixtures, sent by L. H. Healey, North Woodstock.
16115. Horse Feed, sent by American Summatra Tobacco Co., East Hartford.
15329. College Stock Feed, sent by H. R. Stone, Southbury. Guaranty, protein 10 per cent.; fiber 11 per cent.; fat 2.5 per cent.; carbohydrates 60 per cent.
15447. Rabbit Mule Feed; **15448.** Green Cross Mule Feed; and **15932.** Monogram Feed, all sent by the Griffin Tobacco Co., Bloomfield.
15411. Big Repeater Dairy Ration, sent by E. H. Rollins, Granby.
15255. Farmer Jones Dairy Feed, sent by Washington Supply Co., Inc., Washington Depot.
14414. Eshelman's 24, sent by L. W. Smith, New Preston.
16054. Dairy Feed, sent by Charles T. Mason, Washington Depot.

The analyses of these feeds are given in the following Table:

TABLE III.—ANALYSES OF PROPRIETARY FEEDS SUBMITTED BY INDIVIDUALS.

Station No.	Moisture. %	Ash. %	Protein. %	Fiber. %	Nitrogen-free Extract. %	Fat. %
16077	6.16	8.79	20.38	6.16	52.97	5.54
15459	10.22	5.85	25.00	8.03	45.69	5.21
15972	7.87	4.21	19.19	9.55	53.61	5.57
15973	7.77	9.10	20.88	7.09	47.98	7.18
15978	7.17	3.86	20.44	8.50	55.05	4.98
15979	7.19	3.95	20.94	7.84	55.99	4.09
16115	7.29	6.97	11.25	13.82	58.59	2.08
15329	10.59	....	13.19	6.99	....	5.75
15447	8.60	7.32	10.63	14.84	56.83	1.78
15448	8.78	5.05	11.06	11.14	60.82	3.15
15932	6.77	7.21	12.94	10.76	59.88	2.44
15411	10.19	....	24.50	9.96	....	5.44
15255	....	....	22.44	....	....	....
14414	....	....	24.88	....	....	....
16054	8.28	....	25.44	....	....	9.21

Unclassified. **15880.** Alfalfa Feed, damaged, sent by Arthur Mather, Hartford, was found to contain a normal amount (10.13 per cent.) of protein and otherwise not obviously inferior.

15812. Cottonseed Feed, sent by A. S. Tanner, New Preston, contained 35.13 per cent. of protein.

16124. Sample sent by C. E. Slauson Co., Stamford, for identification. The material had the composition and general appearance of dried beet pulp.

14352 and **14336.** Yeast Grains, sent by T. C. Dyer, Collinsville, contained respectively 23.52 per cent. and 21.06 per cent. of nitrogen.

TABLE IV.—ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand.	Retail Dealer.
	OIL SEED PRODUCTS. <i>Cottonseed Meal.</i>	
15601	Crown. Ashcraft-Wilkinson Co., Atlanta, Ga.	<i>Torrington:</i> D. L. Talcott.. Guaranty.....
15584	Helmet. Ashcraft-Wilkinson Co., Atlanta, Ga.	<i>New Milford:</i> Geo. E. Ackley Guaranty.....
15606†	Paramount. Ashcraft-Wilkinson Co., Atlanta, Ga.	<i>Winsted:</i> E. Manchester & Sons..... Guaranty.....
15635†	Jay. F. W. Brode & Co., Memphis, Tenn.	<i>South Coventry:</i> W. C. Latimer..... Guaranty.....
15628†	Prime. The Cotton Seed Products Co., Louisville, Ky.	<i>Granby:</i> E. H. Rollins..... Guaranty.....
15580	Ordinary. Ennis Cotton Oil & Manufacturing Co., Ennis, Tex.	<i>New Milford:</i> Geo. T. Soule Guaranty.....
15581	Choice. Fidelity Products Co., Houston, Texas.	<i>New Milford:</i> Geo. T. Soule Guaranty.....
15564†	Good. W. D. Hall Company, Atlanta, Ga.	<i>Wallingford:</i> A. E. Hall..... Guaranty.....
15586	Bull. Humphreys-Godwin Co., Memphis, Tenn.	<i>Danbury:</i> H. E. Meeker.... Guaranty.....
15540	Danish. Humphreys-Godwin Co., Memphis, Tenn.	<i>West Chesire:</i> G. W. Thorpe. Guaranty.....
15666	Danish. Humphreys-Godwin Co., Memphis, Tenn.	<i>New Haven:</i> R. G. Davis & Sons..... Guaranty.....
15548†	Memphis. L. B. Lovitt & Co., Memphis, Tenn.	<i>Plainville:</i> Eaton Bros..... Guaranty.....
15631†	Thirty Six. L. B. Lovitt & Co., Memphis, Tenn.	<i>Hartford:</i> Meech Grain Co. Guaranty.....
15532	Holstein. Steele-Kolb By-Products Co., Inc., Birmingham, Ala.	<i>Hamden:</i> I. W. Beers..... Guaranty.....
15654	Planet. A. C. Westervelt & Co., Memphis, Tenn.	<i>Middletown:</i> Meech & Stoddard, Inc..... Guaranty.....
15598	Winder Oil Mill Co., Winder, Ga.	<i>Waterbury:</i> Spencer Grain Co..... Guaranty..... Average guaranty..... Average of analyses..... Average digestible.....
	<i>Cottonseed Feed.</i>	
15555	Danish. Humphreys-Godwin Co., Memphis, Tenn.	<i>Branford:</i> S. V. Osborn.... Guaranty.....
15523†	77. Humphreys-Godwin Co., Memphis, Tenn.	<i>East Haven:</i> F. A. Forbes.. Guaranty..... Average guaranty..... Average of analyses..... Average digestible.....

†Wire tags.

INSPECTION OF 1920.

