7-18-1951

A Study of the Frozen Food Locker Plants in New Mexico

Jacques Calhoun Lewis

Recommended Citation

Lewis, Jacques Calhoun. "A Study of the Frozen Food Locker Plants in New Mexico." (1951). http://digitalrepository.unm.edu/econ_etds/67

Lewis — A Study of Frozen Food Locker Plants

A STUDY OF
THE FROZEN FOOD LOCKER PLANTS IN
NEW MEXICO

A Thesis
Presented to
the Faculty of the Department of Economics
University of New Mexico

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts in Economics

by
Jacques Calhoun Lewis
1951

This thesis, directed and approved by the candidate's committee, has been accepted by the Graduate Committee of the University of New Mexico in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

E F Castetter
DEAN

7/18/51
DATE

A STUDY OF THE FROZEN FOOD LOCKER PLANTS IN NEW MEXICO

by

Jacques C. Lewis

Thesis committee

Mervyn Crobaugh
CHAIRMAN

Ralph L. Edgel

Elizabeth P. Simpson

This thesis, directed and approved by the candidate's committee, has been accepted by the Graduate Committee of the University of New Mexico in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

Thesis committee

TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES (continued)

CHAPTER I

INTRODUCTION

It has been found that many varieties of foodstuffs can be preserved for long periods with excellent results if frozen and kept in low temperature cold storage. Under proper conditions the original flavor, appearance, nutritive value and texture of many foodstuffs are preserved more truly than by any other method of preservation. The remarkable similarity of the preserved product to the fresh or unpreserved food makes this method one that is most desirable.

The development of proper techniques which are used in the preservation of foods by freezing coupled with recent advancement in the field of refrigeration equipment has made possible the development of a new industry known as the frozen food locker industry.

The frozen food locker plant offers its patrons limited or complete food processing services, freezing and storage facilities. The limited services type of locker plant does not offer to process, preparatory to freezing, all foods commonly frozen. This type of plant may offer incomplete processing of certain foods. For example, a certain limited services plant may process only meats and will not process fruits and vegetables, and a plant may process beef

after the slaughtering has been done by someone else. Modern advancement in the way of locker plant equipment seemingly would make it more profitable for locker plant operators to better and increase their processing services; however, the individual plant operators must consider the various economic factors involved in such expansion.

The purpose and scope of this study are to review the growth of the frozen food locker industry in New Mexico, and to examine the facilities and techniques of the industry as they are in the state.

Sources of material include books, periodicals, government bulletins and documents, and interviews with locker plant operators in New Mexico where possible, and by mailed questionnaire otherwise. Twenty-six plants, or 46 percent, of the total operating plants reported by questionnaire number one which was used in 1949. Twenty-one, or 37 percent, of the operating plants reported by questionnaire number two which was used in 1951. Three plants that returned questionnaire number two were closed. Counting these three plants, twenty-four reported by questionnaire number two. The author contacted by interview seven locker plant operators over the state. Combining questionnaires number one and two and those filled during interviews, the after the slaughtering has been done by someone else. Modern advancement in the way of locker plant equipment seemingly would make it more profitable for locker plant operations to better and extend their processing services; however, the individual plant operators must consider the various economic factors involved in such expansion.

The purpose and scope of this study are to review the growth of the frozen food locker industry in New Mexico, and to examine the conditions and techniques of the industry as they are in the state.

Sources of material include books, periodicals, government bulletins and documents, and interviews with locker plant operators in New Mexico where possible, and by mailed questionnaire otherwise. Twenty-six plants, or 46 percent, of the total operating plants reported by questionnaire number one which was used in 1949. Twenty-one, or 37 percent, of the operating plants reported by questionnaire number two which was used in 1951. Three plants that returned questionnaire number two have closed. Counting these three plants, twenty-four reported by questionnaire number two. The author contacted by interview seven locker plant operators over the state. Combining questionnaires number one and two and those visited during interviews, the author contacted thirty-three, or 59 percent of the plants. There are fifty-six locker plants operating in New Mexico at present.

The technical aspects of the freezing preservation of foods are not discussed at length in this study. Only such technical aspects as definitely throw light on the aims of the study are mentioned. Of course, there would be no frozen food locker industry were it not for the advent of mechanical refrigeration. The contributions of Clarence Birdseye and others to proper techniques, combined with the efforts and skills of equipment engineers and the experimentation of various governmental extension services and countless others have made the industry. It is an American industry, and a marvelous contribution to our free enterprise economic system.

Chapter II pertains to the growth and status of the locker plant industry in New Mexico. The following topics are included: the years of beginning operations of the plants and prior experience of operators, the location of New Mexico locker plants and ownership of locker plants in the state. An attempt is made to explain the location of plants, that is, to account for the desirability of certain locations over others. This chapter presents to some extent the complexity of such variables as population, markets for author contacted thirty-three, or 59 percent of the plants. There are fifty-six locker plants operating in New Mexico at present.

The technical aspects of the freezing preservation of foods are not discussed at length in this study. Only such technical aspects as definitely throw light on the aims of the study are mentioned. Of course, there would be no frozen food locker industry were it not for the advent of mechanical refrigeration. The early efforts of Clarence Birdseye and others to prevent [illegible], combined with the efforts and skills of engineers, [illegible] and the experimentation of various governmental agencies and countless others have made the industry. It is an American industry, and a magnificent tribute to our free enterprise economic system.

Chapter II pertains to the growth and status of the locker plant industry in New Mexico. The following topics are included: the years of beginning operations of the plants and other [illegible] of [illegible], the location of New Mexico locker plants and comparison of locker plants in the state. An attempt is made at analyzing the location of plants, that is, to account for the desirability of certain locations over others. This chapter presents [illegible] the complexity of such [illegible] [illegible], and [illegible] that services and financing of locker establishments which affect the location, size, type and operation of plants in New Mexico.

Chapter III examines the facilities and techniques of the industry in the state. Individual topics refer to the types of locker plants in New Mexico, the capacity of plants, services offered, service rates charged by plants and the planned expansion of locker plant facilities in the state.

Chapter IV explains the operation of locker plants in regard to their operation in conjunction with other business, the personnel they employ, the patronage they receive and the law which governs their operation.

A summary and the author's conclusions are set forth in Chapter V. An extensive bibliography follows Chapter V.

Included in the appendix are the two questionnaires used by the author, the complete text of the New Mexico Locker Plant Act, the Frozen Food Locker Regulations and a complete listing of New Mexico locker plants listed alphabetically according to county and city.

CHAPTER II

THE GROWTH AND STATUS OF THE INDUSTRY

Years of beginning operations and prior experience of operators. According to the thirty-one plants that reported, the locker plant industry in New Mexico has grown rapidly within the last few years. Twenty-eight plants reported that they began operations within the period from 1944 through 1950. Only three plants reported beginning operations previous to 1944. There are no available data which accurately show the yearly growth in number of plants in New Mexico. Data from thirty-one plants indicate the years of greatest growth to be from 1944 through 1948, as shown in Table I.

Questionnaire returns indicate that the locker plant operators in New Mexico have little prior experience in fields which are closely related to the locker plant business. Only six operators of twenty-seven reported they had previous experience in refrigeration and cold storage operation. However, sixteen operators of twenty-one reported prior experience in handling food. Of the sixteen that reported food handling experience, eleven reported they had experience in the market and grocery business, while the other five had experience in the creamery business.

CHAPTER II

THE GROWTH AND STATUS OF THE INDUSTRY

Years of beginning operations and prior experience of operators. According to the thirty-one plants that reported, the locker plant industry in New Mexico has grown rapidly within the last few years. Twenty-eight plants reported that they began operations within the period from 1944 through 1950. Only three plants reported beginning operations previous to 1944. There are no available data which accurately show the yearly growth in numbers of plants in New Mexico. Data from thirty-one plants indicate the years of greatest growth to be from 1944 through 1948, as shown in Table 1.

Questionnaire returns indicate that the locker plant operators in New Mexico have little prior experience in fields which are closely related to the locker plant business. Only six operators of twenty-seven reported they had previous experience in refrigeration and cold storage operation. However, sixteen operators of twenty-one reported prior experience in handling food. Of the sixteen that reported food handling experience, eleven reported they had experience in the meat and grocery business, while the other five had experience in the creamery business.

TABLE I

YEARS OF BEGINNING OPERATIONS OF LOCKER PLANTS IN NEW MEXICO

YEARS OF BEGINNING OPERATIONS	NUMBER OF PLANTS
1937	1
1938	1
1939	1
1940	0
1941	0
1942	0
1943	0
1944	8
1945	4
1946	5
1947	5
1948	3
1949	2
1950	1
Total number of plants reporting	31

The location of New Mexico locker plants. The locker plants in New Mexico are scattered over the eastern and central portions of the state. Only five plants are located in what may be termed the western portion of New Mexico.

Most of the plants that began operations before 1945 are located in the north central and north eastern portions of the state. After 1945, a few plants began operations in the south and west, but the north central and north eastern regions still remained the most popular locations and an increasing number of plants began operations there.

Locker plants are located in small towns as well as in cities with large populations. Eleven plants, or approximately 20 percent, of the fifty-six operating plants are located in towns that have less than 500 population. These eleven plants are located in farming regions. Perhaps the surrounding populations of these farming communities increase the number of potential patrons well above the actual census count. The majority of locker plant patrons are farmers and ranchers according to the plants that reported. Thus, the plants in the small farming communities no doubt contemplated a ready market for their services.

<u>The location of processing locker plants</u>. The locker plants in New Mexico are scattered over the eastern and central portions of the state. Only five plants are located in what may be termed the western portion of New Mexico.

Most of the plants that began operations before 1945 are located in the north central and north eastern portions of the state. After 1945, a few plants began operations in the south and east, but the north central and north eastern regions still remained the most popular locations and an increasing number of plants began operations there.

Locker plants are located in small towns as well as in cities with large populations. Eleven plants, or approximately 20 percent, of the fifty-six operating plants are located in towns that have less than 500 population. These eleven plants are located in farming regions. Perhaps the surrounding populations of these farming communities increase the number of potential patrons well above the actual census count. The majorities of locker plant patrons are farmers and ranchers according to the plants that reported. Thus, the plants in the small farming communities no doubt contemplated a ready market for their services.

Some cities with over 5,000 population have more than one locker plant in them. Eleven plants are located in seven cities which have between 5,000 and 10,000 population. Thirteen plants are located in six cities which have over 10,000 population. Table II on Page 9 shows the distribution of plants among cities according to the city population.

There are two plants in each of seven cities which have over 5,000 population. Albuquerque, which has approximately 120,000 population in its metropolitan area, has five plants. Table II indicates that a city must have over 5,000 population in order to support more than one locker plant.

Data from twenty-one plants show that the average number of lockers per plant is correlated rather closely with city populations. Cities with populations between 1,000 and 1,500 have a lower average number of lockers than cities with a population between 501 and 1,000. Cities with over 10,000 people have only nine more lockers per plant on the average than cities with populations between 5,000 and 10,000. It should be kept in mind that the calculation of the average number of lockers per plant for cities of over 10,000 people is based on only two cities where a total of seven plants is located.

TABLE II

THE DISTRIBUTION OF LOCKER PLANTS AMONG NEW MEXICO CITIES ACCORDING TO THE CITY POPULATION

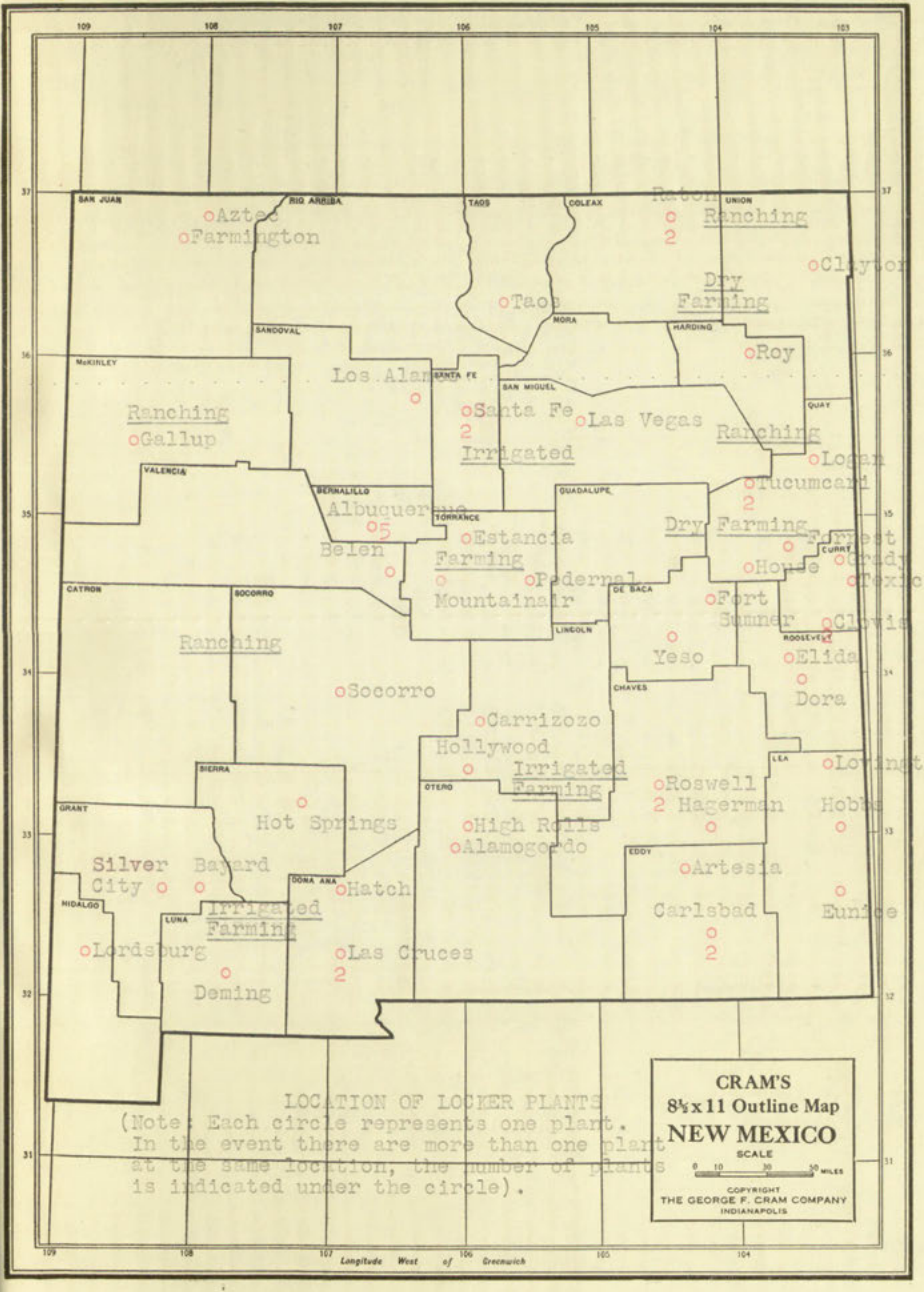
POPULATION OF CITY	NUMBER OF CITIES OF THIS POPULATION WITH LOCKER PLANTS	NUMBER OF LOCKER PLANTS LOCATED IN CITIES OF THIS POPULATION	AVERAGE NUMBER OF LOCKERS PER PLANT IN CITIES OF THIS POPULATION
Under 500	11	11	193
501 to 1,000	6	6	570
1,001 to 1,500	4	4	323
1,501 to 2,000	2	2	No report
2,001 to 3.000	2	2	600
3,001 to 5,000	7	7	727
5,001 to 10,000	7	11	657
10,000 or over	6	13	665
Totals	45	56	

Competition in these areas probably, to some extent, limits the size of plants.

