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## SUMMARY OF REPORT

OF THE

### FEDERAL TRADE COMMISSION

ON

# **COMMERCIAL FEEDS**

MARCH 29, 1921



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WASHINGTON GOVERNMENT PRINTING OFFICE 1921



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### U.S. FEDERAL TRADE COMMISSION

ON

# COMMERCIAL FEEDS

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#### FEDERAL TRADE COMMISSION.

HUSTON THOMPSON, Chairman. NELSON B. GASKILL. JOHN GARLAND POLLARD. VICTOR MURDOCK. JOHN F. NUGENT.

J. P. YODER, Secretary.



#### LETTER OF SUBMITTAL.

### FEDERAL TRADE COMMISSION, Washington, March 29, 1921.

To the President of the Senate of the United States.

mars July 1, 1921

SIR: There is transmitted herewith in response to Senate resolution 140, July 31, 1919, a report on the manufacture and sale of commercial feeds.

Commerce in animal feeds has grown enormously in recent years. This has been due in part to the greater knowledge of feed values and of the varied requirements of live stock. Many of the feedingstuffs now widely used are by-products which were formerly wasted.

Farmers and feeders may purchase their feed requirements in the form of ready-mixed feeds or they may buy the separate commodities and do their own mixing. The Federal and State Departments of Agriculture, the agricultural colleges, their staffs and other authorities render valuable assistance to farmers by advice on feeding problems, especially with reference to feed values and mixing their own rations.

An investigation of the animal-feeds industry to be complete involves a study of practically every industry which uses in its manufacturing processes vegetable material and some which use animal material. The by-products of all these industries supply a large number of different kinds of feedingstuffs. In addition to these feeds there are numerous others which are not the result of manufacturing processes. It follows, therefore, that to make a thoroughly comprehensive investigation of animal feeds would involve a study of the manufacturing processes and of results in a large number of industries which produce as by-products materials suitable for feeds. Some indication of the ramifications of the feedingstuffs industry may be appreciated from the following general classification of feedingstuffs:

1. The hays and straws. 2. The whole cereal grains. 3. Cereal mill by-products. 4. Starch and glucose by-products. 5. Brewery and distillery by-products and yeast and vinegar by-products. 6. Oil-mill by-products. 7. Sugar by-products. 8. Animal and fish by-products. 9. Miscellaneous feeds. 10. Commercial mixed feeds or proprietary feeds. 11. Condimental stock remedies or tonics.

The American Feed Manufacturers' Association has listed over 3,000 manufacturers of commercial mixed feeds, and the president of this association stated that this is very likely less than half of the total number. As a result of the foregoing facts it will be appreciated that anything like a complete survey of the feedingstuffs industry would involve an enormous expenditure of time and money. Under these circumstances the inquiry was confined to a study of representative feeds which enter into commerce and covers the period from 1913 to 1920, inclusive. There is a great lack of authoritative data in regard to many phases of the industry and there are numerous questions confronting this business which are highly controversial. This is particularly the case with reference to the feed value of certain products commonly known as roughages or low-grade feeds. It is contended by some agricultural authorities and a few feed manufacturers that the use of certain of these low-grade feedingstuffs should be restricted, since, it is alleged, these feedingstuffs are roughages of which farmers produce, or should produce, an abundance. It is also frequently alleged that mixed feeds containing one or more of such low-grade ingredients are sold at prices out of line with their feed value. A number of plans have been suggested to check the use of these commodities, the most common one being the proposal to require the statement on tags and labels of the percentage of each ingredient used. However, important objections have been offered against the adoption of such a requirement.

The study of the prices of feeds is attended with considerable difficulty. In particular the comparison of the prices of commercial mixed feeds with one another or with the prices of the straight feeds from which they are made is difficult. This will readily appear when the great number of ingredients which enter into many brands of mixed feeds are considered, and also the very frequent changes in formulas of many, if not most, of these feeds. Hence no such precision is to be looked for in conclusions derived from a study of prices of these feeds as is possible in the study of prices of fairly homogeneous commodities.