Station No.	Pounds per Hundred.						Price per ton.
	Water.	Ash.	Protein. (N.x6.25)	Fiber.	Nitrogen-free Extract. (Starch, gum, etc.)	Ether Extract. (Crude Fat)	
15601	6.66	6.50	37.25	11.21	31.51	6.87	\$70.00
.....	.....	.....	38.62	10.00	23.00	6.00	.....
15584	6.54	7.53	40.38	7.35	29.24	8.96	60.00
.....	.....	.....	41.00	10.00	23.00	6.00	.....
15606	6.82	6.07	36.19	11.62	32.28	7.02	65.00
.....	.....	.....	36.00	14.00	27.00	5.50	.....
15635	7.71	5.03	35.44	13.86	31.57	6.39	58.00
.....	.....	.....	36.00	14.00	30.00	5.00	.....
15628	8.98	6.02	39.69	10.36	28.21	6.74	52.00
.....	.....	.....	38.62	10.00	.....	6.00	.....
15580	6.80	6.63	46.88	4.77	24.39	10.53	60.00
.....	.....	.....	43.00	12.00	25.00	6.00	.....
15581	6.74	6.73	46.50	4.35	24.62	11.06	60.00
.....	.....	.....	43.00	12.00	.....	6.00	.....
15564	8.11	6.36	36.00	11.83	31.84	5.86	47.00
.....	.....	.....	36.00	14.00	27.00	5.50	.....
15586	6.97	5.83	44.13	7.17	28.16	7.74	62.00
.....	.....	.....	43.00	10.00	26.00	5.00	.....
15540	7.92	5.92	34.56	12.88	31.95	6.77	58.00
.....	.....	.....	36.00	15.00	25.00	5.00	.....
15666	8.42	6.26	36.50	11.78	29.98	7.06	.....
.....	.....	.....	36.00	15.00	25.00	5.00	.....
15548	8.65	6.45	38.06	13.12	27.21	6.51	70.00
.....	.....	.....	38.50	12.00	27.50	5.50	.....
15631	7.26	6.69	39.38	10.92	27.56	8.19	67.00
.....	.....	.....	36.00	14.00	28.50	5.00	.....
15532	7.62	5.88	33.50	17.20	29.01	6.79	64.00
.....	.....	.....	36.00	14.00	27.00	5.00	.....
15654	11.21	7.32	44.31	6.64	22.24	8.28	62.00
.....	.....	.....	43.00	10.00	26.00	6.00	.....
15598	6.27	6.99	41.75	6.81	28.28	9.90	58.00
.....	.....	.....	38.50	7.10	30.75	7.50	.....
.....	.....	.....	38.70	12.07	26.48	5.62	.....
.....	7.67	6.39	39.41	10.12	28.62	7.70	60.86
.....	.....	.....	33.10	3.74	21.47	7.40	.....
15555	8.28	6.35	36.06	11.24	30.56	7.51	64.00
.....	.....	.....	36.00	15.00	25.00	5.00	.....
15523	8.58	3.79	19.63	26.53	37.84	3.63	55.00
.....	.....	.....	20.00	28.00	35.00	4.00	.....
.....	.....	.....	28.00	21.50	32.50	4.50	.....
.....	8.43	5.07	27.85	18.88	34.20	5.57	59.50
.....	.....	.....	16.15	8.50	20.86	5.01	.....

TABLE IV.—ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand.	Retail Dealer.
OIL SEED PRODUCTS—Concluded.		
<i>Linseed Meal, Old Process.</i>		
15524	Kellogg's Oil Meal. Spencer Kellogg & Sons, Undercliff, N. J.	<i>East Haven:</i> F. A. Forbes..
15575	Ground Linseed Cake. Midland Linseed Products Co., Minneapolis, Minn.	<i>New Britain:</i> C. W. Lines Co.
WHEAT PRODUCTS.		
<i>Wheat Bran.</i>		
15620*†	The Anthony Mills, Anthony, Kansas.	<i>New Haven:</i> Crittenden Benham Co.
15557	Commander. Commander Mill Co., Minneapolis, Minn.	<i>Guaranty</i>
15602*	Choice. Hecker-Jones-Jewell Milling Co., New York, N. Y.	<i>Guilford:</i> Fred. C. Morse..
15652†	The Hunter Milling Co., Wellington, Kansas.	<i>Torrington:</i> D. L. Talcott..
15522†	Maple Leaf Milling Co., Limited, Toronto Canada.	<i>Guaranty</i>
15634	Maple Leaf Milling Co., Toronto, Canada.	<i>New London:</i> P. Swartz & Co.
15647	Choice. Niagara Falls Milling Co., Niagara Falls, N. Y.	<i>Guaranty</i>
15645	Omar. Omaha Flour Mills Co., Omaha, Neb.	<i>East Haven:</i> F. A. Forbes..
15545	Thompson Milling Co., Lockport, N. Y.	<i>Guaranty</i>
15665*	Washburn-Crosby Co., Minneapolis, Minn..	<i>Norwich:</i> Chas. Slosberg & Son.
		<i>Guaranty</i>
		<i>Yantic:</i> Yantic Grain & Products Co.
		<i>Guaranty</i>
		<i>Plantville:</i> W. H. Cowles..
		<i>Guaranty</i>
		<i>New Haven:</i> R. G. Davis & Sons.
		<i>Guaranty</i>
		Average guaranty
		Average of analyses
		Average digestible
<i>Wheat Feed (Mixed Feed).</i>		
15605	Snowflake. Lawrenceburg Roller Mill Co., Lawrenceburg, Ind.	<i>Winsted:</i> E. Manchester & Sons.
15549*	Pillsbury's. Pillsbury Mills, Minneapolis, Minn.	<i>Guaranty</i>
		<i>Plainville:</i> Eaton Bros.
		<i>Guaranty</i>

*With screenings.

† Wire tags.

INSPECTION OF 1920—Continued.

Station No.	Pounds per Hundred.						Price per ton.
	Water.	Ash.	Protein (N.x625)	Fiber.	Nitrogen-free Extract. (Starch, gum, etc.)	Ether Extract. (Crude Fat)	
15524	8.54	5.80	31.06	8.39	39.16	7.05	\$70.00
.....	.....	.....	31.00	.....	.....	5.00	.....
15575	9.94	6.21	30.19	8.25	37.73	7.68	72.00
.....	.....	.....	31.00	.....	.....	5.00	.....
.....	.....	.....	31.00	.....	.....	5.00	.....
.....	9.24	6.01	30.63	8.32	38.43	7.37	71.00
.....	.....	.....	27.26	4.74	29.98	6.56	.....
15620	11.19	6.22	17.81	8.81	51.69	4.28	51.00
.....	.....	.....	14.50	10.00	.....	3.50	.....
15557	9.50	6.61	14.69	11.10	52.82	5.28	49.00
.....	.....	.....	13.00	.....	.....	3.50	.....
15602	9.97	5.56	16.94	9.32	52.62	5.59	48.00
.....	.....	.....	14.50	12.50	51.55	3.75	.....
15652	13.51	6.80	17.25	9.68	48.65	4.11	50.00
.....	.....	.....	14.50	11.00	52.00	3.50	.....
15522	9.10	5.49	17.63	10.37	51.38	6.03	31.00
.....	.....	.....	14.00	10.00	48.00	4.50	.....
15634	9.15	5.13	18.00	9.31	52.99	5.42	50.00
.....	.....	.....	15.50	.....	.....	4.50	.....
15647	12.57	5.60	18.31	12.40	45.25	5.87	48.00
.....	.....	.....	12.00	.....	.....	3.00	.....
15645	9.23	7.18	14.94	9.59	54.44	4.62	48.00
.....	.....	.....	14.50	11.00	50.00	3.50	.....
15545	9.81	6.76	16.13	9.88	52.54	4.88	47.00
.....	.....	.....	11.00	15.00	.....	3.00	.....
15665	10.92	5.06	17.44	10.62	50.15	5.81	.....
.....	.....	.....	13.00	.....	.....	4.50	.....
.....	.....	.....	13.65	11.59	50.39	3.73	.....
.....	10.50	6.04	16.91	10.11	51.25	5.19	46.89
.....	.....	.....	12.85	4.35	37.93	3.22	.....
15605	9.14	5.94	16.69	8.90	54.86	4.47	\$55.00
.....	.....	.....	14.00	.....	.....	3.00	.....
15549	9.89	4.62	16.38	7.64	56.41	5.06	65.00
.....	.....	.....	14.00	.....	.....	4.00	.....