The map of New Mexico on Page 11 shows the approximate locations of the fifty-six plants in the state.

Profitable year-round operation of a locker plant, independent of other income, depends upon access to a year-round market for its processing, freezing and storage services. Evidently such markets are scarce in New Mexico. Only one plant reported it offers complete processing services (see Table V). This plant operates independently of other income. It illustrates the ideal location for and efficient management of locker plants. The operator of this plant reported he offers the processing services, freezing and storage of all kinds of meats and local fruits and vegetables.

Definitely there are other plant locations over the state which are potentially as suitable as the one in which this complete service plant operates. In any location, year-round operation will depend primarily on plant management, either arranging for a supplementary volume of products outside of the immediate area, or encouraging production of a variety of products with differing maturity dates within the local area. Tressler and Evers suggest,



LOCATION OF LOCKER PLANTS
(Note: Each circle represents one plant.
In the event there are more than one plant
at the same location, the number of plants
is indicated under the circle).

for year-round operation, the following schedule of products to be frozen monthly:

> "January--Sweet potatoes, apples, spinach
> February--Eggs, spinach
> March--Eggs, spinach
> April--Eggs, strawberries
> May--Strawberries, English peas
> June--English peas, snap beans, boysenberries, blackberries
> July--snap beans, lima beans, peaches, blackberries
> August--Peaches, snap beans, grapes
> September--Snap Beans, greens
> October--Snap beans, greens
> November--Spinach, apples
> December--Apples, sweet potatoes, spinach"[1]

The above schedule, or a similar one, amy be followed by plants located in the farming areas of New Mexico. Approximately thirty plants in the state are located within the farming areas. Twenty-three plants of twenty-seven, or 85 percent, reported that the majority of their patrons were farmers.

Some plants are located in areas where little farming is done. However, all plants should set up a year-round schedule to aid patrons in keeping their lockers filled with food all year. To do this, locker plant operators may buy commercially grown fruits and vegetables for

---

[1] University of Arkansas Bureau of Research, Frozen Food Industries, (University of Arkansas Publication, Information Series No. 1, Rev. April 15, 1946), pp 11-12.

patrons.[2] Another alternative might be to set up additional facilities for processing poultry.

Ownership of locker plants in New Mexico. Ownership and control of New Mexico locker plants is of four types: the individual proprietorship, partnership, corporation and cooperative. The most common type of ownership is the individual proprietorship. Thirteen plants of thirty-one, or 42 percent, were individually owned. The ownership of plants organized between 1944 and 1950 was rather equally divided between individual proprietorship and the partnership types. Twelve plants that began operation in this period are individually owned, while nine that began operation in this period are partnerships.

Table III on Page 14 shows the distribution of plants according to the types of ownership.

Reporting plants owned by corporations had an average capacity of 709 lockers.[3] This is 115 more than the average for the plants owned by cooperatives, which had the second highest average. Individually owned plants were third highest in average number of lockers per plant, while the

---

[2] This practice is followed by some plant operators interviewed by the author.

[3] Computed from data reported by the thirty-one plants of Table III.

patrons.[2] Another alternative might be to set up addi- tional facilities for processing [illegible].

Ownership of [illegible] Plants in [illegible]. [illegible] ship and control of New [illegible] locker plants is of [illegible] types: the individual [illegible], [illegible], corpo- ration and cooperative. The most common type of ownership is the individual proprietorship, [illegible] thirty-one, or 42 percent, were individually owned. The ownership of plants organized [illegible] was rather equally divided between [illegible] and the [illegible]. [illegible] operation in [illegible] that began [illegible].

Table [illegible] shows the distribution of [illegible] according to the type of ownership.

Reporting plants owned by [illegible] had an average capacity of 709 lockers.[3] This is [illegible] for the plants owned by cooperatives, which had the highest average. Individually owned plants were [illegible] highest in average [illegible] per [illegible].

---

[2] This [illegible] by [illegible] interviewed by the author.

[3] Computed from data [illegible] plants of Table [illegible].

TABLE III

OWNERSHIP OF THIRTY-ONE NEW MEXICO LOCKER PLANTS

TYPE OF OWNERSHIP	PLANTS THAT REPORTED THIS TYPE OF OWNERSHIP	
	Number	Percent
Total plants reporting	31	100
Individual proprietorship	13	42
Partnership	10	32
Corporation	4	13
Cooperative	4	13

partnerships had the lowest average number. This points to the possibility that financing may be a more important factor than the needs of the community in determining the size or capacity of plants (see Table II, Page 9). The small size of individually owned and partnership owned plants may also reflect a lack of confidence in locker plant earning power by individual owners and those from whom they obtain credit.

Tables II and III, and the map showing the location of plants suggest that such variables as population, markets for services and financing affect the size of plants , the facilities they provide, and the services they offer. These variables also may explain why the adjunctive operation of plants in New Mexico (see Chapter IV) is so popular.

The following chapter pertains to the services and facilities provided by New Mexico locker plants.

CHAPTER III

FACILITIES PROVIDED AND SERVICES OFFERED BY NEW MEXICO LOCKER PLANTS

Types of New Mexico locker plants. Types of Locker plants are determined by the facilities of the individual plants. Services which may be offered other than locker storage space are the various food preparation services (processing, packaging and marking) and the freezing service. According to the Frozen Food Locker Plant Act, only one plant of the thirty-three which reported is a frozen food locker plant.[4] In order to be classified as a frozen food locker plant, the establishment must provide preparation services, freezing and storage facilities for fruits, vegetables and meats. Neither could the majority of reporting plants be classified as branch plants because to be classified as such, they must provide only locker storage facilities for foods after they have been prepared for storage by a frozen food locker plant.[5]

This legal definition does not seem to prevent New Mexico locker plant operators from considering their establishments as frozen food locker plants. It is apparent that

---

[4] See Section 1 of Frozen Food Locker Plant Act included in the Appendix.

[5] *Ibid*.

CHAPTER III

FACILITIES PROVIDED AND SERVICES RENDERED BY NEW MEXICO LOCKER PLANTS

Types of New Mexico Locker Plants. Types of locker plants are determined by the facilities of the individual plants. Services which may be offered other than locker storage space are the various food preparation services (processing, packaging and marking) and the freezing service. According to the Frozen Food Locker Plant Act, only one plant of the thirty-three which were contacted is a frozen food locker plant.[4] In order to be classed as a frozen food locker plant, the establishment must provide preparation services, freezing and storage facilities for fruits, vegetables and meats. Neither could the majority of processing plants be classified as locker plants. To be classified as such, they must provide only locker storage facilities for foods after they have been processed and frozen by a frozen food locker plant.[5]

This legal definition does not seem to deter New Mexico locker plant operators from considering their establishments as frozen food locker plants. It is apparent that

---

[4] See Section 2 of Frozen Food Locker Plant Act included in the Appendix.

[5] Ibid.

reporting plants partially fulfill the legal definition in that all of them offer locker storage facilities and some preparatory services.

The wording of the Act perhaps has been interpreted to include most plants operating in the state, for the author received a list of forty-eight so called locker plants from Mr. Carl R. Jensen, Supervisor of Frozen Food Lockers, Division of Sanitary Engineering and Sanitation, Department of Public Health, Santa Fe, New Mexico.

It is difficult to classify New Mexico plants as to the types of preparatory or processing services they provide since these services vary from plant to plant. No attempt will be made in this study to classify plants. The analysis of the data in relation to facilities provided and services offered will make it apparent that there are no distinct classes of plants in New Mexico.

Plants may provide facilities for processing, preparatory to freezing, meats, fruits and vegetables. The extent to which these foods are processed varies according to the individual plant's facilities. Most of the plants that process meats only will freeze fruits and vegetables after the patron has prepared them for the freezer. Eighteen of thirty-three plants reported they process only meats, while the other fifteen reported they process fruits and vegetables

as well as meats. Twenty-three plants reported processing poultry, while ten reported they did not.

All locker plants reporting by questionnaire number two were equipped for the quick freezing of foods. The quick freezing in New Mexico locker plants is done in one of two ways. These two methods are blast freezing and sharp freezing. Nine of seventeen plants reported they use the blast freezing method.

Blast freezing is the method of forcing air at high speed over refrigerator coils. It is the fastest freezing method of all. The other eight of the seventeen plants reported they use the sharp freezer. Sharp freezers are cold storage rooms, specifically constructed to operate at and maintain low temperatures. Circulating air is used in sharp freezing, but not at as high a velocity as in blast freezing.

Services offered by plants. Processing facilities are provided by locker plants for meats, fruits and vegetables. The complete processing of meats is provided by 39 percent of the plants that reported in New Mexico. It is difficult to classify the plants as to the type of meat processing they offer, other than whether they offer complete or incomplete meat processing. For example, one plant that provides incomplete meat processing offers only the cutting

and wrapping, meat grinding and meat curing services. Another offers slaughtering, cutting and wrapping, meat grinding and sausage making. It is plain that no group of plants offer the same types of meat processing services unless they provide them all.

It was assumed that the "cutting and wrapping" service was offered by all locker plants. This assumption was upheld by the sixteen operating plants that returned questionnaire number two. All of those plants reported they employed at least one butcher. Questionnaire returns show no unanimity of any particular meat processing service except the "cutting and wrapping" service.

Complete meat processing in New Mexico plants involves the following services: slaughtering and aging, cutting and wrapping, smoking, curing, grinding, lard rendering and sausage making. Plants which do not offer slaughtering service still may provide chill rooms for the proper aging of meats. Those plants which do slaughtering naturally provide facilities for properly aging meats.

Table IV shows the percentage of plants reporting facilities for meat processing services.

The most popular combination of meat processing services involves the following services: meat curing, and wrapping, meat grinding and meat curing services. Another offers chilling, cutting and wrapping, meat grinding and sausage making. It is plain that no group of plants offer the same types of meat processing services unless they provide them all.

It was assumed that the "cutting and wrapping" service was offered by all locker plants. This assumption was upheld by the sixteen operating plants that returned questionnaire number two. All of these plants reported they employed at least one butcher. These questionnaire returns give no analysis of any particular meat processing service except the "cutting and wrapping" service.

Complete meat processing in locker plants includes the following services: slaughtering and chilling, cutting and wrapping, smoking, curing, grinding, lard rendering and sausage making. Plants which do not offer slaughtering service still may provide chill rooms for the proper aging of meats. Those plants which do slaughter normally provide facilities for properly aging meats.

Table IV shows the popularity of [illegible] processing facilities for meat processing services.

The most popular combination of meat processing services involves the following services: [illegible]

TABLE IV

MEAT PROCESSING FACILITIES IN NEW MEXICO LOCKER PLANTS

FACILITY	PLANTS HAVING FACILITY	
	Number	Percent
Total plants reporting	33	100
Slaughtering	13	39
Meat curing	20	60
Smoking	13	39
Rendering lard	17	52
Meat grinding	28	85
Sausage Making	21	64
Poultry processing	23	70

lard rendering, meat grinding and sausage making.

The poultry processing service refers to the processing of all fowls. Some plants reported they process not only chickens, but also geese, turkeys and ducks.

Apparently there are more locker plant operators in the state who process meats than there are who process fruits and vegetables. One locker plant operator reported that New Mexico fruits and vegetables were not very good for freezing. He was referring particularly to the fruits and vegetables grown in the Albuquerque region. Regardless of this opinion, a considerable number of plants over the state reported they process fruits and vegetables. Fourteen of thirty-three plants reported they provide this service. It is not known whether this produce is locally grown or not. The questionnaire returns indicate that there is more incentive to process fruits and vegetables in the irrigated areas of the state where they are extensively grown. Fourteen of the plants which reported they processed fruits and vegetables are located in farming areas. This is 78 percent of the eighteen plants that reported they processed fruits and vegetables.

Eighteen of thirty-three plants, or 55 percent reported they processed fruits. The same number of plants lard rendering, meat grinding and sausage making.

The poultry processing service refers to the processing of all fowls. Some plants reported they process not only chickens, but also geese, turkeys and ducks.

Apparently there are more packer plant operators in the state who process meats than there are who process fruits and vegetables. One locker plant operator reported that New Mexico fruits and vegetables were not very good for freezing. He was referring particularly to the fruits and vegetables grown in the Albuquerque region. Regardless of this opinion, a considerable number of plants reported that they process fruits and vegetables. [illegible] plants reported they [illegible] whether this produce is locally [illegible]. Questionnaire returns indicate that there is more incentive to process fruits and vegetables in the irrigated areas of the state where they are grown. [illegible] of the plants which reported they processed fruits and vegetables are located in farming areas. This is 72 percent of the eighteen plants that reported they processed fruits and vegetables.

Eighteen of thirty-three plants, or 54 percent, reported they processed fruits. The same number of plants reported they processed vegetables. The processing of fruits and vegetables may involve only freezing them, or it may involve preparing them for freezing as well. Thirteen plants, or 39 percent, reported they provided, in addition to meat processing, the service of freezing fruits, and twelve plants, or 36 percent, reported they provided only the service of freezing vegetables, in addition to meat processing.