Prices of all kinds of feeds, both the so called straight feeds and the ready-mixed feeds, in common with the prices of practically all other commodities, increased greatly during the war period and for more than a year and a half following the armistice. Most feeds reached their highest prices in May or June, 1920. There were naturally considerable differences in the movement of prices of different feeds, due to their great variety and the different sources from which they are derived, there being at times a plentiful supply of some feeds, accompanied by scarcity of others. Demand, too, naturally fluctuates, but the price of every feed depends in some measure, greater or less, on the prices of other feeds, on account of the relative ease with which one feed can be substituted for another within fairly wide limits.

One of the most important influences affecting prices during the war and much of the time since the armistice has been the shortage of freight cars, which has not only delayed shipments of finished products but often held up receipts of raw materials. At times this shortage has been acute and has caused decreased production. This condition, of course, has not been peculiar to the feed business.

The wholesale prices of 10 important straight feeds and 12 commercial mixed feeds, which as a whole may be considered representative, respectively, of these two classes, were compared with the composite wholesale prices of a group of 32 farm products and of all commodities, as registered by index numbers compiled by the Bureau of Labor Statistics of the Department of Labor. These index numbers give the prices of these groups of commodities by months and years relative to the average price of the year 1913 taken as a base. Composite index numbers were also computed for the group of 10 representative straight feeds and the group of 12 commercial mixed feeds.

A comparison of these different series of index numbers shows that the price of all commodities in 1919 was represented by 212 as compared with the base price of 100, or the average price of the year 1913. The other index numbers for the year 1919 were as follows: Farm products, 234; straight feeds, 236; ready-mixed feeds, 220. There was a very close correspondence in the relative increase in prices of mixed feeds and farm products, and also a rather close correspondence for straight feeds. The relative advance in prices from 1913 to 1919 in the two classes of feeds and also in farm products was considerably higher than in all commodities.

The prices of feeds as well as of "all commodities" continued to advance during the first half of 1920, but the second half of the year was marked by a very great decline-in the prices of all feeds, both straight and ready mixed. The decline between June and December was as much as 57 per cent for some of the straight feeds. Different brands of mixed feeds declined in price from 20 per cent to more than 50 per cent.

So far as general conclusions can be drawn from the study of the statistics of feed prices the figures do not indicate a disproportionate rise in these prices as compared with farm products in general.

A study of the costs and profits of a representative group of nine mixed-feed manufacturers during 1915–1919 shows that during the period costs of materials about doubled, while with few exceptions all other items of manufacturing costs and expenses increased in about the same proportion. Since the average cost of raw materials for the period 1915–1919, inclusive, was about 83 per cent of the commercial cost of sales and about 80 per cent of the selling price, this would indicate that by far the largest factor causing the high prices of ready-mixed feeds in 1919 was the great increase in the cost of raw materials.

The net operating profit of these mixed-feed manufacturers was sufficient to net a fairly high rate of return on the investment in each year, while in 1917 and 1919 the rate of return was considerably larger, due probably in part to the fact that in these two years the net operating profit included some profit realized from an increase in value of raw materials during their period of conversion into mixed feeds. The average rate of return for the period 1915–1919 was 18.77 per cent. The percentages represent the profits on the total investment employed in the business, which includes borrowed capital. The rates of return would be greater on the capital stock and surplus, which is the net investment of the companies.

On the whole, competition in this industry is very active. It is true that there were indications that prices had been discussed by members of the American Feed Manufacturers' Association at or immediately following certain meetings of the executive committee. In 1919 also an attempt was made by certain members of this association to organize a bureau, which seems to have had price fixing as an object, but this organization was never completed. Although a careful examination was made of the correspondence files of various associations in the feedingstuffs industry and of a number of important feed manufacturers, no indications were found of any concerted action to advance prices. Although the discussions of prices above referred to may have tended to advance prices, no evidence was found to establish this. On the whole, as already indicated, the evidence obtained in the inquiry indicates a very sharp competition in the manufacture and sale of feedingstuffs.