TABLE IV.—ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand.	Retail Dealer.
<i>WHEAT PRODUCTS—Concluded.</i>		
<i>Wheat Feed (Mixed Feed)—Concluded.</i>		
15556	Occident. Russell Miller Milling Co., Minneapolis, Minn.	<i>Guilford</i> : Fred C. Morse.... Guaranty.....
15534	Gold Mine. Sheffield King Milling Co., Minneapolis, Minn.	<i>Ansonia</i> : Ansonia Flour & Grain Co..... Guaranty.....
15627	Kent. Williams Bros., Co., Kent, Ohio.	<i>Granby</i> : E. H. Rollins..... Guaranty..... Average guaranty..... Average of analyses..... Average digestible.....
<i>Wheat Middlings.</i>		
15533*	Bay State. Bay State Milling Co., Winona, Wis.	<i>Ansonia</i> : Ansonia Flour & Grain Co..... Guaranty.....
15596*	Big Diamond. Big Diamond Mills Co., Minneapolis, Minn.	<i>Waterbury</i> : Spencer Grain Co..... Guaranty.....
15554*	Madelia. C. S. Christenson Co., Madelia, Minn.	<i>Branford</i> : S. V. Osborn.... Guaranty.....
15611	Duluth Universal Milling Co., Duluth, Minn.	<i>Hazardville</i> : A. D. Bridges Sons..... Guaranty.....
15640	Shorts. Jas. Goldie Co., Guelph, Ont.	<i>Willimantic</i> : Boston Grain Store..... Guaranty.....
15600*	Hecker-Jones-Jewell Milling Co., New York	<i>Torrington</i> : D. L. Talcott.. Guaranty.....
15529	Black Hawk. International Milling Co., Minneapolis, Minn.	<i>Hamden</i> : I. W. Beers..... Guaranty.....
15526	Rex. Maple Leaf Milling Co., Toronto, Canada	<i>East Haven</i> : F. A. Forbes.. Guaranty.....
15616	Alta. Russell Miller Milling Co., Minneapolis, Minn.	<i>Suffield</i> : Spencer Bros.... Guaranty.....
15539	XXX Comet. Northwestern Consolidated Milling Co., Minneapolis, Minn.	<i>Southport</i> : C. Buckingham & Co., Inc..... Guaranty.....
15619*	Ogilvie Flour Mills Co., Winnipeg, Canada	<i>New Haven</i> : Crittenden-Benham Co..... Guaranty.....
15563*	Pillsbury's B. Pillsbury Mills, Minneapolis, Minn.	<i>Wallingford</i> : A. E. Hall.... Guaranty.....
15621	Quaker City. Quaker City Mills Co., Philadelphia, Pa.	<i>New Haven</i> : R. G. Davis & Sons..... Guaranty.....

*With screenings.

INSPECTION OF 1920—Continued.

Station No.	Pounds per Hundred.						Price per ton.
	Water.	Ash.	Protein. (N.x6.25)	Fiber.	Nitrogen-free Extract. (Starch, gum, etc.)	Ether Extract. (Crude Fat)	
15556	10.35	5.44	18.31	7.89	52.36	5.65	\$50.00
.....	.....	.....	15.00	.....	.....	4.50	.....
15534	8.54	5.24	16.31	9.08	55.59	5.24	60.00
.....	.....	.....	15.00	.....	.....	4.50	.....
15627	10.67	5.43	16.31	7.50	55.82	4.27	56.00
.....	.....	.....	14.00	.....	.....	3.00	.....
.....	.....	.....	14.40	.....	.....	3.80	.....
.....	9.70	5.33	16.80	8.20	55.01	4.94	57.20
.....	.....	.....	12.94	2.95	41.81	4.30	.....
15533	9.27	3.91	16.38	6.78	57.95	5.71	56.00
.....	.....	.....	15.00	.....	.....	4.00	.....
15596	9.28	4.92	16.88	8.45	55.49	4.98	50.00
.....	.....	.....	15.00	.....	.....	4.50	.....
15554	10.97	4.86	16.00	7.88	56.23	4.06	60.00
.....	.....	.....	14.00	.....	.....	3.00	.....
15611	8.62	3.44	17.00	4.92	60.54	5.48	60.00
.....	.....	.....	15.00	.....	.....	5.00	.....
15640	9.89	4.04	15.75	5.75	59.95	4.62	50.00
.....	.....	.....	17.00	.....	.....	6.00	.....
15600	9.18	5.08	17.06	7.56	55.88	5.24	50.00
.....	.....	.....	15.50	10.00	54.24	4.50	.....
15529	8.92	4.98	15.38	8.37	56.72	5.63	43.00
.....	.....	.....	14.00	.....	.....	3.50	.....
15526	9.06	4.25	16.75	7.84	55.84	6.26	53.00
.....	.....	.....	16.00	.....	.....	5.50	.....
15616	10.31	4.11	17.00	6.89	55.98	5.71	70.00
.....	.....	.....	15.00	.....	.....	4.50	.....
15539	10.53	2.59	16.69	1.95	63.52	4.72	77.00
.....	.....	.....	16.00	.....	.....	4.00	.....
15619	11.03	4.00	17.50	7.20	54.47	5.77	51.00
.....	.....	.....	13.00	.....	.....	4.00	.....
15563	10.47	5.04	16.06	8.92	54.02	5.49	45.00
.....	.....	.....	14.00	.....	.....	4.00	.....
15621	11.00	4.31	17.50	5.08	56.91	5.20	71.00
.....	.....	.....	14.00	.....	.....	4.00	.....