The questionnaire returns indicate that very few plants in the state provide complete processing of fruits and vegetables. Four plants did not report the extent of their processing of fruits, and five plants did not report the extent of their processing of vegetables.

Table V gives the percentages of plants offering fruit and vegetable processing services and figures on the type of processing offered.

TABLE V

THE PROCESSING OF FRUITS AND VEGETABLES IN EIGHTEEN NEW MEXICO PLANTS

TYPE OF PRODUCE	TOTAL PLANTS REPORTING	PLANTS OFFERING THIS SERVICE		PLANTS WHICH OFFER COMPLETE PROCESSING		PLANTS WHICH OFFER ONLY FREEZING	
		Number	Percent	Number	Percent	Number	Percent
Fruits	33	18	55	1	3	13	39
Vegetables	33	18	55	1	3	12	36

Other services offered by New Mexico plants include locker rental, bulk storage, retail of frozen foods, wholesale of frozen foods, processing of wild game, sale of ice cream and sale of home freezers. The rental of lockers is a fundamental service of locker plants and will be further explained under the rates section of this paper. The other services mentioned above may be considered as supplemental services of the locker plants. Data on these are presented in Table VI.

Another supplemental service offered by some plants is the sale of cartons and plastic bags to patrons who do their own processing. Mr. F. H. Wolfe, operator of an Albuquerque plant, considers that the proper container is essential to turning out quality products. He uses plastic bags in several sizes in his own processing, and sells these to patrons at cost. His plant is equipped with a vacuum pump which eliminates all air from the container after it is filled. No ice crystals could be observed in a sausage filled bag which had been frozen and stored for several weeks.

Service rates charged by plants. Locker plant operations revolve around the storage of products for their patrons in rooms held at from zero degrees to ten degrees Fahrenheit. The individual lockers in which the families'

Other services offered by the locker plants are locker rental, bulk storage, [illegible] of [illegible], [illegible] sale of frozen foods, the handling of [illegible], sale of ice cream and sale of home freezers. The [illegible] of [illegible] is a fundamental service of locker plants and will be further explained under the [illegible] methods of this [illegible]. The other services mentioned above are [illegible] considered as supplementary services of the locker plants. Data on these are presented in Table VI.

Another supplementary service offered by some plants is the sale of [illegible] [illegible] to patrons [illegible] their own [illegible]. [illegible] [illegible], manager of the Albuquerque plant, [illegible] that [illegible] is essential to [illegible] [illegible]. [illegible] plastic bags in several sizes for [illegible], and sells these to patrons at cost. [illegible] equipped with a vacuum pump which [illegible] all air from the [illegible] after it is filled. [illegible] could be [illegible] on a sausage filled bag which had been frozen and stored for several weeks.

Service other than [illegible] [illegible]. [illegible] [illegible] [illegible] receive [illegible] the [illegible] [illegible] [illegible] in rooms held at [illegible] between [illegible] degrees Fahrenheit. The [illegible] [illegible] [illegible] [illegible] [illegible]

TABLE VI

SUPPLEMENTAL SERVICES OFFERED BY NEW MEXICO LOCKER PLANTS

SERVICES OFFERED	PLANTS OFFERING THIS SERVICE	
	Number	Percent
Total plants reporting	33	100
Bulk storage	20	60
Retail of Frozen Foods	18	55
Wholesale of Frozen Foods	11	33
Processing of Wild Game	30	91
Sale of Ice Cream	15	45
Sale of Home Freezers	12	36

foods are stored are built of wood or of steel. They are of two types: those which have doors and the drawer type. The drawer type seems to be more popular because the patron is able to see a greater number of the packages when opening it. The most popular size of steel lockers is about six cubic feet.[6]

The rental rates of lockers in a particular plant vary according to capacity and accessibility. A locker in the center of a row may rent for more than one nearer the ceiling or one next to the floor. Rates are charged on a yearly basis by most plants. Only two plants reported a monthly rate on the rental of lockers. One of these plants rents lockers entirely by the month.

In the analysis of rental rates, the average rate is based on a locker capacity of six cubic feet. It should be kept in mind that all plants did not report the size of their lockers. Twenty-two plants of thirty-three reported their rental rates by questionnaire returns. The average yearly rental rate for the six cubic foot locker is about $17.20. Twenty different rates were reported by these plants, showing a wide range of variation from $11.00 to $25.00. One plant reported the rental of commercial size lockers at $50.00 each per year.

---

[6] This was observed by the author while visiting plants in New Mexico.

Foods are stored [illegible] They are of two types: those [illegible] drawer type. The drawer type seems to be more popular, [illegible] patron is able to see [illegible] opens it. The most popular size of [illegible] cubic feet.[6]

The rental rates of lockers in [illegible] plants vary according to capacity and [illegible]. A locker [illegible] center of a row may [illegible] or one next to the floor. [illegible] basis by most plants. Only [illegible] rate on the rental of lockers [illegible] lockers entirely by [illegible].

In the analysis [illegible] based on a locker [illegible] kept in mind [illegible] lockers. Twenty-[illegible] rental rates by [illegible] rental rate [illegible] $17.40. Twenty different [illegible] a wide range of variation from [illegible] reported the rental [illegible] per year.

---

[6] This was observed by the [illegible] plants in New Mexico.

The rates charged for processing services and supplemental services by New Mexico plants vary greatly over the state. A rate is charged for each particular service. There seems to be no tendency on the part of New Mexico locker plant operators to combine the charges for various processing services into one charge. An example of this type of rate would be to combine the rates for chilling, cutting, wrapping, grinding and freezing meat into one charge based on the weight of the unprocessed carcass. It is not known what the advantages or disadvantages of such a combination of charges would be. However, the carcass weight is cut down with throw aways from each process in the complete processing of meats. Labor is continually involved and, therefore, a charge on the total weight of the carcass is justified. Some plants reported they combine smoking and curing into one charge. However, smoking is not a part of the cure. It merely adds to the flavor of meats. Four out of twenty plants offering curing service combine the charge with that of the smoking service. Curing methods vary considerably; some are a great deal more expensive than others. Some plants "artery pump" hams and cure them in half the time it takes to cure them by the dry salt method. Some plants use a brine vat cure method. The average curing rate charged by New Mexico plants used in Table VII was used without regard to the type of curing method.

One plant reported a charge for meat grinding which is unconventional. The charge is fifty cents up to fifty pounds of meat, and $1.00 from fifty-one pounds up to 100 pounds. The minimum charge of fifty cents for small amounts of meat of course discourages patrons with small amounts to be ground.

One plant reported it freezes fruits and vegetables at two cents per carton, which is a departure from the practice of most other plants which charge by the pound or by the quart.

Table VII lists all services and rates about which data were gathered by questionnaire returns from thirty-three operating plants.

The capacity of locker plants in the state. The average number of cubic feet of locker space per plant in New Mexico, figured from the data on twenty-one plants reporting, was found to be 3,240 cubic feet. The average size of a locker is about six cubic feet.[7] This size of locker will hold about 150 lbs. of fruits and vegetables or 250 lbs. of meat, the exact amount depending, of course, on the

---

[7] The actual calculation of the average size locker was found to be 6.6 cubic feet. This was based on data from seventeen plants. The method used involved dividing the total number of cubic feet of locker storage space by the total number of lockers.

One plant reported a [illegible] for [illegible] which is unconventional. The charge is fifty cents for [illegible] pounds of meat, and 25 cents from fifty-one pounds to 100 pounds. The minimum charge of fifty cents is charged regardless of each of course [illegible] to be ground.

One plant reported it charges for freezing vegetables at two cents per carton, which is a departure from the practice of most other plants which charge by the pound or by the quart.

Table VII gives information and such data which data were gathered by questionnaire returns from [illegible] operating plants.

<u>The capacity of locker plants in New Mexico</u>. The average number of cubic feet of locker space per plant in New Mexico, figured from the [illegible] plants reporting, was found to be 1,340 cubic feet. The average size of a locker is about six cubic feet.[7] This size of locker will hold about 150 lbs. of fruits and vegetables or 200 lbs. of meat, the exact amount depending on [illegible].

---

[7] The actual calculation of the size of each locker was found to be 5.8 cubic feet. This was [illegible] reporting plants. [illegible] total number of cubic feet of locker storage space by the total number of lockers.

TABLE VII

SERVICE RATES CHARGED BY NEW MEXICO LOCKER PLANTS

SERVICE	NUMBER OF PLANTS OFFERING SERVICE	NUMBER OF PLANTS REPORTING RATE	NUMBER OF DIFFERENT RATES REPORTED	AVERAGE RATE CHARGED	THE LOWEST AND HIGHEST RATE CHARGED FOR THIS SERVICE
Rental of lockers	33	22	20	$17.20 per year	$11.00 to $25.00 per year
Slaughtering	13	10	2	(1¢ per pound to hide and offals)	
Meat curing	16	12	4	5¢ per pound	2¢ to 6¢ per pound
Smoking	8	5	4	4¢ per pound	2¢ to 6¢ per pound
Curing and Smoking	4	4	2	5.5¢ per pound	5¢ to 6¢ per pound
Meat grinding	28	17	6	3¢ per pound	2¢ to 5¢ per pound
Rendering lard	17	9	3	4¢ per pound	2¢ to 5¢ per pound
Processing of fruits (freeze only)	17	13	9	2.6¢ per pound 4.5¢ per quart	2¢ to 3.3¢ per pound 4¢ to 6¢ per quart
Processing of vegetables (freeze only)	17	12	9	2.6¢ per pound 4¢ per quart	2¢ to 3.3¢ per pound 4¢ to 6¢ per quart
Processing fruits and vegetables (complete)	1	1	1	10¢ per quart	
Bulk storage	20	13	8	1.5¢ per pound per month	1/2¢ to 4¢ per pound per month
Sausage making	21	9	2	4.3¢ per pound	4¢ to 5¢ per pound
Processing of Poultry (Chickens)	23	14	13	25¢ each or 4¢ per pound	15¢ to 30¢ each 2¢ to 5¢ per pound

TABLE VII (continued)

SERVICE RATES CHARGED BY NEW MEXICO LOCKER PLANTS

SERVICE	NUMBER OF PLANTS OFFERING SERVICE	NUMBER OF PLANTS REPORTING RATE	NUMBER OF DIFFERENT RATES REPORTED	AVERAGE RATE CHARGED	THE LOWEST AND HIGHEST RATE CHARGED FOR THIS SERVICE
Processing of Wild Game	30	14	5	5.8¢ per pound	3¢ to 8¢ per pound
Retail of frozen foods	18	3	3	14% above cost	10% to 18% above cost
Wholesale of frozen foods	11	3	3	8.5% above cost	7% to 10% above cost
Sale of ice cream	15	3	3	12% above cost Current retail price.	Same as average 35¢ per quart.
Sale of home freezers	12	2	2	21% above cost	12% to 30% above cost

particular product and the method of packaging employed. Usually the lockers are in stacks five high, although some plants have stacks six high.

There is a wide variation in the number of lockers installed in the plants (see Table VIII). One plant reported only thirty, while the largest plant reported 1,500. Six of the twenty-one plants reported, by questionnaire number two, that they had increased the number of lockers in their plants since they began operations. Over half of thirty plants reported less than 500 lockers; however, almost one-third of the plants reported a capacity of over 700 lockers. The popularity of the locker plant with under 500 lockers is shown in the following table.

Planned expansion of locker plant facilities. Fourteen plants of twenty-nine, or 48 percent, reported they do not plan any kind of expansion of their locker plant facilities. Eleven plants, or 38 percent, reported they have definite plans for expanding. Four plants, or 14 percent, reported they were uncertain as to whether or not they would expand their facilities.

Some plants planned to increase the number of lockers they have along with providing more bulk storage space. Other plants planned to offer more processing services, increase the number of lockers they have and also to increase

TABLE VIII

SIZE OF LOCKER PLANTS IN NEW MEXICO
1950

SIZE OF PLANT	NUMBER OF PLANTS
Less than 100 lockers	6
100 to 199 lockers	4
200 to 299 lockers	4
300 to 399 lockers	3
400 to 499 lockers	2
500 to 599 lockers	0
600 to 699 lockers	2
700 or over	9

their bulk storage space. One plant operator planned to merchandise meat as a side line to locker plant operation. One other plant reported plans to build a slaughter house and feed pens.

Table IX is a tabulation of data taken from questionnaire returns from the eleven plants that planned to expand their locker plant facilities.

The facilities provided and the services offered by locker plants determine the extent of operation of individual plants. The techniques of operation vary from plant to plant as do the facilities and services.

The operation of plants cannot be explained by merely examining the facilities provided and the services offered. Such questions as the following arise. Why do not all plants offer complete processing services? Does the market justify future expansion of operations? Chapter IV attempts to answer these questions through the presentation of data on adjunctive operation, personnel employed, patrons and legal regulations of locker plants in New Mexico.

TABLE IX

PLANNED EXPANSION OF LOCKER PLANT FACILITIES

FACILITY TO BE ADDED	PLANTS THAT PLAN TO ADD THIS FACILITY	
	Number	Percent
Total plants reporting	11	100
More processing service	6	55
Increase bulk storage space	4	36
Increase number of lockers	3	27
Slaughtering	1	9
Meat merchandising	1	9

CHAPTER IV

THE OPERATION OF NEW MEXICO LOCKER PLANTS

Adjunctive operation of plants. Approximately 79 per cent of thirty-three plants reported they operate some other business along with their locker plant business. Only seven out of thirty-three, or 21 per cent, reported they were not engaged in any other business. The types of other businesses vary considerably. The general merchandise, grocery and creamery are about equally popular businesses which are operated in conjunction with the locker plants in the state.

Plants opening in recent years show no trend away from adjunctive operation. They reported operation in conjunction with such businesses as general merchandise, meat market, retail grocery and market and creamery.

The extensive adjunctive operation of locker plants indicates the limited extent of the market. This necessitates the operation of locker plants in conjunction with some other business. In some localities this may be due to an insufficient supply of local produce that is suitable for year-round freezing (see map, page 11). Where this is the case, the business operated in conjunction with the locker plant provides a continuous source of income during periods

[illegible]

THE OPERATION OF [illegible]

__Adjunctive operations of plants.__ [illegible] per cent of thirty-three [illegible] other business along with [illegible] seven out of thirty-three, or 21 per cent [illegible] were not engaged in any other business. [illegible] businesses vary considerably. The general [illegible] grocery and hardware [illegible] which are conducted in conjunction with [illegible] the state.