The distribution of three important feed commodities, corn gluten feed, cane blackstrap molasses, and dried beet pulp, is in each case in the hands of a few concerns. This does not appear, however, to exclude competition in these commodities, nor does there appear to be any collusion or combination between the manufacturers in any one of the three groups.

A number of manufacturers grant overages, i. e., a commission to old dealers on feeds sold to new dealers in the former's territory. It is possible that this may be a price discrimination, and the Commission has taken steps to determine whether it is in violation of section 2 of the Clayton Act or section 5 of the Federal Trade Commission Act.

The use of alternate or different brand names for the same feed may be unfair unless the use of such alternate brands is fully understood by the dealer and the consumer. In any case it leads to an undue multiplication of brands, and it is questionable whether it is desirable from an economic standpoint.

While the Eastern Federation of Retail Feed Merchants is opposed to direct selling to consumers by manufacturers, such opposition, according to a careful examination of this association's records, is in the nature of the "educational argument" and not by boycott or threats of boycott.

Animal feeds are subject to regulation by practically all States and by the Federal Government. This regulation was found to be necessary because fraudulent practices such as adulteration and misbranding were at one time quite common. The enactment and enforcement of feed laws by the various States, however, has undoubtedly resulted in great improvement so far as these practices are concerned.

In most States feeds must be so labeled as to show the guaranteed chemical analysis and the names of each ingredient. The use of harmful or deleterious materials is generally prohibited.

The results of feed law enforcement, as reported by the different States, indicate that the great bulk of the feeds which enter into commerce have been found to be substantially equivalent to the guaranty under which they have been sold. A comparison made from published sources by the Commission of the extent to which the straight and ready mixed feeds varied from their guaranteed chemical analysis showed no consistent differences in the average percentage of deficiencies and overages as between the two classes.

Respectfully,

Huston Thompson, Chairman. Nelson B. Gaskill. John Garland Pollard. Victor Murdock. John F. Nugent.

### SUMMARY OF REPORT ON COMMERCIAL FEEDS.

The inquiry into the manufacture and sale of commercial feeds for animals was undertaken pursuant to Senate resolution 140, Sixty-sixth Congress, first session, which reads as follows:

Resolved, That the Federal Trade Commission be, and it is hereby, instructed to make an investigation of the manufacture and sale of commercial feeds for animals; such investigation to include the gathering of statistics as to the supply of the various commodities which are used for animal feeds, together with the fluctuation in the prices of these commodities. the extent to which these commodities are converted into concentrated food by manufacturers; what combinations or understandings, if any, exist between the feed manufacturers and wholesale feed dealers and retail feed dealers; and what fraud, if any, is practiced by dealers, in the way of misbranding or using inferior substitutes in mixed feeds.

*Resolved further*, That the Secretary of Agriculture be, and he is hereby, directed to cooperate with the Federal Trade Commission in this investigation.

DEVELOPMENT OF THE INDUSTRY.—Commerce in animal feeds has grown enormously in recent years. This has been due in part to the greater knowledge of feed values and of the varied requirements of live stock. Many of the feedingstuffs now widely used are by-products which were formerly wasted. Molasses, corn gluten feed, and flour-mill by-products, to name but a few, are some of the byproducts which were at one time burned, run into streams, or buried for want of a better means of disposing of them.

The scientific feeding of animals began to receive serious consideration in the United States during the period 1870 to 1880, and since then has steadily grown in importance. State agricultural colleges have devoted more and more care to feeding questions. Many State and private experimental farms conduct tests and experiments with various feedingstuffs. Dairy farming and the raising of all kinds of live stock more and more demand scientific management in feeding, as well as in other matters, if the maximum return is to be realized. Although rapid progress has been made in recent years, nevertheless, most authorities agree that much is yet to be learned.