TABLE IV.—ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand.	Retail Dealer.
	<i>WHEAT PRODUCTS—Concluded.</i> <i>Wheat Middlings—Concluded.</i>	
15603*	Pennant. David Stott Flour Mills, Detroit, Mich.....	<i>Torrington:</i> F. L. Wadhams & Son..... Guaranty.....
15558*	Angelus. Thompson Milling Co., Lockport, N. Y.....	<i>Guilford:</i> Fred C. Morse... Guaranty.....
15573*	Standard. Washburn Crosby Co., Minneapolis, Minn.....	<i>New Britain:</i> C. W. Lines Co..... Guaranty..... Average guaranty..... Average of analyses..... Average digestible.....
	<i>RYE PRODUCTS.</i>	
15562	Feed. Boutwell Mill & Grain Co., Troy, N. Y.....	<i>Wallingford:</i> A. E. Hall.... Guaranty.....
15630*	Middlings. Shane Bros. & Wilson Co., Minneapolis, Minn.....	<i>Hartford:</i> Meech Grain Co. Guaranty.....
	<i>OAT PRODUCTS.</i>	
15544	Purity Oat Feed. Purity Oat Co., Keokuk, Iowa.....	<i>Plantville:</i> W. H. Cowles.. Guaranty.....
	<i>MAIZE PRODUCTS.</i> <i>Corn Gluten Feed.</i>	
15527	Cream of Corn. American Maize Products Co., New York.....	<i>East Haven:</i> F. A. Forbes.. Guaranty.....
15612	Cream of Corn. American Maize Products Co., Roby, Ind.....	<i>Hazardville:</i> A. D. Bridges Sons..... Guaranty.....
15528	Buffalo.† Corn Products Refining Co., New York.....	<i>Hamden:</i> I. W. Beers..... Guaranty.....
15551	Buffalo. Corn Products Refining Co., New York.....	<i>Branford:</i> S. V. Osborn... Guaranty.....
15625	Globe. Corn Products Refining Co., New York.....	<i>Bristol:</i> Goodsell Bros..... Guaranty.....
15561	Hubinger Bros. Co.,† Keokuk, Iowa.....	<i>North Haven:</i> W. L. Thorpe Guaranty.....
15537	Staley's. A. E. Staley Mfg. Co., Decatur, Ill.....	<i>Southport:</i> C. Buckingham & Co., Inc..... Guaranty.....
15579	Farmer Jones. U. S. Food Products Co., Peoria, Ill.....	<i>New Milford:</i> Geo. T. Soule Guaranty..... Average guaranty..... Average of analyses..... Average digestible.....

*With screenings. †Statement of dealer.

INSPECTION OF 1920—Continued.

Station No.	Pounds per Hundred.						Price per ton.
	Water.	Ash.	Protein. (N.x6.25)	Fiber.	Nitrogen-free Extract. (Starch, gum, etc.)	Ether Extract. (Crude Fat)	
15603	9.68	4.53	16.13	6.58	58.28	4.80	\$32.00
15558	11.77	3.85	15.00	6.14	55.38	4.00	60.00
.....	.....	.....	11.00	15.00	.....	3.00	.....
15573	12.20	4.06	19.06	6.86	52.02	5.80	65.00
.....	.....	.....	14.00	.....	.....	4.00	.....
.....	.....	.....	14.60	.....	.....	4.22	.....
.....	10.13	4.25	16.81	6.70	56.82	5.29	55.81
.....	.....	.....	12.94	2.01	44.32	4.66	.....
15562	11.51	3.74	15.06	4.03	62.59	3.07	45.00
.....	.....	.....	13.50	.....	.....	3.00	.....
15630	9.81	3.79	17.19	5.04	60.87	3.30	74.00
.....	.....	.....	15.50	9.00	55.00	3.50	.....
15544	6.48	7.63	6.06	26.62	51.15	2.06	35.00
.....	.....	.....	5.00	.....	.....	1.75	.....
15527	7.11	2.41	24.50	7.38	53.73	4.87	60.00
.....	.....	.....	23.00	.....	.....	1.50	.....
15612	7.05	2.47	23.56	6.05	57.32	3.55	65.00
.....	.....	.....	23.00	8.50	.....	1.50	.....
15528	8.37	4.76	26.38	5.69	50.09	4.71	60.00
.....	.....	.....	23.00	.....	.....	1.00	.....
15551	8.69	5.18	26.44	7.05	50.17	2.47	60.00
.....	.....	.....	23.00	.....	.....	1.00	.....
15625	8.83	2.89	26.56	6.04	54.52	1.16	60.00
.....	.....	.....	23.00	.....	.....	1.00	.....
15561	9.34	2.05	22.88	5.93	56.41	3.39	62.00
.....
15537	7.65	4.60	26.06	7.71	51.73	2.25	63.00
.....	.....	.....	23.00	.....	.....	1.00	.....
15579	7.99	2.06	25.94	7.12	49.86	7.03	60.00
.....	.....	.....	23.00	9.50	.....	2.00	.....
.....	.....	.....	23.00	.....	.....	1.28	.....
.....	8.14	3.30	25.30	6.62	52.98	3.68	61.25
.....	.....	.....	21.41	4.93	46.62	3.10	.....

TABLE IV.—ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand.	Retail Dealer.
	MAIZE PRODUCTS—Concluded.	
	<i>Corn Meal.</i>	
15664	.....	<i>New Haven:</i> R. G. Davis & Sons..... Guaranty.....
	<i>Hominy Feed.</i>	
15642	Homco. American Hominy Co., Indianapolis, Ind.....	<i>Willimantic:</i> Boston Grain Store..... Guaranty.....
15559†	Aunt Jemima Mills Co., St. Joseph, Mo.....	<i>Guilford:</i> Fred. C. Morse... Guaranty.....
15636	Spring Garden. The Baltimore Pearl Hominy Co., Baltimore, Md.....	<i>Willimantic:</i> Willimantic Grain Co..... Guaranty.....
15560	Emco. Evans Milling Co., Indianapolis, Ind.	<i>North Haven:</i> W. L. Thorpe Guaranty.....
15626	White. Kellogg Toasted Corn Flake Co., Battle Creek, Mich.....	<i>Bristol:</i> Goodsell Bros..... Guaranty.....
15604	True Value. Ladish Milling Co., Milwaukee, Wis.....	<i>Torrington:</i> F. L. Wadams & Son..... Guaranty.....
15643	Miller Cereal Mills, Omaha, Neb.....	<i>Yantic:</i> Yantic Grain and Products Co..... Guaranty.....
15538	Choice Steam Cooked. Miner-Hillard Milling Co., Wilkes-Barre, Pa.....	<i>West Cheshire:</i> G. W. Thorpe Guaranty.....
15570†	The Patent Cereal Co., Geneva, N. Y.....	<i>Meriden:</i> August Grulich, Est..... Guaranty.....
15608	Plymouth's Pure. Plymouth Milling Co., Lemars, Iowa.....	<i>Winsted:</i> E. Manchester & Sons..... Guaranty..... Average guaranty..... Average of analyses..... Average digestible.....
	DISTILLERS' PRODUCTS.	
15609	Eagle. Distillers' Dried Grains, The Dewey Bros., Blanchester, Ohio.....	<i>Winsted:</i> E. Manchester & Sons..... Guaranty.....
	MISCELLANEOUS FEEDS.	
15649	Dried Beet Pulp. Kasco Mills, Inc., Toledo, Ohio.....	<i>New London:</i> Conn. Grain Corp..... Guaranty.....
15651	Dried Beet Pulp. Max Hottetlet, Milwaukee, Wis.....	<i>New London:</i> P. Schwartz & Co..... Guaranty.....