Plant [illegible] few adjunctive operations. [illegible] conjunction with [illegible] meat market, [illegible] grocery and [illegible].

The extensive adjunctive operation of locker plants indicates the limited [illegible] sitates the operation of locker plants in connection with some other business. In some localities this may be due to an insufficient supply of local patrons [illegible] year-round [illegible] (see [illegible] page [illegible]). [illegible] case, the business [illegible] in conjunction with [illegible] plant provides a [illegible] during [illegible] when locker plant income is low.

This, however, is not the only reason why most locker plants operate in conjunction with some other business. In cases where the chief business is the operation of a creamery or some other business requiring refrigeration, the locker plant can be operated rather inexpensively.

Table X shows businesses closely allied with the locker plant industry in New Mexico.

One plant of the seven that operated independently of other businesses provided complete processing services of meats, fruits and vegetables. Five of the other six provided complete meat processing service. All seven plants offered the service of freezing fruits and vegetables.

The plant which did not offer complete meat processing reported facilities for partial meat processing, which included cutting and wrapping, meat grinding and sausage making. This plant also reported the sale of ice cream.

The seven plants considered here provided the following services which could be considered as an additional source of income. (see Table XI).

It appears that six of the seven plants mentioned

TABLE X

OTHER BUSINESSES OPERATED IN CONJUNCTION WITH THE FROZEN FOOD LOCKER PLANTS IN NEW MEXICO, 1950

BUSINESS	NUMBER OF PLANTS ASSOCIATED WITH BUSINESS
General merchandise	5
Grocery	4
Creamery	4
Ice	2
Feed store	2
Farming and ranching	2
Meat market	1
Wholesale meats	1
Wholesale oil	1
Did not give nature of other business	4
Those engaged in no other business	7
Total plants reporting	33

TABLE XI

SERVICES OFFERED BY SEVEN LOCKER PLANTS OPERATED INDEPENDENTLY OF ANOTHER BUSINESS

SERVICE OFFERED	NUMBER OF PLANTS OFFERING THIS SERVICE
Bulk Storage	5
Process Wild Game	6
Retail of Frozen Foods	6
Wholesale of Frozen Foods	4
Ham Smoking	6
Sausage Making	6
Processing of Poultry	6
Sale of Ice Cream	2
Other Services	5

above offer a variety of supplemental services to their patrons. Perhaps this justifies their operating independently of some other business. It could be that the one that offers few supplemental services does a large enough volume of business without providing additional services.

Two extremes were represented in the class of independently operated plants. One was the complete service plant which had a locker capacity of 1,500 lockers, and the other was the radically incomplete service plant which reported a locker capacity of 140 lockers. The other five plants had an average locker capacity of 678 lockers.

The population _per se_ was not a factor influencing the independent operation of plants. One of the five plants in Albuquerque was independently operated. Only three of the seven independently operated plants were located in cities of over 5,000 population.

As was indicated by the seven plants considered above, locker plants may operate independently of other businesses providing the market for processing and supplemental services will support this practice.

The next topic pertains to the market for locker plant services. Date on the occupations of locker plant patrons and advertising media used by locker plant operators to above offer a variety of supplemental services to their patrons. Perhaps [illegible] might [illegible] the [illegible]-dently of some other [illegible]. It would be [illegible] that offers few supplemental services [illegible] a [illegible] volume of business without providing additional services.

Two [illegible] were [illegible] in [illegible] inde-pendently operated plants. One was the [illegible] service plant which had a locker capacity of [illegible] lockers, and the other was the [illegible] which re-ported a locker capacity of [illegible] lockers. The [illegible] plants had an average locker capacity of [illegible] lockers.

The [illegible] the independent [illegible] in Albuquerque was [illegible] of the seven independent [illegible] were located in cities of over 3,000 population.

As was indicated by the seven [illegible] locker plants may operate independently of other businesses providing the market for processing and supplemental services will support this operation.

The [illegible] the market for locker plant services. Between the [illegible] and advertising media used by [illegible] operators is attract business are presented. Some information on the desires and expectations of patrons is included.

Patronage of locker plants. At the time of this study, the occupations of the majority of locker patrons in New Mexico were farming and ranching. According to questionnaire returns from twenty-seven plants, only three plants reported the majority of their patrons were white collar workers. Twenty-three plants of twenty-seven, or 85 percent, reported the majority of their patrons were farmers or "farmers and ranchers". One plant divided the percentage of patrons equally between farmers and ranchers, white collar workers, and commercial houses.

A locker plant operator must satisfy his customers as any other business must if the plant is to prosper. He must provide a variety of services according to the needs of the community (see Page 38) in order to derive greater income. He should know what the customers expect in return for their patronage.

The patrons of the locker plant expect courtesy, good processing service, efficiency in the packaging and storage of their frozen products. Patrons also expect the plant to be sanitary, and they desire to save money on food bills by patronizing the locker plant. Evidence supporting these desires and expectations of patrons is shown in the following attract business for processors. An interpretation of the desires and expectations of patrons is provided.

Patronage of locker plants. At the time of this study, the occupations of the majority of locker patrons in New Mexico were farmers and ranchers. According to questionnaire returns from [illegible], [illegible] plants reported the majority of their patrons were white-collar workers. Twenty-three plants of twenty-seven, or 85 percent, reported the majority of the patrons were farmers or "farmers and ranchers". One plant reported the percentage of patrons equally between farmers and ranchers, white collar workers, and commercial buyers.

A locker plant operator must satisfy his customers as any other business man if the plant is to prosper. He must provide a variety of services according to the needs of the community (see page 52) in order to derive greater income. He should know what the customers expect in return for their patronage.

The patrons of the locker plant expect courtesy, good processing service, efficiency in the processing and storage of their frozen products. Patrons also expect the plant to be sanitary, and they desire to have [illegible] food [illegible] patronizing the locker plant. Furthermore, [illegible] these desires and expectations of patrons is [illegible] percentages and reasons why 1,000 women patrons give up their lockers.

"14 Women out of 1,000 - Missing Packages
15 Women out of 1,000 - Unsanitary Plant
24 Women out of 1,000 - Moved or Transferred
23 Women out of 1,000 - Discourtesy
102 Women out of 1,000 - Home Units
162 Women out of 1,000 - No Saving
225 Women out of 1,000 - Poor Processing
380 Women out of 1,000 - Faulty Packaging
55 Women out of 1,000 - Other Reasons (Minor)"[8]

The locker plant operator must know how to meet the public in selling his own and the plant's services. While the locker plant idea is novel and new, customers are easy to attract, and for the same reason are harder to hold (as indicated above).

Locker plant operators use various means of advertising to attract patrons. Only two plants of fifteen reported they use no advertising. One of these plants was located in a town of over 3,000 population, and the other was located in a town of a little over 100 population. The plant in the larger town was located over fifty miles away from any other locker plant. Advertising media used by the other thirteen locker plant operators included newspapers, radio stations, movies, hand bills, bill boards and such novelties as calendars, key chains and pencils.

---

[8] Hoppe, John L., "Why 1,000 Women Gave up Their Lockers", *Arizona Food Locker Association Bulletin*, (Arizona Food Locker Association, Jan., 1949), p. 1.

Table XII presents information tabulated from fifteen plants which reported the extent of their advertising programs. Some plants used several of the different media.

The recent passage of a law and regulations governing the frozen food locker plant industry has presented additional problems of operation. Legal action may be taken against operators who do not comply with sanitation requirements and other regulations necessary for the protection of the public. The provisions of the Frozen Food Locker Act and regulations promulgated by the New Mexico State Board of Health are explained in the following topic.

Legal regulations. When the construction of locker plants first began, there were no legal regulations governing their operation. According to the questionnaire returns, twenty-two plants, or 46 percent of the total number of New Mexico locker plants were in operation before the state Frozen Food Locker Act was made a law. The New Mexico Frozen Food Locker Act was set forth in Senate Bill Number 111, Chapter 129, Session Laws 1947.

The Act requires that the chill room be held at thirty-four degrees Fahrenheit plus or minus two degrees with a tolerance of ten degrees for a reasonable time after fresh food is put in for chilling. The sharp freeze room

TABLE XII

ADVERTISING MEDIA USED BY FIFTEEN NEW MEXICO LOCKER PLANTS

MEDIUM	NUMBER OF PLANTS USING OFTEN	NUMBER OF PLANTS USING OCCASIONALLY
Newspaper	8	2
Radio	2	5
Movies	3	1
Hand-bills	1	5
Bill boards	1	1
Pencils, key chains and calenders	1	0

room or compartment is required to be held at minus ten degrees Fahrenheit, but the Act permits zero degrees or lower in the freezer if forced air circulation is employed. The locker room must be kept at zero degrees Fahrenheit with a tolerance of three degrees higher.

The law also requires that the thermometers be provided in the chill room, the sharp freeze room or compartment and in the locker room; the latter thermometer must be placed in a position where it can be readily observed by patrons.

According to the Act, no article of food shall be stored in any frozen food locker plant unless it is in a proper condition for storage and meets all the requirements and such rules as may be established by the Board of Public Health for the sanitary preparation of food products which are to be stored.

Frozen food locker plant regulations promulgated by the New Mexico State Board of Public Health January 10, 1948, cover all phases of operation of the locker plants. Items of regulation include construction and cleanliness of buildings, cleaning and storage of utensils and equipment, disposal of waste products, cleanliness and health of employees, refrigeration equipment, processing and storage of food, wrapping and identification of stored food.

No regulation or section of the law refers directly to the necessity of providing an auxiliary source of power in case the local source fails. However, this is implied in the law in Section 11 and in the regulations under Item 10 which refer respectively to temperatures required and thermometers for recording temperatures.

Since the passage of the law and regulations governing the industry, locker plant operators are more readily accepting the responsibility that goes with any industry that handles food.[9]

The text of the original New Mexico Frozen Food Locker Plant Act and Frozen Food Locker Regulations are included in the Appendix of this study.

A locker plant operator must employ sufficient competent personnel in order to operate his plant efficiently with respect to the market and legal regulations. The following topic pertains to the personnel employed.

Personnel employed by plants. The employees of locker plants may include one or more of the following: butcher, refrigeration engineer, common laborer, salesman, cashier, accountant and manager. There is a need for this

---

[9] Author's observations in regard to plant sanitation as practiced by plants recently visited and interviews with operators justify this statement.

personnel in a plant which offers a large variety of services. Therefore, small plants have difficulty providing efficient service because they simply cannot afford to carry a large payroll. However, it seems that some plants are in a position to expand their operations through developing a wider market.[10]

Some plants may be operating to the capacity of the market, but this is doubtful if one considers the processing services offered (See Table IV, Page 20, Table V, Page 22, and Table VI, Page 24) and the data on the independently operated plants (Table IX, Page 33).

In addition to having a knowledge of public relations and of the market his plant serves, a locker plant operator must also be a detail man in watching accounts and accounting. He must employ personnel wisely and use them efficiently in order to keep costs of operation low. The job specifications for most of the different personnel vary from one plant to another.

For example, some plants require that the cashier do the bookkeeping. A salesman in one plant may perform such tasks as meat grinding and selling ice cream. In another plant a salesman may sell home freezers and general

---

[10] This statement refers to plants located in farming areas.

merchandise. The common larorer's task in one plant may be wrapping and marking packages. In a different plant, a laborer may do skinning.[11]

The duties of the butcher and refrigeration engineer remain about the same in all plants. Their jobs require that they have more technical training and experience than the other personnel, with the exception of the manager. Only two plants of seventeen that reported employ a plant manager. One of these plants was individually owned and the other was owned by a corporation.

The total number of employees of the seventeen plants that reported was sixty. This is an average of over three employees per plant. Two New Mexico plant operators performed all tasks of operation themselves. In order for a complete service plant, managed in this manner, to be operated efficiently, it is necessary that the operator be skilled in all phases of locker plant operation. The two self-operated plants provided a minimum of services to patrons. Both of them provided incomplete processing of meats. The services offered were slaughtering, meat grinding, meat curing and lard rendering. One of them also offered bulk storage, sausage making, poultry processing, sale of ice cream and

---

[11] This information was obtained through personal interviews with seven locker plant operators in New Mexico.

sale of home freezers. Both plants reported they processed wild game.

Data on locker plant personnel, compiled from questionnaire returns from the seventeen plants that replied to the question, are presented in tabulated form on the following page. Table XIII shows that all seventeen plants employed at least one butcher. It should be kept in mind that the two operators who performed this job themselves are included in this figure.

New Mexico locker plant operators, generally speaking, seem to employ only sufficient personnel to handle the apparent volume of business, with little regard to latent market potentialities.

The locker plant operator should intermittently reexamine his market potentialities. This is one of the many problems of operation which illustrate the complex nature of this new industry.

TABLE XIII

PERSONNEL EMPLOYED BY SEVENTEEN NEW MEXICO LOCKER PLANTS

EMPLOYEE	NUMBER OF REPORTING PLANTS THAT EMPLOY	NUMBER EMPLOYED BY REPORTING PLANTS	NUMBER EMPLOYED FULL TIME BY REPORTING PLANTS	NUMBER EMPLOYED PART TIME BY REPORTING PLANTS
Butcher	17	23	20	3
Refrigeration Engineer	4	4	1	3
Laborer	10	14	13	1
Cashier	4	4	3	1
Accountant	5	5	4	1
Cashier and accountant	2	2	2	0
Salesman	3	6	6	0
Manager	2	2	2	0

CHAPTER V

SUMMARY AND CONCLUSIONS

Since the development of mechanical refrigeration a service enterprise known as the frozen food locker plant has come into being. This plant offers processing facilities, storage facilities and supplemental services to patrons. Meats, fruits and vegetables are processed, that is, made ready for freezing and frozen. Then this food is placed in rented lockers in the plant, at the convenience of patrons, and held at a temperature of zero degrees Fahrenheit. Supplemental services offered by New Mexico locker plants include bulk storage, retail of frozen foods, wholesale of frozen foods, processing of wild game, sale of ice cream and sale of home freezers.

According to processing facilities provided, New Mexico locker plants are of two types: (1) those which provide complete or incomplete meat processing facilities, and (2) those which provide meat, fruit and vegetable processing facilities. Supplemental services may be provided by either type of plant.