The Federal and State Departments of Agriculture, the agricultural colleges and other authorities render valuable assistance to farmers by advice on feeding problems, especially with reference to feed values and mixing their own rations. The extent to which farmers use ready-mixed feeds can not be stated, since this is dependent upon many factors. However, the use of mixed feeds has grown tremendously in recent years and appears likely to continue. That ready-mixed feeds have a place is now undisputed. They serve a beneficial purpose and to many owners of animals are almost a necessity. Their increased use has been due largely to the demand for balanced rations; the increased use of by-products; the shortage

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of farm labor and desire of farmers for labor-saving devices; the growth of the dairy industry on small farms near centers of population and the increase in raising of poultry by dwellers in cities; and finally to the extensive advertising campaigns of the manufacturers of mixed feeds.

CLASSIFICATION OF FEEDING STUFFS.—An investigation of the animal feeds industry, to be complete, involves a study of practically every industry which uses in its manufacturing processes vegetable material and some which use animal material. The by-products of all these industries supply a large number of different kinds of feedingstuffs. In addition to these feeds there are numerous others which are not the result of manufacturing processes. It follows, therefore, that a thoroughly comprehensive investigation of animal feeds would involve a study of the manufacturing processes and of results in a large number of industries which produce as by-products, materials suitable for feed. Some indication of the ramifications of the feedingstuffs industry may be appreciated from the following general classification of feedingstuffs:

1. The hays and straws.

2. The whole cereal grains.

3. Cereal mill by-products.

4. Starch and glucose by-products.

5. Brewery and distillery by-products and yeast and vinegar byproducts.

6. Oil-mill by-products.

7. Sugar by-products.

8. Animal and fish by-products.

9. Miscellaneous feeds.

10. Commercial mixed feeds or proprietary feeds.

11. Condimental stock remedies or tonics.

The American Feed Manufacturers' Association has listed over 3,000 manufacturers of commercial mixed feeds and the president of this association has stated that this is very likely less than half of the total number. As a result of the foregoing facts it will be appreciated that anything like a complete survey of the feedingstuffs industry would involve an enormous expenditure of time and money. Under these circumstances the inquiry was confined to a study of the representative feedingstuffs which enter into commerce and covers the period from 1913 to 1920, inclusive.

PRODUCTION OF FEEDINGSTUFFS.—In discussing the production and supply of animal feeds the numerous feedingstuffs which do not enter into commerce must, of course, be considered. Pasturage and grazing lands are very important factors in feeding animals and the condition of such lands affects commerce in feeds very markedly. It was noted that in the fall of 1920 pasturage throughout the country was far better than usual and several important representatives of the feed trade stated that it had enabled farmers to carry their stock into the winter without purchasing as much feed as usual. An additional factor was the low price of corn, causing many farmers to feed their corn rather than sell it.

Next to pasturage in importance are the home-grown feeds, such as the cereal grains, the hays, straws, and other fodders as well as ensilage. By far the greater part of the production of wheat, rye, and rice is handled commercially. In the case of the hays and straws, while there is considerable commerce in them they are largely consumed where grown. This is also true of corn, oats, and barley.

The above factors affect the extent to which farmers purchase feeds. While the total value of pasturage and the home-grown feeds consumed exceeds that of the feeds sold, the latter form an important factor in the commerce of the country and their total value is enormous, exceeding a billion dollars annually.

Of the commercial feedingstuffs—that is, the feeds which enter into commerce—the hays, straws, and whole grains, exceed, both in quantity and in value, the total of all the other kinds of commercial feedingstuffs, including mixed feeds. It is not feasible to determine the exact production of these various groups.