†Wire tags.

INSPECTION OF 1920—Continued.

Station No.	Pounds per Hundred.						Price per ton.
	Water.	Ash.	Protein. (N.x6.25)	Fiber.	Nitrogen-free Extract. (Starch, gum, etc.)	Ether Extract. (Crude Fat)	
15664	16.00	1.23	8.44	2.06	68.99	3.28	\$.....
.....
15642	7.92	2.62	11.25	4.51	65.44	8.26	45.00
.....	.....	.....	10.00	6.00	.....	6.00	.....
15559	9.99	3.44	12.19	5.82	63.38	5.18	50.00
.....	.....	.....	10.00	8.00	65.00	5.00	.....
15636	8.82	2.46	10.94	4.58	67.21	5.99	50.00
.....	.....	.....	10.00	6.00	60.00	5.00	.....
15560	9.74	2.98	11.75	5.02	60.45	10.06	49.00
.....	.....	.....	10.00	7.00	.....	7.50	.....
15626	9.68	2.73	11.44	4.16	63.22	8.77	56.00
.....	.....	.....	10.00	5.00	55.00	6.00	.....
15604	7.35	2.30	10.94	3.48	69.20	6.73	33.00
.....	.....	.....	10.50	5.00	.....	5.00	.....
15643	9.17	2.91	11.44	4.69	63.47	8.32	50.00
.....	.....	.....	10.00	4.00	65.00	7.00	.....
15538	10.19	2.44	11.19	5.13	65.69	5.36	49.00
.....	.....	.....	10.00	5.00	.....	4.00	.....
15570	10.23	2.44	11.13	5.55	64.03	6.62	50.00
.....	.....	.....	10.00	.....	.....	5.00	.....
15608	7.98	2.20	10.75	4.20	67.32	7.55	52.00
.....	.....	.....	10.00	.....	.....	8.50	.....
.....	.....	.....	10.05	6.00	.....	5.90	.....
.....	9.11	2.65	11.30	4.71	64.94	7.29	48.40
.....	.....	.....	8.78	3.58	58.45	6.63	.....
15609	5.23	1.71	32.69	11.02	35.95	13.40	72.00
.....	.....	.....	30.00	13.00	30.00	10.00	.....
15649	10.73	3.38	9.00	18.84	56.18	1.87	60.00
.....	.....	.....	9.00	18.00	.....	0.50	.....
15651	9.40	3.26	9.00	20.24	56.63	1.47	60.00
.....	.....	.....	8.00	20.00	60.00	0.50	.....

TABLE IV.—ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand.	Retail Dealer.
<i>MISCELLANEOUS FEEDS—Concluded.</i>		
15565	Dried Beet Pulp. Larowe Milling Co., Detroit, Mich.....	Wallingford: A. E. Hall.... Guaranty..... Average guaranty..... Average of analyses..... Average digestible.....
15658	Cocoanut Oil Meal. Oil Seeds Co., Bayonne, N. J.....	Middletown: Meech & Stoddard, Inc..... Guaranty.....
15657	Beta Brand Peanut Oil Meal. Oil Seeds Co., Bayonne, N. J.....	Middletown: Meech & Stoddard, Inc..... Guaranty.....
<i>PROPRIETARY MIXED FEEDS. Horse, Dairy and Stock Feeds.</i>		
15655	Blatchford's Calf Meal. Blatchford Calf Meal Co., Wauregan, Ill.....	Middletown: Meech & Stoddard, Inc..... Guaranty.....
15525	Schumacher's Calf Meal. Quaker Oats Co., Chicago, Ill.....	East Haven: F. A. Forbes.. Guaranty.....
15639	Ryde's Cream Calf Meal. Ryde & Co., Chicago, Ill.....	Willimantic: Willimantic Grain Co..... Guaranty.....
15632	Hamlin Quality Horse Feed. Dwight Hamlin, Pittsburgh, Pa.....	Hartford: Meech Grain Co.. Guaranty.....
15577	Peter's King Corn Horse and Mule Feed. M. C. Peters Mills Co., Omaha, Neb.....	Shelton: Ansonia Flour & Grain Co..... Guaranty.....
15572	Purina O-Molene Feed. Purina Mills, St. Louis.....	Meriden: August Grulich, Est..... Guaranty.....
15622	Farmer Jones Horse Feed. U. S. Food Products Co., Peoria, Ill.....	New Haven: R. G. Davis & Sons..... Guaranty.....
15656	Pioneer Hog Feed. Hales & Edwards Chicago, Ill.....	Middletown: Meech & Stoddard, Inc..... Guaranty.....
15566	Barford's Ready Ration for Growing Pigs. Meech & Stoddard, Inc., Middletown.....	Meriden: Meriden Grain & Coal Co..... Guaranty.....
15594	Go-Tu-It Hog Ration. Park & Pollard Co., Boston.....	Norwalk: C. E. Slauson Co. Guaranty.....
15576	Peters Hog Profit. M. C. Peters Mill Co., Omaha, Neb.....	Shelton: Ansonia Flour and Grain Co..... Guaranty.....
15571	Purina Pig Chow. Purina Mills, Buffalo, N. Y.....	Meriden: August Grulich, Est..... Guaranty.....

INSPECTION OF 1920—Continued.