The industry is rather new to New Mexico, but there are indications that the number of plants in the state is increasing yearly.

Most plants are located in the north eastern and north central regions of the state. Plants are principally located in farming areas. Farmers and ranchers compose the majority of patrons of the industry. Plants are located in small towns and large cities alike, regardless of the type of community, so eventually plants may cover the entire state. The owner or operator does not necessarily need technical training, but if he is highly competent, his opportunity for financial success is greater since it would eliminate the necessity for employing such assistance.

Some cities of over 5,000 population support two or more locker plants. This points toward a greater increase in plants as population increases.

The most popular type of ownership is the individual proprietorship, with the partnership second in popularity. Other plants are owned by cooperatives and corporations. The corporations, which provide the best financial backing compared with the other types of ownership, have the highest average number of lockers per plant.

The average capacity of plants in New Mexico is 3,240 cubic feet. According to this figure, each plant in the state has an average of 540 lockers of the six cubic foot size. However, the most popular size plant in the state is one of less than 500 lockers. Locker plant

Most plants are located [illegible] in the western and north central regions of the state. Plants are principally located in farming areas. Farmers and [illegible] compose the majority of patrons of the industry. Plants are located in small towns and large cities alike, regardless of the type of community, so eventually plants may be [illegible] entire state. The number of operators does not [illegible] technical training, but [illegible], an opportunity for technical schools in [illegible] would stimulate the [illegible].

[illegible] of over 2,000 population support two or more locker plants. [illegible] in plants [illegible].

The most popular type of ownership in the industry is proprietorship, with [illegible] percent [illegible]. Other plants are owned by cooperatives and corporations. The corporations, which [illegible], compared with the other types of ownership, have the highest average number of lockers per plant.

The average capacity of plants in [illegible] is 3,240 cubic feet. [illegible] the state has [illegible] foot size. However, [illegible] state is one of [illegible] than [illegible]. [illegible] operators usually begin with a few lockers and add more as the demand increases.

Plants offer a variety of services to patrons. Most plants do not offer complete processing services for either meats or fruits and vegetables. Less processing of fruits and vegetables than of meats is done in the state. Perhaps the reason why more plants provide meat processing facilities is that until recently the public did not know how to prepare fruits and vegetables for freezing so as to obtain a product of high quality. Also, some people may feel it doesn't pay to rent lockers for storage of comparatively inexpensive vegetables and fruits. A third reason is that operators may not desire to add facilities which might be used only occasionally and would not afford a profit. Further, in some instances, where the needs of the community would warrant additional facilities, financial backing may be lacking. The locker plant operator should arrange a schedule of products for freezing to aid his patrons in keeping their lockers filled with food all year.

Rates for the locker plant services show wide ranges of variation over the state. There is an indication here of "by-product pricing". Prices are fixed with little regard to costs of operation. It is improbable that costs vary as much as prices seem to indicate. In some cases costs may

vary from plant to plant because of different methods of processing and different types of facilities provided. The variance of prices in some instances may be due to a lack of competition in some areas. However, the great variance in prices may principally be due to the lack of knowledge, on the part of locker plant operators, in regard to costs of operation.

In regard to processing charges on meats, there seems to be no tendency of plant operators to combine various charges. One charge, based on the weight of the carcass, would cut record keeping, and would enable the plant to estimate service charges as soon as the meat enters the plant.

Eleven of twenty-nine plants reported they are expanding or intend to expand their plant facilities. Fifty-five percent of these plants intend to offer more processing facilities. Thirty-six percent intend to increase their bulk storage space, while twenty-seven percent intend to increase the number of lockers they have.

The operation of most plants in the state is done in conjunction with some other business. Seventy-nine percent of thirty-three plants reported they operate some other business along with the locker plant. This situation may be attributed in most cases to the limited extent of the market. The low volume of business in these cases necessitates adjunctive operation.

The examination of the services offered by the seven

plants which were operated independently of another business points to the possibility that locker plant operators may attract a greater volume of business by increasing the number of services they offer. It is doubtful that most plants were operating to the capacity of their markets.

The population _per se_ was not a factor influencing the independent operation of plants. The character of the market may be a factor. Locker plants may operate independently of other businesses providing the market for processing, storage and supplemental services will support this practice.

Adjunctive operation in some instances may be explained by the fact that the other business was begun first and is still carried on as the major source of income. This chief business may be the operation of a refrigerated warehouse, creamery, or some other enterprise employing refrigeration. Perhaps the plants operated in conjunction with retail establishments began with only locker rental service and have expanded their facilities.

Adjunctive operation of plants make it evident that most operators have shown little concern for increasing the extent of their services.

The majority of locker plant patrons were farmers and

plants which were operated independently of other [illegible]-
ness points to the possibility that locker plant opera-
tors may obtain a greater volume of business by increasing
the number of services they offer. It is [illegible] that
most plants were operating [illegible] capacity at [illegible].

The population and [illegible] influencing
the independent operation of plants. The [illegible]
market may be a factor. Some [illegible] operate independ-
ently of other businesses [illegible]
ing, storage and [illegible] but this
practice.

Adjunctive operation is [illegible]
ed by the fact that the other business [illegible]
still carried on [illegible]
business may be the operation of a [illegible],
creamery, or some other enterprise [illegible].
Perhaps the plants operated in conjunction with [illegible] estab-
lishments began with only [illegible] and have
expanded their facilities.

Adjunctive [illegible] that
most operators have [illegible] the
extent of their services.

The [illegible]

ranchers. This is true because most plants were located in the farming and ranching areas of the state. Plants located in the largest cities reported that the majority of their patrons were white collar workers, however. The plant patrons usually represented a cross section of the population of the city in which the plant was located.

Apparently more services were provided by the plants that were located in farming areas. The locker plant operator must provide a variety of services according to the needs of the community. As is indicated by data on independently operated plants, operators may extend their markets by offering more services. Plants located in the larger cities seemed to do a large enough volume of business without offering a great number of services.

Locker plants have been regulated by state law since 1947. The recent passage of this law and regulations governing the locker plant industry have presented additional problems of operation. Locker plant operators have been rather slow in complying with these legal provisions. The author observed many unsanitary practices of plants. Perhaps in some cases this was due to the additional expense of sanitary practices. Cleanliness and more proper equipment would increase overhead and investment to a certain extent.

members. Initially those locker [illegible] plants [illegible] in the farming and ranching areas of the state. [illegible] located in the larger population centers [illegible] their patrons were [illegible]. [illegible] plant patrons usually [illegible] of the population of the city in which the plant was located.

Apparently [illegible] was [illegible] plants that were located in [illegible] areas. The locker plant operator [illegible] services according to the needs of the [illegible] independently operated [illegible] market by [illegible] larger cities [illegible] without offering a [illegible].

Locker plants have been regulated by [illegible] 1947. The present [illegible] governing the locker plant industry have [illegible] problems of operation. [illegible] operators have been rather slow in [illegible]. The author observed many [illegible] in some cases this was due to [illegible] practices. [illegible] increase overhead and [illegible].

However it may be said that since the passage of the Frozen Food Locker Plant Act, operators are becoming more conscious of the responsibilities of a business which handles food.

Personnel employed by locker plants include butchers, refrigeration engineers, laborers, cashiers, accountants, salesmen and managers. Most plants, that reported, employed their personnel full time. Three of four refrigeration engineers employed work only part time. To operate a complete service plant effectively may not require all personnel mentioned above. Whether it will or not depends on the volume and type of business a plant may have.

A locker plant operator must employ sufficient competent personnel in order to operate his plant efficiently with regard to the market and legal regulations. New Mexico locker plant operators, generally speaking, seem to employ only sufficient personnel to handle the apparent volume of business, with little regard to latent market potentialities. Few plant operators were concerned with the expansion of their facilities.

Most plant operators were leaving virtually untapped many sources of additional income. The locker plant business is a service business; service in complete processing and

storing all foods and providing such other services as the market may suggest.

The practical application of the principles of management are the means which should enable the locker plant operator to accomplish his main objective; that of selling services.

BIBLIOGRAPHY

A. BOOKS

Browne, M. W., *Cold Storage Temperatures and Humidity Chart*. The Author, 3103 Coleman Rd., Kansas City, Mo. 1932. $10.00

Carleton, H., *The Frozen Food Industry*. University of Tennessee Press, Knoxville, Tenn. 1941. $2.00

Farris, W. S. and others, *Frozen Food Industries*. University of Arkansas, Fayetteville, Ark. 1947. 31 pp. gratis.

Farris, W. S., *Operation of Arkansas Frozen Food Locker Plants*. University of Arkansas, 1947. 16 pp. gratis.

Farris, W. S., *27 Floor Plans for Locker Plants*. University of Arkansas. 1947. 30 pp. gratis.

Guest, W. E., *Refrigerated Locker Plant Manual, for the Guidance of Managers and Operators of Refrigerated Locker Plants*. Nickerson and Collins Co., 435 Waller, Chicago, 1939. 142 pp. $3.00.

Locker Publishing Co., *Guide Book of the Frozen Food Locker Industry, 1944 - 45*. The Company, 1421 Walnut St., Des Moines, Io. 1944, 1945. 2 vols. ea. $3.00.

Locker Publishing Co., *1943 Guide Book of the Frozen Food Industry*. The Company, 1943. $1.00.

National Institute of Municipal Law Officers, *Municipal Regulation of Refrigerated Locker Plants*. The Institute, 730 Jackson Pl., N.W. Washington 6, D.C. 1946.

Redeker, P. B., editor, *Refrigerated Locker Storage Business*. News Publishing Co., 5215 Cass St., Detroit. 1939. $1.00.

Todoroff, A., *How to Build and Operate a Locker Plant*. Meat Merchandising, Inc., 105 S. Ninth St., St. Louis 2, 1946. $3.00.

Tressler, D. K. and Evers, C. F., *The Freezing Preservation of Foods*. The Avi Publishing Company, Inc., New York, 1947, 932 pp., $10.00.

Warrington, S. T. and Wilkins, Paul C., *Cooperative Frozen-Food Locker Plants, Organization and Operation*. Cooperative Research and Service Division, Farm Credit Administration, U. S. Department of Agriculture, Washington, D. C., June, 1946. 82 pp.

Warrington, S. T. and Wilkins, Paul C., *Frozen-Food Locker Plants, Location Capacity, Rates, and Use*. Cooperative Research and Service Division, Farm Credit Administration, March, 1945, 45 pp.

B. ARTICLES

Carlton, H., "Freezer Locker Plant is Going Commercial; Increased Facilities for Freezing Fruits and Vegetables," *Food Industries*, October, 1946.

Carlton, H., "Frozen Food in the Retail Market: Frozen Food Stores, Department Stores and Freezer-Locker Plants to compete with Retail Food Stores," *Food Industries*, May, 1946.

Carter, J. H., "Refrigeration Piping and Control for Locker and Processing Plants," *Heating-Piping and Air Conditioning*, August, 1948.

Clark, D., "Locker Plant Construction Calls for Special Technique," *American Builder and Building Age*, November, 1947.

"Freezer Lockers," *Fortune*, September, 1947.

"Frozen Foods Filing Cabinet Eliminates Need for Zero Room," *Sales Management*, December 15, 1948.

Gortner, W. A., "Effect of Fluctuating Storage Temperature on the Quality of Frozen Foods," *Industrial and Engineering Chemistry*, August, 1948.

Harrel, D. N., "Freezer Lockers in Georgia," *Refrigerating Engineering*, September, 1947.

Havighorst, C. R., "So You Are Going Into Freezing: Checklist Questionnaire," *Food Industries*, December, 1945.

Kline, B. H., "Locker Plants Reach Out, Offer Many Services," *Food Industries*, May, 1948.

Leiding, O., "Huge Refrigerated Warehouses Bring Model Storage at Dallas," Food Industries, September, 1948.

Mitchell, T., "Quick-freezing of Foods in Locker-Room Service," Power, May, 1945.

Orr, N., "Locker Plant Operators Havy Many Troubles Becoming Food Processing Plants," Food Industries, June, 1947.

"Rapid Expansion of Frozen Food Lockers," Manufacturer's Record, August, 1945.

Tressler, D. K., "What's Ahead for Frozen Foods," Advertising and Selling, January, 1945.

Ward, G. H., "Freezer Locker Plant Economics," Refrigerating Engineering, November, 1948.

Warner, K. F., "Problems of the Locker Industry With Cost Data," Refrigerating Engineering, November, 1945.

C. LOCKER ASSOCIATION PUBLICATION

Hoppe, John L., "Why 1,000 Women Gave Up Their Lockers," Resume of his speech given at the NFFLA convention, Published by the Arizona Food Locker Association, January, 1949.

APPENDIX

QUESTIONNAIRE NUMBER I

DEPARTMENT OF ECONOMICS, UNIVERSITY OF NEW MEXICO

QUESTIONNAIRE FOR LOCKER PLANTS AND FREEZERS IN NEW MEXICO

1. What year did you begin operations?______________

2. Have you been in the food business before? Yes___No___

3. Have you had experience in refrigeration and/or cold storage warehouse operation? Yes___No___ How much_____.

4. Do you employ a specialist in refrigerating engineering? Yes___No___.

5. Are you engaged in any other business? Yes___No___. If so, what is nature of other business? Please explain.
____
____

6. Do you freeze for your own account only? Yes___No___.

7. Do you "custom freeze" that is, do you freeze for packers of frozen foods? Yes___No___. If so, for whom?
____

8. Please check products you pack or freeze:
A. Meats___. What is major meat product (beef, pork, etc.) ____

B. Fruits___. Major fruits are______________________

C. Vegetables___. Major vegetables are______________
____

D. Wild game___. Details___________________________

E. Other____

9. Please check the locker plant services which you render and by notation after each, show the charge for the service.
Slaughtering___. Rendering lard___. Meat grinding___.

Meat curing____. Ham smoking______. Rental of Lockers___.

Processing of fruits_____. Processing Vegetables_____.

Processing of poultry____. Bulk storage____.

Commercial processing____. Retail of frozen foods___.

Sale of home freezers____. Sale of ice cream_____.

Wholesaling frozen foods____. Sausage Making____

10. What type of ownership controls your locker plant?
    A. Individual proprietorship_____.
    B. Partnership____.
    C. Corporation____.
    D. Cooperative____.