Commerce in feedingstuffs varies greatly between the different sections of the country not only in quantity but in the kinds of feeds purchased. The prairie States buy large quantities of the high protein feeds and relatively smaller quantities of the roughages, while in the Eastern States it is necessary for many farmers to buy not only the high protein feeds but much of their roughage. This situation is responsible for the fact that the best market for mixed feeds is in the Eastern States. It should be borne in mind, however, that farmers and feeders of to-day do not as a rule depend entirely upon home-grown feeds. It is realized that variety in a ration is important, and for this reason many farmers buy concentrates to supplement their home-grown feedingstuffs, while, as previously stated, others buy practically all their feed requirements, either ready-mixed or unmixed.

The number of feedingstuffs is so large, and they are produced by so many widely scattered concerns that it was not to be expected that entirely satisfactory production statistics could be secured. However, the production of the more important feeds was determined and the figures are presented in the report. Since many of these feedingstuffs are by-products, their production is not dependent, except to a very small degree, upon the demand for them, but rather upon the demand for the main or primary product. Similarly the price of most of these by-product feeds depends to a considerable extent upon the demand and price for the primary products.

During a part of the period covered by the report the regulations of the United States Food Administration affected the production of many feedingstuffs as well as the prices at which numerous feeds were sold. The regulation requiring flour millers to obtain a higher percentage of flour than normally, reduced considerably the production of wheat mill feeds. An increase in the production of oat hulls resulted from the regulations requiring the use of wheat substitutes.

The work of agricultural scientists and others in experimenting with various products has tended to increase the supply of animal feeds. Thus, in the manufacture of tin plate considerable quantities of wheat middlings are used to absorb the palm oil through which the sheets of metal are passed during the manufacturing process. After these middlings have served this purpose they are passed over a magnetic field to remove all particles of metal, and the middlings are then sold for feed, and it is alleged that the palm oil which has been absorbed increases the feeding value of the middlings.

Numerous other factors influence the production of certain feedingstuffs. The Volstead Act affected the production of brewery and distillery by-products. In 1917 the estimated production of brewers' dried grains was 456,000 tons. In 1918 the estimated quantity produced was 377,000 tons, and in 1919 the estimated production was but 208,000 tons. A more marked decline occurred in 1920 when the estimated production was only 69,000 tons. A similar decline occurred in the production of malt sprouts.

The use of beet molasses instead of cereals in the manufacture of yeast has resulted in a decrease in the production of dried yeast grains. In 1918 the production of the largest yeast manufacturer in the United States was over 25,000 tons, and in 1920 was estimated to be about 12,000 tons. It is probable that in the future the production of this by-product will be practically negligible.

The imports of cane blackstrap molasses have increased steadily from year to year. In 1908 about 16,700,000 gallons of molasses (not above  $40^{\circ}$ ) were imported from Cuba, the chief source of supply. In each succeeding year an increased amount was imported except in 1919, and it is estimated that the quantity imported from Cuba during the first eleven months of 1920 was 150,000,000 gallons.

Practically the entire quantity of cane blackstrap molasses imported into and produced in the United States is used in the manufacture of alcohol or as a feed for animals. The division of the supply between these two uses differs greatly at times, depending on various factors such as the relative price of molasses and other raw materials for alcohol manufacture, particularly corn.

Several other important feedingstuffs may also be used for purposes other than feeds. Cottonseed meal, tankage, and fish scrap are frequently used for fertilizer, although in recent years such use has decreased. It is therefore difficult to determine exactly the extent to which these commodities are used as animal feeds. However, it is possible to give estimates of the quantities so used which are satisfactory for all practical purposes.

A number of feedingstuffs are rarely used by farmers as ingredients in home-mixed rations. Practically the entire quantity of such commodities used as feeds therefore enters into mixed feeds. Among this group are flax plant by-product and clipped oat by-product. Other commodities are used in large quantities both as part of homemixed rations and as ingredients in mixed feeds. The oil-mill byproducts, corn gluten feed and dried beet pulp, are examples of this class. Other feedingstuffs, such as wheat bran, while widely used as ingredients in ready-mixed feeds, are more extensively used by farmers in mixing their own rations.