Station No.	Pounds per Hundred.						Price per ton.
	Water.	Ash.	Protein. (N.x6.25)	Fiber.	Nitrogen-free Extract. (Starch, gum, etc.)	Ether Extract. (Crude Fat)	
15565	6.95	3.28	8.56	19.30	61.20	0.71	\$58.00
.....	.....	.....	8.00	20.00	58.00	0.50	.....
.....	.....	.....	8.33	19.33	59.00	0.50	.....
.....	9.03	3.31	8.85	19.46	58.00	1.35	59.33
.....	.....	.....	4.60	16.15	48.14	.....	.....
15658	12.96	8.44	19.06	12.28	35.17	12.09	.....
.....	.....	.....	20.00	.....	.....	7.00	.....
15657	14.51	6.20	27.94	10.81	27.84	12.70	.....
.....	.....	.....	30.00	10.00	.....	7.00	.....
15655	13.96	6.00	23.19	8.31	43.76	4.78	130.00
.....	.....	.....	24.00	.....	.....	5.00	.....
15525	7.74	5.21	19.50	2.06	57.51	7.98	115.00
.....	.....	.....	18.00	.....	.....	8.00	.....
15639	8.17	5.39	25.19	6.53	49.79	4.93	140.00
.....	.....	.....	25.00	.....	.....	5.00	.....
15632	7.57	7.89	9.00	13.65	59.86	2.03	62.00
.....	.....	.....	9.00	14.00	.....	1.50	.....
15577	7.96	6.44	11.06	16.06	56.25	2.23	65.00
.....	.....	.....	10.00	.....	.....	1.50	.....
15572	9.72	3.87	10.56	6.37	65.38	4.10	58.00
.....	.....	.....	9.75	.....	.....	3.00	.....
15622	9.54	3.85	10.94	7.18	64.66	3.83	60.00
.....	.....	.....	10.00	.....	.....	2.50	.....
15656	12.30	5.48	16.88	9.03	52.99	3.32	58.00
.....	.....	.....	15.00	.....	.....	4.00	.....
15566	9.64	4.43	18.75	6.90	53.68	6.60	61.00
.....	.....	.....	18.00	.....	.....	5.00	.....
15594	8.43	9.74	18.25	6.95	50.71	5.92	75.00
.....	.....	.....	15.00	.....	.....	6.00	.....
15576	10.88	6.28	19.25	5.63	52.95	5.01	88.00
.....	.....	.....	17.00	.....	.....	4.00	.....
15571	11.63	8.78	17.06	5.47	52.71	4.35	65.00
.....	.....	.....	15.00	9.00	59.00	2.50	.....

TABLE IV.—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>	
15615	Portage Stock Feed. Akron Feed & Milling Co., Akron, Ohio.....	<i>Thompsonville:</i> Geo. S. Phelps & Co..... Guaranty.....
15536	Armour's Stock Feed. Armour Grain Co., Chicago, Ill.....	<i>Southport:</i> C. Buckingham & Co., Inc..... Guaranty.....
15617	Wirthmore Stock Feed. Chas. M. Cox Co., Boston, Mass.....	<i>Suffield:</i> Spencer Bros..... Guaranty.....
15641	Crosby's Stock Feed. E. Crosby & Co., Brattleboro, Vt.....	<i>Willimantic:</i> Boston Grain Store..... Guaranty.....
15637	Grandin's Stock Feed. D. H. Grandin Milling Co., Jamestown, N. Y.....	<i>Willimantic:</i> Willimantic Grain Co..... Guaranty.....
15653	Stock Feed. Hales & Edwards, † Chicago, Ill.....	<i>New London:</i> P. Swartz & Co..... Guaranty.....
15614	Krause Stock Feed. Charles A. Krause, Milwaukee, Wis.....	<i>Thompsonville:</i> George S. Phelps & Co..... Guaranty.....
15583	Bull Brand Stock Feed. Maritime Trading Corp., Buffalo, N. Y.....	<i>New Milford:</i> George E. Ackley..... Guaranty.....
15587	M. & S. Stock Feed. Meech & Stoddard, Inc., Middletown, Conn.....	<i>Danbury:</i> H. E. Meeker..... Guaranty.....
15650	Old Honesty Stock Feed. Oswego Milling Co., Oswego, N. Y.....	<i>New London:</i> P. Schwartz & Co..... Guaranty.....
15610	Schumacher Feed. Quaker Oats Co., Chicago, Ill.....	<i>Hazardville:</i> A. D. Bridges Sons..... Guaranty.....
15531	Vitality Stock Feed. Rosenbaum Bros., Chicago, Ill.....	<i>Hamden:</i> I. W. Beers..... Guaranty.....
15646	Haskell's Stock Feed. Sheets Elevator Co., Haskell Mills, Toledo, Ohio.....	<i>Norwich:</i> Charles Slosberg Sons..... Guaranty.....
15530	Armour's Dairy Feed. Armour Grain Co., Chicago.....	<i>Hamden:</i> I. W. Beers..... Guaranty.....
15553 †	Acorn Dairy Feed. Chapin & Co., Hammond, Ind.....	<i>Branford:</i> S. V. Osborn..... Guaranty.....
15589	Unicorn Dairy Ration. Chapin & Co., Hammond, Ind.....	<i>Danbury:</i> F. C. Benjamin Guaranty.....
15541	Wirthmore Balanced Ration for Milch Cows. Chas. M. Cox Co., Boston, Mass.....	<i>West Cheshire:</i> G. W. Thorpe, Guaranty.....
15629	Crosby's Quality Feed Dairy Ration. E. Crosby & Co., Brattleboro, Vt.....	<i>Hartford:</i> Meech Grain Co.. Guaranty.....

†Wire tags.

‡Statement of dealer.

INSPECTION OF 1920—Continued.

Station No.	Pounds per Hundred.						Price per ton.
	Water.	Ash.	Protein. (N.x6.25)	Fiber.	Nitrogen-free Extract. (Starch, gum, etc.)	Ether Extract. (Crude Fat)	
15615	8.35	4.27	10.13	10.96	61.54	4.75	\$55.00
.....	.....	.....	8.50	10.00	.....	4.00	.....
15536	6.99	4.78	12.63	12.47	58.20	4.93	50.00
.....	.....	.....	12.00	.....	.....	4.00	.....
15617	8.03	3.68	10.50	8.73	63.76	5.30	60.00
.....	.....	.....	9.00	.....	.....	4.00	.....
15641	9.16	2.94	10.44	7.03	65.25	5.18	48.00
.....	.....	.....	9.00	10.00	60.00	4.00	.....
15637	8.55	3.73	9.13	10.50	62.36	5.73	50.00
.....	.....	.....	10.00	.....	.....	4.00	.....
15653	10.80	5.43	12.56	10.46	57.58	3.17	50.00
.....	.....	.....	10.00	.....	.....	4.00	.....
15614	8.76	2.88	10.31	7.87	66.90	3.28	55.00
.....	.....	.....	9.00	.....	.....	3.00	.....
15583	8.70	4.72	13.81	8.77	58.71	5.29	60.00
.....	.....	.....	11.00	12.00	60.00	4.00	.....
15587	8.53	3.85	10.63	9.85	61.74	5.40	60.00
.....	.....	.....	9.00	.....	.....	3.00	.....
15650	10.16	4.64	11.25	11.46	58.60	3.89	50.00
.....	.....	.....	10.00	.....	.....	3.00	.....
15610	9.29	5.50	11.00	9.26	61.80	3.15	55.00
.....	.....	.....	10.00	.....	.....	3.25	.....
15531	7.86	7.04	10.31	12.24	58.80	3.75	55.00
.....	.....	.....	12.00	.....	.....	3.00	.....
15646	7.39	3.27	9.63	9.75	63.75	6.21	50.00
.....	.....	.....	9.00	.....	.....	6.00	.....
15530	7.09	7.25	27.69	13.55	38.48	5.94	72.00
.....	.....	.....	22.00	.....	.....	5.00	.....
15553	9.12	6.23	20.00	8.17	51.93	4.55	70.00
.....	.....	.....	20.00	10.00	.....	3.00	.....
15589	8.41	6.96	24.88	7.49	46.36	5.90	72.00
.....	.....	.....	24.00	.....	.....	4.50	.....
15541	8.99	5.32	24.19	10.60	45.85	5.05	65.00
.....	.....	.....	24.00	.....	.....	5.00	.....
15629	8.85	4.93	23.88	10.47	46.23	5.64	73.00
.....	.....	.....	25.00	.....	.....	5.00	.....