11. Do you plan to expand in the field? Yes___No___. If so, in what respect?______________________________
____

12. Do you desire a digest of my study? Yes___No ___.

13. Please estimate and check the occupational status in which you would classify most of your patrons.
    1. Farmers_______.
    2. Ranchers______.
    3. Commercial or businessmen______________.
    4. Other (please explain)______________.

QUESTIONNAIRE NUMBER II

DEPARTMENT OF ECONOMICS, UNIVERSITY OF NEW MEXICO

Dear Sir:

Your assistance in filling out the following questionnaire will be appreciated. This information is in correlation with a previous questionnaire for Frozen Food Locker Plants in New Mexico. It is intended to bring past information up to date before final draft of the author's study is made available.

1. What year did you begin operation? ____________________.

2. Have you been in the food business before? Yes___No___.
If so, how long?

3. Are you engaged in any other business? Yes____No____.
If so, what is the nature of other business?________________.

4. Please give the number of lockers you began with________
and the number you have now______________.

5. Estimate the number of cubic feet of locker storage space you began with________cu.ft., and the number of cubic feet you have now______________cu. ft.

6. Do you use the "blast freezing" method? Yes____No___.
If not, what method do you use?__________________________.

7. Estimate the number of square feet of bulk storage space you have now__________________sq. ft.

8. We employ the following personnel: (Please Check)

Type of work	Number Employed	Employed Full Time	Employed Part Time	No. of Yrs. we have employed
Butcher				
Refrigeration Engineer				
Common laborer				
Salesman				

Questionnaire Number II (continued)

Type of work	Number Employed	Employed Full Time	Employed Part Time	No. of Yrs. we have employed
Cashier				
Accountant				
Others				

9. What type of ownership controls your locker plant?
   A. Individual Proprietorship____________.
   B. Partnership____________.
   C. Corporation____________.
   D. Cooperative____________.

10. Do you use the following advertising mediums? (Please check)

Medium	Used often	Used Occasionally
Newspaper		
Radio		
Movies		
Hand bills		
Bill boards		
Others		

11. Do you plan to expand in the field?
    A. Increase number of square feet of bulk storage space? Yes_______No______.
    B. Increase number of lockers? Yes_____No_____.
    C. Offer more processing services? Yes____No___.
    D. In other ways?____________________.

12. I estimate the cost of a pound of steak to a locker patron (considering all costs of processing and storage services of a side of beef at present prices) to be $____ per pound.

13. What services do you offer and what rates do you charge?

Service	We offer this service	Our charge for this Service
Process fruits		

Questionnaire Number II (continued)

Service	We offer this service	Our charge for this service
Process vegetables		
Bulk storage		
Rental of lockers		
Process wild game		
Retail frozen foods		
Wholesale frozen foods		
Slaughtering		
Meat grinding		
Meat curing		
Ham smoking		
Sausage making		
Processing of poultry		
Sale of ice cream		
Sale of home freezers		
Rendering lard		
Other		

14. What percent of your customers would you put in each of the following occupations?

A. Farmers and ranchers______%
B. Commercial houses______%
C. White Collar Workers______%
D. Miners______%
E. Others______%

FROZEN FOOD LOCKER ACT

Senate Bill No. 111

Chapter 129, Session Laws 1947.

An Act

RELATING TO FROZEN FOOD LOCKER PLANTS: DEFINING, LICENSING PRESCRIBING CONSTRUCTION FINISH AND EQUIPMENT: PROVIDING FOR INSPECTION, STORAGE OF FOOD, SANITARY REGULATIONS AND REVOCATION OF LICENSE: PRESCRIBING TEMPERATURES REQUIRED AND AUTHORIZING THE NEW MEXICO STATE BOARD OF PUBLIC HEALTH TO MAKE SANITARY RULES, PROVIDING A LIEN UPON FOODS STORED IN SAID LOCKER PLANTS, PROVIDING A PENALTY FOR VIOLATIONS OF THIS ACT: AND DECLARING AN EMERGENCY.

Be It Enacted by the Legislature of the State of New Mexico:

SECTION 1. DEFINITIONS. For the purpose of this Act; "Food" shall include any article used by man for food, drink, confection, ice or condiment, or which enters into the composition of the same whether simple, blended, mixed or compounded.

"Frozen Food Locker Plants" shall mean a location or establishment in which space in individual lockers are rented to persons for storage of frozen food and is equipped with a chill room, sharp freezing facilities and facilities for cutting, preparing, wrapping and packaging meats and meat products, fruits and vegetables.

"Branch Frozen Food Locker Plant" shall mean a location or establishment in which space in individual lockers is rented to persons for storage of frozen food, after preparation for storage at a frozen food locker plant.

"Sharp Frozen" shall mean the freezing of food in a room in which the temperature is zero degrees Fahrenheit or below.

"Board" shall mean the New Mexico State Board of Public Health of Santa Fe, New Mexico.

SECTION 2. LICENSE. No person, firm or corporation shall engage or continue in the operation of a frozen food locker plant or a branch frozen food locker plant until a license has been obtained from the State Board of Public Health or its agents for each such location or establishment. Application for such license or licenses shall be made upon forms furnished by the State Board of Public Health and shall contain the items required by it as to ownership, management, location, equipment, and other data concerning the business for which each license is desired.

SECTION 3. LICENSE FEE. The annual license fee for each such frozen food locker establishment shall be Twenty-Five Dollars ($25.00) for each plant of five hundred (500) or less lockers, and an additional fee of Five Dollars ($5.00) for each additional hundred lockers or fraction thereof: Provided that the total fee assessed for any one locker plant shall not exceed Fifty Dollars ($50.00). All such amounts collected under Section 3 of this Act shall be deposited with the State Treasurer and credited to the Department of Public Health.

SECTION 4. EXAMINATION OF PLANT. Upon receipt of an application for a license for a new Frozen Food Locker Plant or branch plant or such a plant now operating, the State Board of Public Health shall require that within ninety (90) days, an inspection be made of the locker plant or branch locker plant, its equipment, facilities, surrounding premises, slaughtering facilities, etc., and if its operations, construction and equipment comply with the provisions of law and authorized rules and regulations of the Board applicable to such plants, the State Board of Public Health shall issue such licence.

SECTION 5. INSPECTION AND REVOCATION OF LICENSE. Every frozen food locker plant or branch locker plant shall be subject to inspection at any reasonable hour by the State Board of Public Health or its authorized representatives and said locker plants shall be maintained in a sanitary condition and conducted with strict regard to the influence of such conditions upon the food handled therein, and any licensee under this Act who fails to comply with the provision of this Act shall suffer revocation of his license.

Provided that no license issued hereunder may be revoked until the licensee is given twenty (20) days' notice personally or by registered mail and an opportunity given for a public hearing at a time to be set up by the State Board of Public Health. This license shall be conspicuously displayed by the licensee in each locker plant, or

SECTION 2. LICENSE. No person, firm or corporation shall engage or continue in the operation of a frozen food locker plant or a branch frozen food locker plant until a license has been obtained from the State Board of Public Health or its agents for each such location or establishment. Application for such license or licenses shall be made on forms furnished by the State Board of Public Health and shall contain the items required by it as to ownership, management, location, equipment, and other data concerning the business for which such license is desired.

SECTION 3. LICENSE FEE. The annual license fee for each such frozen food locker establishment shall be Twenty-five Dollars ($25.00) for each plant of five hundred (500) or less lockers, and an additional fee of Five Dollars ($5.00) for each additional hundred lockers or fraction thereof: provided that the total fee assessed for any locker plant shall not exceed Fifty Dollars ($50.00). All such amounts collected under Section 3 of this Act shall be deposited with the State Treasurer and credited to the Department of Public Health.

SECTION 4. INSPECTION OF PLANT. Upon receipt of an application for a license for a new frozen food locker plant or branch plant or such plant now operating, the State Board of Public Health or its agents shall within ninety (90) days, make an inspection of the locker plant or branch locker plant, its equipment, facilities, surrounding premises, plumbing facilities, etc., and if its operation, construction and facilities comply with the provisions of this Act and the rules and regulations of the Board applicable to such plants, the State Board of Public Health shall issue such license.

SECTION 5. INSPECTION AND REVOCATION OF LICENSE. Every frozen food locker plant or branch locker plant shall be subject to inspection at any reasonable hour by the State Board of Public Health or its duly authorized representatives and said locker plants shall be maintained in a sanitary condition and conducted with proper regard to the influence of such conditions upon the food handled therein, and any licensee under this Act who fails to comply with the provisions of this Act shall subject his license to revocation. Provided that no license issued hereunder may be revoked until the licensee is given twenty (20) days' notice personally or by registered mail and an opportunity given for a public hearing before the State Board of Public Health. This license shall be conspicuously displayed by the licensee in said locker plant, or branch locker plant.

SECTION 6. STORING OF IMPURE FOOD. No article of food shall be stored in any frozen food locker plant unless it is in a proper condition for storage and meets all the requirements and such rules as may be established by the said Board of Public Health, for the sanitary preparation of food products which are to be stored.

SECTION 7. GOODS NOT INTENDED FOR HUMAN CONSUMPTION. Goods not intended for human consumption whall not be stored in a frozen food locker plant except such items of animal or vegetable matter which may have been approved by the State Board of Public Health.

SECTION 8. CONSTRUCTION OF PLANT EQUIPMENT. The floors, walls and ceilings of Locker Plants and Branch Locker Plants including all food processing rooms, slaughtering facilities, etc., shall be of such construction and finish that they can be conveniently maintained in a clean and sanitary condition. Walls and ceilings shall be well painted or finished in some other approved manner and shall be refinished as often as necessary. Washing facilities including hot and cold water shall be provided for proper cleansing of utensils and equipment. The lockers in any plant shall be so constructed as to protect the contents from contamination, deterioration or injury.

Any plant using a toxic gas refrigerant shall have at least one gas mask of a type approved by the State Board of Public Health and shall keep the same where it will be readily accessible.

The plans for all future Frozen Food Locker or Branch Locker Plants hereafter constructed shall be submitted to the State Board of Public Health, and approval secured prior to the construction of such plants.

The State Board of Public Health is hereby empowered to enter into agreements with and delegate to the Board of Regents of the New Mexico College of Agriculture and Mechanic Arts the responsibilities for supervision and inspection of new Frozen Food Locker Plants structures.

SECTION 9. SANITATION AND CLEANLINESS. All rooms of a locker plant or branch locker plant shall at all times be maintained in a clean and sanitary condition. All equipment and utensils shall be clean when put into use and shall be thoroughly cleansed after each day's use and shall be so stored or protected as not to become contaminated. Lockers shall be thoroughly cleansed before they are leased or put into the possession of any patron. The premises and

surroundings of locker plants and branch locker plants shall be maintained in a clean and sanitary condition. The food stored shall be protected from filth, flies, dust, dirt, insects, vermin and any other contamination and from any unclean or filthy practice in handling thereof or caring therefor. No food shall be stored in such condition or in such manner as to cause injury to or deterioration of articles of food in adjacent lockers. Tobacco shall not be used in any room where food is processed or stored. Waste or offal incident to the slaughtering, cleaning, storing or preparation of any food for storage shall be promptly removed from the premises disposed of in a sanitary manner.

No room or rooms used for the preparation, storage, display or sale of food or for the processing of food shall be used as a living room or sleeping room nor shall dogs, cats or other domestic animals be permitted in any such room.

SECTION 10. WATER SUPPLY, TOILET FACILITIES. Locker Plants shall have an ample water supply approved by the State Board of Public Health. Locker Plants or Branch Locker Plants shall be provided with adequate toilets so located as to be readily accessible to employees and equipped with adequate hand washing fixtures or facilities, supplied with hot and cold water under pressure, soap and approved towel service. The doors of all toilet rooms shall be full length and self-closing and no toilet room shall open directly into any room in which foods are prepared, processed, chilled, frozen or stored. Toilet facilities and rooms shall be kept in a clean and sanitary condition.

SECTION 11. TEMPERATURES REQUIRED. The refrigeration system for a Locker Plant or Branch Locker Plant shall be equipped with accurate and reliable controls for the automatic maintenance of uniform temperatures as required in the various refrigerated rooms and shall be of adequate capacity to provide under extreme conditions of outside temperatures and under peak load conditions in the normal operations of the plant, the following temperatures in the several rooms, respectively.

(a) Aging Room. Temperature of Thirty-four (34^{o}) degrees above Zaro (0) Fahrenheit plus or minus Two degrees (2^{o}) with a tolerance of Five degrees (5^{o}) Fahrenheit for a reasonable time after fresh food is put in for aging.

(b) Sharp Freeze Room. Sharp Freezing Compartments. Temperatures of Ten degrees (10^{o}) below Zero (0) Fahrenheit or lower or temperatures of Zero (0) degrees Fahrenheit or lower when forced air circulation is employed with a tolerance of Five degrees (5^{o}) Fahrenheit for either type of installation for a reasonable time after fresh food is put in

for freezing.

(c) Locker Room. Temperature of not to exceed Zero (0) degrees Fahrenheit with a tolerance of Three degrees (3°) Fahrenheit higher.

The foregoing temperatures shall not be construed as prohibiting such variations as may occur during short periods of time incidental to defrosting. For experimental purposes, the State Board of Public Health, upon an application in writing, may authorize for a limited and prescribed period the installation and use of refrigeration systems or methods which in the opinion of the State Board of Public Health will result in improvement over present methods.

An accurate direct reading thermometer shall be provided in the chill room and in the sharp freeze room or compartment. The thermometer in the locker room shall be placed in a position where it is readily observed by patrons.

SECTION 12. INSPECTION, WRAPPING, IDENTIFICATION STORED FOOD. No food shall be placed in a locker unless such foods have been inspected by the operator. No unwrapped meat or unwrapped or unpacked fruits or vegetables shall be placed in any locker. Only paper suitable for the wrapping of meats that are to be frozen and stored, shall be used. Each wrapped portion shall be marked or stamped with the correct locker number and the date of wrapping.

SECTION 13. WAREHOUSEMEN. Persons who own or operate Frozen Food Locker Plants or Branch Locker Plants shall not be construed to be warehousemen, nor shall receipts or other instruments issued by such persons in the ordinary conduct of their business be construed to be negotiable warehouse receipts.