The quantities of the various feedingstuffs which are used by mixed-feed manufacturers could not be determined, even with a fair degree of accuracy, without the expenditure of time and money entirely out of proportion to the value of any results which might have been secured.

PRICES OF FEEDINGSTUFFS.—The study of the prices of feeds is attended with considerable difficulty. In particular the comparison of the prices of commercial mixed feeds with one another, or with the prices of the straight feeds from which they are made, is difficult. This will readily appear when the great number of ingredients which enter into many brands of mixed feeds are considered, and also the very frequent changes in formulas of many, if not most, of these feeds. Hence no such precision is to be looked for in conclusions derived from a study of prices of these feeds as is possible in the study of prices of fairly homogeneous commodities.

Prices of all kinds of feeds, both straight and ready-mixed, in common with the prices of practically all other commodities, increased greatly during the war period and for more than a year and a half following the armistice. Most feeds reached their highest prices in May or June, 1920. There were naturally considerable differences in the movement of prices of different feeds, due to their great variety and the different sources from which they are derived, there being at times a plentiful supply of some feeds and a scarcity of others. Demand, too, naturally fluctuates, but the price of every feed depends in some measure on the prices of other feeds, on account of the relative ease with which one feed can generally be substituted for another.

One of the most important influences affecting prices during the war, and much of the time since the armistice, has been the shortage of freight cars, which has not only delayed shipments of finished products, but often held up receipts of raw materials. At times this shortage has been acute, and has caused decreased production. This condition, of course, has not been peculiar to the feed business.

The wholesale prices of 10 important straight feeds and 12 commercial mixed feeds, which may be considered representative of these two classes, were compared with the composite wholesale prices of a group of 32 farm products and with a group of "all commodities," as registered by index numbers compiled by the Bureau of Labor Statistics of the Department of Labor. These index numbers give the prices of these groups of commodities by months and years relative to the average price of the year 1913 taken as a base. Composite index numbers were also computed for the group of 10 representative straight feeds and the group of 12 commercial mixed feeds.

A comparison of these different series of index numbers shows that the price of all commodities in 1919 was represented by 212 as compared with the base price of 100, or the average price of the year 1913. The other index numbers for the year 1919 were as follows: Farm products, 234; straight feeds, 236; ready-mixed feeds, 220. There was a very close correspondence in the relative prices of the mixed-feeds group, the farm-products group, and also a close correspondence in most of the years between the latter and the straightfeeds group. The relative advance in prices from 1913 to 1919 in the two classes of feeds and also in farm products was considerably higher than the advance in all commodities.

The prices of feeds as well as of "all commodities" continued to advance during the first half of 1920, but the second half of the year was marked by a very great decline in the prices of all feeds, both straight and ready mixed. The decline between June and December was as much as 57 per cent for some of the straight feeds. Different brands of mixed feeds declined in price from 20 per cent to more than 50 per cent. So far as general conclusions can be drawn from the study of the statistics of feed prices the figures do not indicate a disproportionate rise in these prices as compared with farm products in general.

COSTS, PROFITS, AND RETURN ON INVESTMENT OF REPRESENTATIVE MIXED-FEED MANUFACTURERS.—A study of the costs and profits of a representative group of nine mixed-feed manufacturers during 1915– 1919 shows that during the period costs of materials about doubled, while with few exceptions all other items of manufacturing costs and expenses increased in about the same proportion. Since the average cost of raw materials for the period 1915–1919, inclusive, was about 83 per cent of the commercial cost of sales, and about 80 per cent of the selling price, this would indicate that by far the largest factor causing the high prices of ready-mixed feeds in 1919 was the great increase in the cost of raw materials.