TABLE IV.—ANALYSES OF COMMERCIAL FEEDS.

Station No.	Manufacturer and Brand.	Retail Dealer.
<p>PROPRIETARY MIXED FEEDS—Continued. Horse, Dairy and Stock Feeds—Continued.</p>		
15599	Eshelman's 20 Dairy Feed. John W. Eshelman & Sons, Lancaster, Pa.	Torrington: D. L. Talcott.. Guaranty.
15588	Eshelman's 24 Dairy Feed. John W. Eshelman & Sons, Lancaster, Pa.	Danbury: F. C. Benjamin Guaranty.
15638	Grandin's Twin-Six Dairy Feed. D. H. Grandin Milling Co., Jamestown, N. Y.	Willimantic: Williamantic Grain Co. Guaranty.
15623	Al Grane Milk Feed. H-O Co.'s Mills, Buffalo, N. Y.	Bristol: Goodsell Bros. Guaranty.
15547	National Dairy Feed. Ladish Milling Co., Milwaukee, Wis.	Plantsville: W. H. Cowles... Guaranty.
15613	Larro Feed for Dairy Cows. Larowe Milling Co, Detroit, Mich.	Thompsonville: George S. Phelps & Co. Guaranty.
15607	Red Star Dairy Feed. E. Manchester & Sons, Winsted, Conn.	Winsted: E. Manchester & Sons. Guaranty.
15567	Barford's Balanced Dairy Ration. Meech & Stoddard, Middletown, Conn.	Meriden: Meriden Grain & Coal Co. Guaranty.
15633	Barford's Balanced Dairy Ration. Meech & Stoddard, Inc., Middletown, Conn.	Hartford: Meech Grain Co. Guaranty.
15597	Steven's 44 Dairy Ration. Park & Pollard Co., Boston, Mass.	Waterbury: Spencer Grain Co. Guaranty.
15574	Pillsbury's Dairy Ration. Pillsbury Flour Mill Co., Minneapolis, Minn.	New Britain: C. W. Lines Co. Guaranty.
15592	Purina Cow Chow. Purina Mills, Buffalo, N. Y.	Norwalk: C. E. Slauson Co. Guaranty.
15591	Protena More Milk Dairy Feed. Purina Mills, St. Louis.	Norwalk: C. E. Slauson Co. Guaranty.
15535	Big Q Dairy Ration. Quaker Oats Co., Chicago, Ill.	Ansonia: Ansonia Flour & Grain Co. Guaranty.
15590	Quaker Dairy Feed Without Molasses. Quaker Oats Co., Chicago.	Danbury: F. C. Benjamin.. Guaranty.
15546	Syracold Milk Ration. Syracuse Milling Co., Syracuse, N. Y.	Plantsville: W. H. Cowles.. Guaranty.
15578	Ti-O-Ga Dairy Feed. Tioga Mill & Elevator Co., Waverly, N. Y.	New Milford: Geo. T. Soule Guaranty.
15644	Biles Ready Dairy Ration. The Ubiko Milling Co., Cincinnati, Ohio.	Yantic: Yantic Grain and Products Co. Guaranty.
15550	Fourex Dairy Ration. The Ubiko Milling Co., Cincinnati, Ohio.	Plainville: Eaton Bros. Guaranty.

INSPECTION OF 1920—Continued.

Station No.	Pounds per Hundred.						Price per ton.
	Water.	Ash.	Protein (N.x6.25)	Fiber.	Nitrogen-free Extract. (Starch, gum, etc.)	Ether Extract. (Crude Fat)	
15599	9.81	7.34	17.56	12.03	48.34	4.92	\$68.00
.....	.....	.....	20.00	.....	.....	4.00	.....
15588	7.83	6.44	25.50	11.85	42.50	5.88	70.00
.....	.....	.....	24.00	.....	.....	5.00	.....
15638	7.53	6.09	22.31	12.03	46.67	5.37	60.00
.....	.....	.....	22.00	.....	.....	5.00	.....
15623	9.47	6.21	15.38	11.28	53.55	4.11	60.00
.....	.....	.....	14.00	15.00	.....	4.00	.....
15547	9.59	6.18	25.13	8.76	44.14	6.20	70.00
.....	.....	.....	20.00	12.00	55.00	4.00	.....
15613	7.82	5.72	22.31	10.23	49.40	4.52	75.00
.....	.....	.....	20.00	.....	.....	3.00	.....
15607	8.42	5.11	24.50	8.79	46.50	6.68	67.00
.....	.....	.....	23.00	10.00	.....	4.00	.....
15567	9.24	4.90	21.50	8.40	47.98	7.98	60.00
.....	.....	.....	19.00	.....	.....	5.50	.....
15633	7.92	5.38	19.13	9.03	51.41	7.13	78.00
.....	.....	.....	19.00	.....	.....	5.50	.....
15597	6.94	8.37	26.88	10.86	38.47	7.48	75.00
.....	.....	.....	24.00	.....	.....	5.00	.....
15574	8.61	6.82	19.38	10.14	50.23	4.82	72.00
.....	.....	.....	19.00	.....	.....	4.00	.....
15592	8.58	6.43	26.56	10.74	43.17	4.52	75.00
.....	.....	.....	24.00	12.00	53.00	4.30	.....
15591	8.20	7.12	18.75	10.13	51.30	4.50	60.00
.....	.....	.....	16.50	.....	.....	3.50	.....
15535	7.46	5.22	22.06	10.78	48.97	5.51	73.00
.....	.....	.....	22.00	.....	.....	5.00	.....
15590	7.68	9.08	16.69	13.57	48.25	4.73	65.00
.....	.....	.....	16.00	.....	.....	4.50	.....
15546	9.50	5.76	20.56	17.74	42.11	4.33	70.00
.....	.....	.....	20.00	15.00	43.00	4.50	.....
15578	9.32	6.88	29.06	8.06	41.60	5.08	68.00
.....	.....	.....	23.00	11.00	.....	3.50	.....
15644	7.83	5.28	24.13	8.29	47.71	6.76	70.00
.....	.....	.....	24.00	10.00	50.00	5.00	.....
15550	8.89	6.74	20.81	10.55	48.56	4.45	65.00
.....	.....	.....	20.00	12.00	52.00	4.00	.....