SECTION 14. STORAGE LIEN. Every lessor owning or operating a Frozen Food Locker Plant or Branch Plant shall have a lien upon all property of every kind in its possession for all reasonable charges and rents thereon and for the handling, keeping and caring for the same.

SECTION 15. STATE BOARD OF HEALTH. For the purpose of carrying into effect the provisions of this Act, the State Board of Health shall promulgate reasonable rules and regulations relating to sanitation, conforming to the purpose and content of this Act.

SECTION 16. PENALTY. Any person who shall violate any provision of this Act or any lawful rule and regulation for freezing.

(c) Locker Room. Temperature of not to exceed zero (0) degrees Fahrenheit with a tolerance of three degrees (3°) Fahrenheit higher.

The foregoing temperatures shall not be construed as prohibiting such variations as may occur during short periods of time incidental to defrosting. For experimental purposes, the State Board of Public Health, upon application in writing, may authorize for a limited and prescribed period the installation and use of refrigeration systems or methods which in the opinion of the State Board of Public Health will result in improvement over present methods.

An accurate direct reading thermometer shall be provided in the chill room and in the sharp freeze room or compartment. The thermometer in the locker room shall be placed in a position where it is readily observed by patrons.

SECTION 12. INSPECTION; WRAPPED, IDENTIFICATION STORED FOOD. No food shall be placed in a locker unless such foods have been inspected by the operator. No unwrapped meat or unwrapped or unprotected fruits or vegetables shall be placed in any locker. Only paper suitable for wrapping of meats that are to be frozen and stored shall be used. Each wrapped parcel shall be marked with the correct locker number and the date [illegible].

SECTION 13. WAREHOUSEMEN. Persons operating Frozen Food Locker Plants or Branch Locker Plants shall not be construed to be warehousemen, nor shall receipts or instruments issued by such parties in the ordinary conduct of their business be construed to be negotiable warehouse receipts.

SECTION 14. OPERATOR'S LIEN. Every person owning or operating a Frozen Food Locker Plant or Branch Plant shall have a lien upon all property of every kind in his possession for all reasonable charges and rents thereon and for the handling, keeping and storing for the same.

SECTION 15. STATE BOARD OF HEALTH. For the purpose of carrying into effect the provisions of this Act, the State Board of Health shall promulgate reasonable rules and regulations relating to sanitation, conforming to the purpose and content of this Act.

SECTION 16. PENALTY. Any person who shall violate any provision of this Act or any lawful rule and regulation of the Board shall be fined not less than Twenty-Five Dollars ($25.00) nor more than One Hundred Dollars ($100.00) or be imprisoned in the county jail not exceeding thirty (30) days.

SECTION 17. CONSTITUTIONALITY OF ACT. If any section, subjection, sentence or clause in this Act shall for any reason be held void or unconstitutional, such decision shall not affect the validity of any other portion of this Act.

SECTION 18. The provisions of this Act shall not be in force and become operative until on or after July 1, 1947.

FROZEN FOOD LOCKER REGULATIONS

Governing the Construction and Operation of
Frozen Food Locker Plants and Branch Frozen
Food Locker Plants

Promulgated by the State Board of Public Health
January 10, 1948

AUTHORIZING ACTS
Chapter 39, Laws 1937
Chapter 129, Laws 1947

PENALTY FOR VIOLATION
Chapter 39, Laws 1937
Chapter 129, Laws 1947

REGULATIONS

ITEM 1. CONSTRUCTION AND CLEANLINESS OF BUILDING.

ITEM 1a. FLOORS. The floors of all rooms in which food is handled, prepared, processed, or stored, in which utensils are washed or stored, or of halls, toilets, and dressing rooms, shall be constructed of good quality concrete, equally impervious tile, or non-porous brick laid closely with impervious joint material, or metal surface with impervious joints, or other impervious material which is the equivalent of good quality concrete. The finish coating of all concrete floors shall contain an added abrasive material, or shall have an effective non-slip surface. When locker room or rooms are installed at ground level or lower, an adequate under-drainage system shall be provided to prevent the entrance of ground water or moisture, which might destroy the insulation characteristics of the floor and also to prevent frost heaving of the floor.

The floor surfaces shall be smooth and graded to a central drain, and the joints between floors and walls shall be so constructed as to be impervious to water, insects and rodents.

The floors in the food processing rooms shall be provided with trapped drains so constructed as to minimize

clogging, and the drainage system so designed and installed that no sewage can back up into any drain line and flood the floors.

No floor drains of any description in the locker rooms and sharp freeze rooms shall connect with the plumbing system.

Sawdust, wood shavings, etc., shall not be used on the floor of any room of a locker plant or branch locker plant except in the receiving room or in the aging room, and there, if used, it shall be confined in removable, washable containers in the drip area directly under freshly killed carcasses. Roll paper or other material, if used similarly, shall be removed often enough to prevent nuisance or sanitation hazard.

The floors shall be clean and free of organic filth and litter. Under no circumstances shall food of any description be stored on any floor of a frozen food locker plant or branch frozen food locker plant.

Provided, that frozen food locker plants or branch frozen food locker plants already constructed and in operation on the effective date of these regulations, and whose floors do not meet the above requirements with reference to material, may continue to use the existing floors until December 31, 1949, or until the floors not in compliance with the above requirements are voluntarily repaired or replaced if prior to the above-given date, and provided further that the floors in plants existing prior to effective date of these regulations meet all other requirements.

ITEM 1b. WALLS AND CEILINGS. The walls and ceilings of all rooms in which food is handled, prepared, processed, or stored, or in which utensils are washed or stored, or of halls, toilets, or rest rooms, shall be of smooth washable construction, tight and impervious to moisture, and so constructed as to prevent entry of cockroaches, flies, rodents and other vermin, and shall be kept clean and in good repair.

The walls and ceilings of all rooms, except locker clogging, and the drainage system so designed and installed that no sewage can back up [illegible] floors.

No floor drains of any description in the locker rooms and sharp freeze rooms shall connect with the plumbing system.

Sawdust, wood shavings, etc., shall not be used on the floor of any room of a locker plant or branch locker plant except in the receiving room and in the curing room, and there, if used, it shall be confined in [illegible] containers in the [illegible] filled containers. Soil, paper or other material, if used similarly, shall be removed often enough to prevent [illegible] or sanitation hazard.

The floors shall be clean and free of [illegible] and litter. Under no circumstances shall [illegible] description of [illegible] on any floor of a frozen food locker plant or branch frozen food locker plant.

Provided, that frozen food locker plants and branch frozen food locker plants, constructed and in operation on the effective date of these regulations, and whose floors do not meet the above requirements [illegible] until December 31, 1946, at which time floors not in compliance with the above requirements shall be repaired or replaced in order to [illegible], and provided further that the floors of plants [illegible] effective date of these regulations [illegible] requirements.

ITEM 15. WALLS AND CEILINGS. The walls and ceilings of all rooms in which food is handled, processed, prepared, or stored, or in which utensils are washed, and in halls, toilets, or wash rooms, shall be of [illegible] construction, tight and capable of being cleaned, and so constructed as to prevent entry of [illegible] and other vermin, and shall be kept clean and in good repair.

The walls and ceilings of all rooms, except [illegible] rooms and sharp freeze room shall be painted or finished in a light color and refinished as often as necessary, but in no event shall the period exceed two years.

The walls and ceilings of sharp freeze locker rooms shall be insofar as practicable, moisture-vapor proof. The inside walls of locker and sharp freeze rooms shall have a tight, smooth, washable finish, and shall be of such material that it will not absorb or give off odors.

Provided that in frozen food locker plants or branch frozen food locker plants constructed and in operation on the effective date of these regulations, the walls and ceilings of the locker and sharp freeze rooms shall be considered as being in compliance insofar as varpo-proofing is concerned, and the present inside finish shall be acceptable until such time as major refinishing is necessary. Walls and ceilings of other rooms of locker plants not in compliance shall be accepted and considered in compliance only for such reasonable period of time following notification of the defects as will provide ample opportunity for correction of the defects of items in violation. However, in no case shall an extension of time be granted in excess of six months from the date of first inspection and notification.

ITEM 1c. DOORS AND WINDOWS. All openings to the outer air shall be effectively screened with not less than sixteen mesh wire or plastic cloth or other effective means shall be employed to prevent the entrance of flies. Screen doors shall open outward and shall be self-closing. Provided, that unloading rooms of sufficient size to admit vehicles shall not be required to be screened, and further provided that all doors leading from the unloading room into the plant shall be provided with outward opening self-closing doors or other effective means to prevent the entrance of flies. All necessary fly control measures shall be employed.

ITEM 2. LIGHTING AND VENTILATION. All rooms in which food is handled, prepared, processed, and in which utensils are washed or stored shall have an illumination intensity of ten foot candles on all working surfaces. The illumination intensity in all other rooms shall be not less than four foot candles at the darkest point. Each locker room shall be provided with at least two lighting circuits

with independent switches and fuses, or other equivalent approved system. Each switch shall have a pilot light and shall be available to the operator only. The locker room lighting circuits shall be placed ahead of all other lighting or power circuits in the plant. An emergency flash light plainly marked for that purpose, and in good repair shall be kept in a convenient place in each locker room. An emergency alarm device that will enable patrons in distress to signal for outside help shall be installed for each locker room. Luminescent switches shall be provided.

All rooms, except sharp freeze and locker rooms shall be adequately ventilated to prevent the accumulation of moisture and condensate.

ITEM 3. TOILET FACILITIES. Chapter 129, Laws 1947, Section 10. Handwashing signs shall be posted in all toilet rooms used by employees.

ITEM 4. LAVATORY FACILITIES. Chapter 129, Section 10. Laws 1947. All rooms in which food is handled, prepared, or processed or in which utensils are washed or stored shall be provided with suitable handwashing facilities including hot and cold water under pressure, soap, sanitary towels and waste containers. Fixtures shall be kept clean and in good repair.

ITEM 5. WATER SUPPLY. The water supply shall be of a safe sanitary quality, adequate in quantity to provide for proper cleaning of floors, equipment, utensils, etc. Running hot and cold water under pressure shall be accessible in all rooms in which food is prepared or processed and/or in which utensils are washed. The piping shall be so installed as to insure against back-siphonage of waste water. When an individual water supply is used, it shall be protected and pumping equipment installed in accordance with the requirements of the New Mexico State Board of Public Health. Cross connecting of an approved supply with an unapproved supply will not be permitted.

ITEM 6. CONSTRUCTION, CLEANING AND STORAGE OF UTENSILS AND EQUIPMENT. All multi-use utensils and all

show and display cases or windows, counters, shelves, tables, refrigerating equipment, sinks, and other equipment or utensils used in connection with the operation of a frozen food locker plant or branch frozen food locker plant shall be so constructed as to be easily cleaned and shall be kept in good repair. Utensils containing or plated with zinc, cadmium, or lead, shall not be used, provided, however, that solder containing lead may be used for jointing. Equipment covered with a protective coating that will chip or scale is prohibited. Lockers with perforated bottoms shall be provided with suitable non-perforated liners or trays. All equipment and containers shall be stored at a sufficient height above the floor, in a clean, dry place, protected from ashes, splash, dust, overhead leakage, condensation and other contamination.

Single-service containers intended for use in the storage of foods to be quick-frozen and stored in the lockers shall be purchased in sanitary cartons and stored therein in a clean place until needed. Wrapping material for foods shall be stored in a clean place until needed.

ITEM 7. BACTERICIDAL TREATMENT OF UTENSILS AND EQUIPMENT. Cleaning and bactericidal treatment of all multi-use utensils shall be accomplished as set forth in the Regulations Governing the Sanitation of Foods and Food Handling Establishments, adopted by the New Mexico State Board of Public Health.

ITEM 8. DISPOSAL OF WASTE PRODUCTS. All liquid waste resulting from the cleansing and rinsing and from preparation of foods for quick-freeze and storage, shall be discharged into a public sewer, or in the absence of a public sewer, into a plumbing system and disposal plant approved by the New Mexico State Board of Public Health. In the event, animals are slaughtered in a slaughter house adjacent to the frozen food locker plant, special catch basins shall be required to catch and retain the blood from the slaughtered animals. No offal shall be admitted to any plumbing system.

All trash or garbage shall be kept in properly covered metal containers. Such containers shall be kept clean, and the plant premises shall be kept clean at all times.

All garbage, offal, trash, and other materials, if waste products, shall be removed from the plant daily and shall be disposed of in a manner approved by the New Mexico State Board of Public Health. Separate chill rooms for the storage of inedible products shall be used and shall be fly tight and constructed in accordance with the requirements of Item 1. They shall be maintained in a clean, sanitary manner. The waste stored in this room shall be kept in clean, metal receptacles.

ITEM 9. CLEANLINESS AND HEALTH OF EMPLOYEES. All employees shall wear clean outer garments and shall keep their hands clean at all times while engaged in handling food, utensils or equipment. Employees shall not expectorate or use tobacco in any form in rooms in which food is handledor stored or in which utensils are washed.

No person who is affected with any disease in a communicable form or is a carrier of such a disease shall work in any frozen food locker plant or branch frozen food locker plant, and no such establishment shall employ any such person or any person suspected of being affected with any disease in a communicable form or of being a carrier of such a disease. If the frozen food locker plant or branch frozen food locker plant manager suspects that an employee has contracted any disease in a communicable form or has become a carrier of such a disease he shall notify the health officer immediately. A placard containing this paragraph shall be posted in all toilet rooms used by employees.

ITEM 10. REFRIGERATION EQUIPMENT--TEMPERATURES REQUIRED--RECORDING AND INDICATING THERMOMETERS. Chapter 129, Section 11, Laws 1947. An accurate direct reading thermometer and an approved recording thermometer shall be installed in each locker room. The discs and direct reading temperature records shall be kept at the plant and shall be preserved for at least one (1) year from the date of recording. The thermometers shall be placed in a position where they are readily observable by patrons.

All self-recording thermometers shall be of a type approved by the New Mexico State Board of Public Health, and shall meet the following specifications: (a) Moistureproof, enamelled metal case with lock. (b) Scale range at least minus thirty (30) degrees F. to plus seventy (70)

All garbage, offal, trash, and other materials, if waste products, shall be removed from the plant daily and shall be disposed of in a manner approved by the New Mexico State Board of Public Health. A separate storage room for the storage of inedible products shall be located and shall be fly-tight and constructed in accordance with the requirements of Item 1. They shall be maintained in a clean, sanitary manner. The waste stored in this room shall be kept in clean, metal receptacles.