The net operating profit of these mixed-feed manufacturers was sufficient to yield a fairly high\_rate of return on the investment in each year, while in 1917 and 1919 the rate of return was considerably larger, due probably in part to the fact that in these two years the net operating profit included some profit realized from an increase in value of raw materials during their period of conversion into mixed feeds. The average rate of return for the period 1915–1919 was 18.77 per cent. The percentages represent the profits on the total investment employed in the business, which includes borrowed capital. The rates of return would be greater on the capital stock and surplus, which is the net investment of the companies.

COMPETITIVE CONDITIONS.—On the whole, competition in this industry is very active. This is natural in an industry which includes so many different products and such a large number of widely scattered manufacturers. The various straight feeds not only compete with one another to a greater or less extent but also with the ready-mixed feeds, and both these feeds must compete with the home-grown feedingstuffs. This competition tends to keep the prices of ready-mixed feeds and straight feeds in line with one another on the basis of their feed utility. The possibility of home mixing and the wide variety of commodities which may be substituted for one another in any mixed feed tends in no small degree to prevent unreasonable prices and probably also to prevent attempts on the part of producers of feedingstuffs to organize and combine to obtain price control.

It is true that prices were discussed by members of the American Feed Manufacturers' Association at or immediately following certain meetings of the executive committee. In 1919 an attempt was made by certain members of this association to organize a bureau which seems to have had price fixing as an object, but this organization was never completed. Although a careful examination was made of the correspondence files of various associations in the feedingstuffs industry, and of a number of important feed manufacturers, no indication was found of any concerted action to advance prices. While the discussions of prices above referred to may have tended to advance prices, no evidence was found to establish this. On the whole, as already stated, the evidence obtained in the inquiry indicates a very sharp competition in the manufacture and sale of feedingstuffs.

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The distribution of three important feed commodities, corn gluten feed, cane blackstrap molasses, and dried beet pulp, is in each case in the hands of a few concerns. This does not appear, however, to exclude competition in these commodities, nor does there appear to be any collusion or combination between the manufacturers in any one of the three groups.

TRADE PRACTICES.—A number of manufacturers grant overages, i. e., a commission to old dealers on feeds sold to new dealers in the former's territory. It is possible that this may be a price discrimination, and the Commission has taken steps to determine whether it is in violation of section 2 of the Clayton Act or section 5 of the Federal Trade Commission Act.

The use of alternate or different brand names for the same feed may be unfair unless the use of such alternate brands is fully understood by the dealer and the consumer. In any case it leads to an undue multiplication of brands and it is questionable whether it is desirable from an economic standpoint.

Many feed manufacturers sell their goods guaranteed against price decline, although a majority of them believe the practice should be stopped. Another trade practice which most manufacturers condemn and yet many indulge in, is that of long-time contracts. Both of these practices are due to competition. In an effort to do away with them members of the American Feed Manufacturers Association passed resolutions to the effect that the practices should be discontinued. However, these resolutions did not have the desired result.

DISTRIBUTION OF FEEDS.—Animal feeds reach the consumer through a system of distribution similar to that of other food products. Practically every manufacturer makes use of the retail feed dealer and in some sections of the country farmers' cooperative organizations engage in this business. Most manufacturers also are willing to make direct sales provided the purchaser is financially responsible. In such cases the manufacturers frequently allow a commission to the local retail dealer, although he may have performed no service. While the Eastern Federation of Retail Feed Merchants is opposed to direct sales to consumers by manufacturers, a careful examination of this association's records did not indicate that it resorted, either directly or indirectly, to boycott or threats of boycott as a means of preventing direct selling.