TABLE IV.—ANALYSES OF COMMERCIAL FEEDS,

Station No.	Manufacturer and Brand.	Retail Dealer.
PROPRIETARY MIXED FEEDS— <i>Concluded.</i> <i>Horse, Dairy and Stock Feeds—Concluded.</i>		
15552	Big Repeater Dairy Ration. U. S. Feed Association, Toledo, Ohio.....	<i>Branford:</i> S. V. Osborn.... Guaranty.....
15542	Farmer Jones Dairy Feed. U. S. Food Products Co., Peoria, Ill.....	<i>West Cheshire:</i> G. W. Thorpe Guaranty.....
15543	Success Dairy Feed. U. S. Food Products Co., Peoria, Ill.....	<i>West Cheshire:</i> G. W. Thorpe Guaranty.....
15667	Dairy Feed.....	<i>New Haven:</i> R. G. Davis & Sons..... Guaranty.....
POULTRY FEEDS.		
15585	Blatchford's Fill the Basket Egg Mash. Blatchford Calf Meal Co., Wauregan, Ill..	<i>New Milford:</i> Geo. E. Ackley Guaranty.....
15569	Iroquois Poultry Mash. Buffalo Cereal Co., Buffalo, N. Y.....	<i>Meriden:</i> Meriden Grain & Coal Co..... Guaranty.....
15582	Wirthmore Mash Feed. Chas. M. Cox, Boston, Mass.....	<i>New Milford:</i> Geo. T. Soule Guaranty.....
15624	H. O. Co.'s Laying Mash. H. O. Co.'s Mills, Buffalo, N. Y.....	<i>Bristol:</i> Goodsell Bros..... Guaranty.....
15568	M. & S. Dry Mash. Meech & Stoddard, Middletown, Conn.....	<i>Meriden:</i> Meriden Grain & Coal Co..... Guaranty.....
15648	Mystic Laying Mash. Mystic Milling & Feed Co., Rochester, N. Y.....	<i>Norwich:</i> Chas. Slosberg & Son..... Guaranty.....
15593	Lay or Bust. Park and Pollard Co., Boston, Mass.....	<i>Norwalk:</i> C. E. Slauson Co. Guaranty.....
15618	Purina Chicken Chowder. Purina Mills, St. Louis.....	<i>New Haven:</i> Crittenden-Benham Co..... Guaranty.....
15595	Full-O-Pep Growing Mash. Quaker Oats Co., Ill.....	<i>Norwalk:</i> C. E. Slauson Co.. Guaranty.....

15334. Beef Scrap, sent by H. H. Johnson, County Agent, Norwich, contained 55.88 per cent. of protein.

14350. Cane Molar, molasses used in the preparation of stock feeds was found to contain only a trace of sulphur dioxide.

Condimental Foods, Tonics, etc. **14468.** Sample sent by Mrs. George Middleton, North Windham, consisted of mixed ground grains, mainly corn, oats and wheat. No evidence of medicaments was found.

15441. Stock Feed Tonic, sent by B. S. Dibble, East Canaan, consisted of, or contained, salt, charcoal, partially digested starchy material, bicarbonate of soda, sulphur, quassia, chaff, and weed seeds. Epsom salt and limestone or shells were indicated.

INSPECTION OF 1920—*Concluded.*

Station No.	Pounds per Hundred.						Price per ton.
	Water	Ash.	Protein (N.x6.25).	Fiber.	Nitrogen-free Extract. (Starch, gum, etc.)	Ether Extract. (Crude Fat)	
15552	8.84	5.36	22.88	9.21	48.55	5.16	\$70.00
.....	.....	.....	22.00	.....	.....	5.00	.....
15542	8.85	7.28	24.50	7.54	47.01	4.82 ¹	65.00
.....	.....	.....	20.00	.....	.....	5.00	.....
15543	9.39	7.80	22.81	7.20	48.38	4.42	60.00
.....	.....	.....	16.00	.....	.....	4.00	.....
15667	11.67	3.44	19.44	7.01	53.26	5.18	.....
.....
15585	8.18	14.43	21.31	8.72	42.05	5.31	100.00
.....	.....	.....	19.00	.....	.....	4.00	.....
15569	8.86	5.08	16.25	8.04	55.80	5.97	63.00
.....	.....	.....	15.00	.....	.....	4.00	.....
15582	9.77	9.43	23.13	5.69	46.64	5.34	78.00
.....	.....	.....	20.00	.....	.....	4.00	.....
15624	9.20	10.88	20.00	5.23	49.23	5.46	75.00
.....	.....	.....	17.00	6.00	.....	4.50	.....
15568	9.62	8.68	19.81	6.63	49.01	6.25	60.00
.....	.....	.....	12.00	.....	.....	3.00	.....
15648	11.85	8.60	23.75	9.60	41.93	4.27	78.00
.....	.....	.....	23.00	.....	.....	4.00	.....
15593	8.52	12.04	18.19	7.62	49.76	3.87	75.00
.....	.....	.....	18.00	.....	.....	1.50	.....
15618	9.50	7.46	20.06	8.51	49.71	4.76	81.00
.....	.....	.....	18.00	.....	.....	4.00	.....
15595	8.24	9.60	19.63	4.88	52.58	5.07	90.00
.....	.....	.....	17.00	.....	.....	5.25	.....

¹ By modified method; 4.52 by regular method.

FEEDS SUSPECTED OF CONTAINING FOREIGN OR INJURIOUS MATERIALS.

15252. Oats suspected of having been sulphured, sent by R. E. Macey, West Haven. No evidence of bleaching was obtained.

15305. Shelled corn and peanut feed, sent by Mrs. William Lord, Noroton Heights, was referred to the Department of Entomology. Dr. Britton reported the sample to be moderately infested with the rice weevil and slightly infested with the Indian meal moth.

14982. Scratch Feed and **14983.** Chick Feed, sent by E. Johnson, Thomaston. There was nothing suspicious about the substance of the feeds but **14982**, in our opinion, was entirely too coarse for young chicks.