ITEM 9. CLEANLINESS AND HEALTH OF EMPLOYEES. All employees shall wear clean outer garments and shall keep their hands clean at all times while engaged in handling food, utensils or equipment. Employees shall not expectorate or use tobacco in any form in rooms in which food is handled or stored or in which utensils are washed.

No person who is affected with any disease in a communicable form or is a carrier of such a disease shall work in any frozen food locker plant or frozen food locker plant, and no such establishment shall employ any such person or any person suspected of being affected with any disease in a communicable form or of being a carrier of such a disease. If the manager of any frozen food locker plant or branch frozen food locker plant suspects that an employee has contracted any disease in a communicable form or has become a carrier of such a disease he shall notify the health officer immediately. A placard containing this paragraph shall be posted in all toilet rooms used by employees.

ITEM 10. REFRIGERATION AND THERMOMETERS--THERMOMETERS PROVIDED--RECORDING AND DIRECT READING THERMOMETERS. Chapter 100, Section 11, Laws 1947. An accurate direct reading thermometer and an approved recording thermometer shall be installed in each locker room. The disc and direct reading temperature records shall be kept at the plant and shall be preserved for at least one (1) year from the date of recording. The thermometers shall be placed in a position where they are readily observable by patrons.

All self-recording thermometers shall be of a type approved by the New Mexico State Board of Public Health, and shall meet the following specifications: (a) Moisture-proof, enamelled metal case with lock. (b) Scale range at least minus thirty (30) degrees F. to plus seventy (70) degrees F. of the reverse type, i.e., low temperatures on outside of chart, and accurate within one (1) degree F. plus or minus between minus five (5) degrees F. and plus five (5) degrees F. (c) Scale divisions one (1) degree each between minus five (5) degrees F. and plus five (5) degrees F. the space between the lines not less than one twenty-seventh (1/27) inch and ink line not to exceed one-fortieth (1/40) inch in width. (d) The time represented by one scale division shall not exceed one hour, the chart to make one revolution in seven days and to be so graduated. The clock mechanism shall be spring-actuated either electric or hand wind. If electric wind is used, spring shall be capable of maintaining accurate time for thirty (30) hours. Hand wind recording thermometers shall be capable of operating for seven days without rewinding. (e) The rotating mechanism provided with a pin to puncture the charts in a manner to prevent fraudulent rotation of charts. (f) Provided, that recording thermometers not in compliance with the above specifications, but for which a bona fide order was placed with the manufacturer or manufacturer's agent prior to January 1, 1948, shall be considered as being in compliance until such time as major recording thermometer repairs are necessary. At that time, the recording thermometer shall be purchased to comply with specifications.

The direct-reading thermometer in the locker room, and the bulb of the recording thermometer, shall be installed so as to indicate the temperatures at the warmer levels of the locker room, and in general shall be located in the upper third of the distance from floor to ceiling, and they shall not be placed in a direct blast of air from a cooling unit or near a cooling coil or other heat-exchange device, or near the entrance door. The direct-reading thermometer in the locker room shall be installed near the bulb of the recording thermometer.

All charts of recording thermometers shall contain the following information: (a) The date chart was installed and the date chart was removed from instrument. (b) Number, location, or other identification of recorder, if more than one locker room is on the same premises. (c) Record of indicating thermometer at time chart is removed. (d) The signature of the individual at the plant who is responsible for changing charts, winding clock, replenishing ink, etc. (e) Any unusual occurrences.

degrees F. of the reverse type, i.e., for temperatures on outside of chart, and accurate within one (1) degree F. plus or minus between plus five (5) degrees F. and minus five (5) degrees F. (c) Scale divisions one (1) degree each between minus five (5) degrees F. and plus five (5) degrees F. the space between the lines not less than one twenty-seventh (1/27) inch and line not to exceed one-fortieth (1/40) inch in width. (d) The time represented by one time division shall not exceed one hour, the clock to make one revolution seven days and to be so graduated. The clock mechanism shall be motor-actuated either electric or hand wind. If electric wind is used, spring shall be capable of maintaining accurate time for ninety (90) hours. Hand wind recording thermometers shall be capable of operating for seven days without rewinding. (e) The rotating mechanism provided with a pin to anchor the chart in a manner to prevent frictional rotation of chart. (f) Provided, that recording thermometers not in compliance with the above specifications, but for which a bona fide order was placed with the manufacturer or manufacturer's agent prior to January 1, 1948, shall be acceptable as being in compliance until such time as major recording instrument repairs are necessary. At that time, the recording thermometer shall be purchased to comply with specifications.

The direct-reading thermometer in the locker room, and the bulb of the recording thermometer, shall be installed so as to indicate the temperatures of the average levels of the locker room, and in general shall be located in the upper third of the distance from floor to ceiling, and they shall not be placed in a direct blast of air from a cooling coil or near a cooling coil or other heat-exchange device, or near the entrance door. The direct-reading thermometer in the locker room shall be installed near the bulb of the recording thermometer.

All charts of recording thermometers shall contain the following information: (a) The date chart was installed and the date chart was removed from instrument. (b) Number, location, or other identification of recorder, if more than one locker room is on the same premises. (c) Record of indicating thermometer at time chart is removed. (d) The signature of the individual or the clerk who is responsible for changing charts, winding clock, maintaining pen, etc. (e) Any unusual occurrences.

ITEM 11. PROCESSING AND STORAGE OF FOOD. Chapter 129, Section 6, Laws 1947. No food shall be placed in a locker for storage unless it has been sharp frozen at a frozen food locker plant.

ITEM 12. WRAPPING, IDENTIFICATION OF STORED FOODS. Chapter 129, Section 12, Laws 1947. Fresh carcasses received at any frozen food locker plant shall be immediately inspected, weighed and tagged with the owner's name and locker number and transferred to the aging room.

ITEM 13. GAS MASK. Chapter 129, Section 8, Laws 1947. Two or more employees on each shift shall be thoroughly instructed in the use of the gas mask. Both the face piece and the cannister shall be stamped or labeled as approved by the U. S. Bureau of Mines for the particular exposure involved. One gas mask conveniently located and properly maintained shall be provided in each frozen food locker plant and/or branch frozen food locker plant.

ITEM 14. PLANS AND SPECIFICATIONS FOR LOCKER PLANTS--MISCELLANEOUS. Fruit and vegetable preparation rooms shall be provided in frozen food locker plants where such produce is to be received for processing at such plant. Facilities for handling and dressing of poultry shall be entirely separate from the vegetable and fruit and meat processing rooms, or any other room where food is being handled, stored, or processed. The plant shall be so designed and operated as to prevent unnecessary customer traffic through the storage and processing rooms. Step ladders shall be of safe, sound construction and shall be so maintained.

All meats or carcasses transported from any slaughter house to the locker plant shall be protected, during transportation, from dust, flies, vermin, or other sources of contamination. Frozen foods transported from a frozen food locker plant for wholesale distribution shall be transported in insulated conveyances.

In addition to the plans and specifications required in Chapter 129, Section 8, Laws 1947, plans and specifications for major extensions or additions to existing frozen food locker plants or branch frozen food locker

plants shall be submitted to the New Mexico State Board of Health for approval prior to commencement of alterations. All new locker plants shall meet the provisions of these regulations, and the provisions of Chapter 129, Session Laws of 1947. All existing frozen food locker plants shall comply with the provisions of these regulations and the provisions of Chapter 129, Session Laws of 1947 within six (6) months after written notification, following an inspection.

ITEM 15. LICENSES. Chapter 129, Section 2 and 3, Laws 1947.

FROZEN FOOD LOCKER PLANTS IN NEW MEXICO LISTED ALPHABETICALLY ACCORDING TO COUNTIES AND CITIES*

Bernalillo

C & B Frozen Food Locker Co., V. L. Brockway, Arthur Crowmover, 1217 Bridge Street, Albuquerque, New Mexico.

Polar Food Bank, 523 North Rio Grande Boulevard, Albuquerque, New Mexico.

Springer Transfer Company, 121 East Tijeras, Albuquerque, New Mexico.

Tower Super Market & Locker Plant, Roy Crouch, Marvin Loveland, 4624 North Fourth, Albuquerque, New Mexico.

Rhodes Super Market, 3500 East Central Avenue, Albuquerque, New Mexico.

Catron

No lockers.

Chavez

Hagerman Locker & Grocery, Delwin L. Freiberger, General Delivery, Hagerman, New Mexico.

Frosted Food Locker Company, R. I. Willson, M. Wilson McFreely, 415 East Second, Roswell, New Mexico.

Roswell Frozen Food Lockers-Storage, W. S. Northcutt, C. H. Hall, Jr., 620 South Main, Roswell, New Mexico.

Colfax

Raton Packing Company, B. B. Clark, Box 847, Raton, New Mexico.

Coca Cola Bottling Company, Inc., W. W. Selby, Raton, New Mexico.

KL Service Locker Plant, C. DeVinaspre, Springer, New Mexico.

Curry

Campbell's Slaughter House, Maurice Hank, Frank Powell, 102 South Davis, Clovis, New Mexico.

Campbell's Lockers, Maurice Hank, Harold Murphy, 1400 Main Street, Clovis, New Mexico.

Curry (Continued)

Townsend Locker Plant, Grady, New Mexico.

Pruitt Lockers, Melrose, New Mexico. (Closed)

Zero Lockers & Slaughter House, Les Means, Box 21, Main Street, Texico, New Mexico

DeBaca

Rayjax Freezing Plant, William Ross Wilmeth, Frank B. Martin, Box 1134, Main Street, Fort Sumner, New Mexico.

Overton Locker Plant, T. E. Overton, Yeso, New Mexico.

Dona Ana

Hatch Locker Plant, Hatch, New Mexico.

Johnson's Refrigeration Service, Hugh Johnson, 941 South Melendres, Las Cruces, New Mexico.

Valley Locker Co-Op., 1045 West Hadley, Las Cruces, New Mexico.

Eddy

Artesia Locker Plant, A. Reeves, W. S. Hogsett, H. R. Ledlow, Box 666, West of Artesia, New Mexico.

Carlsbad Cold & Dry Storage, Roy J. Curtis, P. O. Box 42, Carlsbad Army Airfield, Carlsbad, New Mexico.

McAdoo Food Store & Locker Plant, W. W. McAdoo and D. J. Lewis, 801 North Canal, Carlsbad, New Mexico.

Grant

Southwestern Food & Sales Company, Inc., 1110 Central, Bayard, New Mexico.

Frozen Food Locker Service, A. E. Franks, Silver City, New Mexico.

Guadalupe

No lockers

Harding

City Market, Monroe G. Mackey, Oscar H. Kidd, Roy, New Mexico.

Hidalgo

Lordsburg Ice & Storage, H. E. Lunt, Box 638, Lordsburg, New Mexico.

Lea

Eunice Locker Plant, R. H. Miller, P. O. Box 398, Eunice, New Mexico.

Holman Brothers, Inc., 1001 East Broadway, Hobbs, New Mexico.

Lovington Locker Plant, Love Street, W. R. Musick, Box 898, Lovington, New Mexico.

Lincoln

Carrizozo Locker Plant, Mayor Vernon Petty, Carrizozo, New Mexico.

Western Stock Yards, Coy L. Maroney, Hollywood, New Mexico.

Luna

Locker Market, 211 North Gold, Deming, New Mexico.

McKinley

P. M. Locker Company, J. H. Thatcher, 210 West Coal, Gallup, New Mexico.

Mora

No lockers

Otero

Alamo Locker Plant, San Sadberry, North of Alamogordo, New Mexico.

Lester's Station & Grocery, Lester J. Millhouse, High Rolls, New Mexico.

Quay

McCarter Grocery & Locker, Eldon McCarter, Forrest, New Mexico.

Farmers Co-op. Associated Lockers, House, New Mexico.

Gill's Frozen Food Lockers, Charles M. Gill, General Delivery, Logan, New Mexico.

Heard Locker, San Jon, New Mexico. (closed)

Quay (continued)

Polar Locker & Storage, H. A. & Dean Smith, 210 South First, Tucumcari, New Mexico

Farmers Co-op. Assoc. Lockers, Charles B. Willis, Mgr. Tucumcari, New Mexico.

Rio Arriba

No lockers.

Roosevelt

Dora Frozen Food Locker, J. D. Hays, Dora, New Mexico.

Wall & Son Lockers, Elida, New Mexico.

Sandoval

Los Alamos Locker Plant, E. L. Epperly, 601 Cedar, Los Alamos, New Mexico.

San Juan

Aztec Locker Plant, H. H. Knowlton, Box 306, Aztec, New Mexico.

Suanco Locker Plant, Inc., 501 Main, Farmington, New Mexico.

San Miguel

Cold Keep Lockers & Grocery, Richard Diener, Las Vegas, New Mexico.

Santa Fe

Santa Fe Creamery, Otis C. Livengood, Russell Thomen, 722 Cerrillos Road, Santa Fe, New Mexico.

Slades Dairy, Inc., Santa Fe, New Mexico.

Sierra

Padgette Locker Plant, S. S. Padgette, 411 North Cedar, Hot Springs, New Mexico.

Socorro

Valley Frozen Food, W. W. Whisenant and J. C. Whisenant, 354 Garfield, Socorro, New Mexico.

Taos

Taos Locker Plant, Oliver R. Brooks, Box 663, North Pueblo Street, Taos, New Mexico.

Torrance

Townsend Supply Company, Harllee Townsend, Estancia, New Mexico.

Mountainair,Locker Plant, J. B. Whitehead, Box 131, Mountainair, New Mexico.

Shelton Freezing Plant, J. C. Shelton, Pedernal, New Mexico.

Union

Addington Locker Plant, W. B. Addington, Box 243, North First, Clayton, New Mexico.

Valencia

Belen Locker Plant, Lee Coker, 212 South Fifth Street, Belen, New Mexico

*This list of locker plants was compiled from the following sources: Carl R. Jensen, Supervisor of Frozen Food Lockers, Division of Sanitary Engineering & Sanitation, Department of Public Health, Santa Fe, New Mexico; New Mexico Agricultural & Mechanical College, Extension Division, Las Cruces, New Mexico; Bureau of Business Research, University of New Mexico, Albuquerque, New Mexico.