Low-GRADE FEED PROBLEM.—There is a great lack of authoritative data in regard to many phases of the industry and there are numerous questions which are highly controversial. This is particularly the case with reference to the feed value of certain products commonly known as roughages or low-grade feeds. It is contended by some agricultural authorities and a few feed manufacturers that the use of certain of these low-grade feedingstuffs should be restricted, since, it is alleged, these feedingstuffs are roughages of which farmers produce, or should produce, an abundance. It should be pointed out, however, that in some sections of the country farmers do not produce sufficient roughages to meet their requirements. It is also frequently alleged that mixed feeds containing one or more of such low-grade ingredients are sold at prices out of line with their feed value. A number of plans have been suggested to restrict the use of these commodities, the most common one being the proposal to require the statement on tags and labels of the percentage of each ingredient used. However, important objections have been offered against the adoption of such a requirement, nor is it certain that it would achieve the result desired. It should be pointed out in connection with the foregoing that much of the agitation over the use of some of these low-grade feedingstuffs is based on selfish grounds and is due largely to competition between manufacturers of mixed feeds.

Before this controversy over the low-grade feeds can be definitely and satisfactorily settled a series of exhaustive tests should be undertaken with these low-grade feeds and probably combinations of these low-grade feeds with certain high-grade feeds. Such tests should be made by a disinterested body, preferably the United States Department of Agriculture.

GUARANTEED CHEMICAL ANALYSIS.—At the present time most States require that feedingstuffs be sold under a guaranteed chemical analysis, showing the minimum amount of crude protein, the minimum amount of crude fat, the maximum amount of crude fiber, and in some States the total carbohydrates contained in the feed. In addition to the chemical analysis most States require that feeds offered for sale shall have attached thereto tags or labels showing the name of each ingredient in the feed.

The chemical analysis has come to be widely recognized as an index or measure of the value of a feedingstuff. However, such use of the guaranteed chemical analysis is held to be unwise by most scientists and manufacturers. For example, it has been determined that there are several kinds of protein and that these proteins differ both in digestibility and in other qualities. Consequently merely to state that a feed contains given percentages of protein, fat, and fiber does not, it is maintained, tell the complete story. However, in spite of the insufficiency of the chemical analysis as a standard, it is the one most frequently used, and apparently must suffice until scientists have developed a better one.

REGULATION.—With the growth of commerce in feedingstuffs various forms of fraud and deceit began to be practiced by manufacturers of and dealers in these commodities. These practices were responsible for the enactment of laws regulating commerce in feeds. The first feed law was enacted by Connecticut in 1895, and shortly thereafter other States also enacted statutes on this subject, until at the present time practically all States have regulated commerce in feedingstuffs. The few States which do not have specific feed laws are those in which commerce in feeds is small. The statutes of most States are quite uniform in their essential provisions, although there is such a difference in some requirements, particularly registration of brands, as to cause manufacturers considerable difficulty in meeting the requirements. A few State laws differ markedly from the majority in that they require, under certain conditions, the statement of the percentage of each ingredient in a feed. In addition to the various State regulations the Federal Food and Drugs Act of 1906 is applicable to feeds for animals.

The State and Federal authorities in charge of enforcing feed laws have formed an association known as the Association of Feed Control Officials of the United States, which has served to bring about more uniformity in matters pertaining to feed regulations. These officials adopted the policy of publicity in respect to fraudulent practices. For example, as early as 1898 Massachusetts issued a bulletin regarding the inspection of feedingstuffs in that State. This bulletin contained advice to farmers regarding feeding matters, and cautioned them against the use of certain feeds.

The results of feed-law enforcement, as reported by the different States, indicate that the great bulk of the feeds which enter into commerce have been found to be substantially equivalent to the guaranties under which they have been sold. A comparison made by the Commission from published sources of the extent to which the straight and ready-mixed feeds varied from their guaranteed chemical analyses showed no consistent differences in the average percentage of deficiencies and overages as between the two classes.

It is undoubtedly a fact that the enactment and enforcement of feed laws has resulted in great improvement so far as fraudulent practices are concerned. There are being found to-day comparatively few cases where feedingstuffs have been adulterated with substances considered deleterious or as having practically no nutritive value.

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