

Report to the Colorado General Assembly:

# THE COLORADO STATE DEPARTMENT OF AGRICULTURE



COLORADO LEGISLATIVE COUNCIL

RESEARCH PUBLICATION NO.40

November 1960

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OF THE  
COLORADO GENERAL ASSEMBLY

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The Legislative Council, which is composed of five Senators, six Representatives, and the presiding officers of the two houses, serves as a continuing research agency for the legislature through the maintenance of a trained staff. Between sessions, research activities are concentrated on the study of relatively broad problems formally proposed by legislators, and the publication and distribution of factual reports to aid in their solution.

During the sessions, the emphasis is on supplying legislators, on individual request, with personal memoranda, providing them with information needed to handle their own legislative problems. Reports and memoranda both give pertinent data in the form of facts, figures, arguments, and alternatives.

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THE COLORADO STATE DEPARTMENT  
OF AGRICULTURE

LEGISLATIVE COUNCIL  
REPORT TO THE  
COLORADO GENERAL ASSEMBLY

Research Publication No. 40  
November, 1960

# COLORADO GENERAL ASSEMBLY



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REP. ALBERT J. TOMSIC

November 18, 1960

To Members of the Forty-third Colorado General Assembly:

Under the directives of House Joint Resolution No. 13, 1959 session, the Legislative Council submits herewith its report and recommendations in connection with the laws governing the agricultural industry of this state, the administration of those laws, fee changes for inspection services, and means of expanding the market for Colorado agricultural products.

The report of the committee appointed to carry out this assignment was adopted by the Legislative Council at its meeting November 17 for transmission to the Forty-third General Assembly.

Respectfully submitted,

Charles Conklin  
Chairman

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KEYSTONE 4-1171 — EXTENSION 287

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Honorable Charles Conklin, Chairman  
Colorado Legislative Council  
State Capitol  
Denver 2, Colorado

Dear Mr. Chairman:

Your committee appointed to carry out the study requested in House Joint Resolution No. 13, 1959 session, relating to the laws governing the agricultural industry of this state, the administration of those laws, fee schedules for inspection services, and the means of expanding the market for Colorado agricultural products, has completed its work and submits herewith its recommendations together with accompanying research material.

The committee wishes to express its appreciation to the employees of the State Department of Agriculture and to the members of the State Agricultural Commission whose cooperation and efforts assisted us greatly in our work.

Respectfully submitted,

Guy Poe, Chairman

## FOREWORD

In accordance with the directives of House Joint Resolution No. 13, 1959 session, the Council's Committee on Agriculture adopted a program of study involving a section-by-section review of the various activities assigned the State Department of Agriculture. As instructed by the committee, the staff prepared memorandums on activities of the various sections based largely on a review of available records and interviews with personnel. The committee expanded on the material in these staff reports by holding a series of meetings at which the section heads and division chiefs concerned were able to discuss their activities personally with the committee.

At the conclusion of these meetings, the committee held a conference designed to obtain the opinions of interested groups and organizations on suggested changes, together with a meeting with the Commissioner of Agriculture and members of the State Agricultural Commission. The committee also met again with members of the State Agricultural Commission to review its final report before adopting it for submission to the Legislative Council.

Members of the committee were Representative Guy Poe, chairman; Representative Forrest G. Burns, vice chairman; Senators Fay DeBerard and Thelma S. Finley,\* and Representatives C. P. Lamb, Noble M. Love, Hiram A. McNeil, and Clarence H. Quinlan. Miss Clair T. Sippel, secretary of the Legislative Reference Office, assisted the committee in preparing legislative changes in bill form. Phillip E. Jones, senior research analyst, had primary responsibility for preparing the research material, assisted by David Morrissey, research assistant.

The staff wishes to join the committee in expressing our appreciation for the assistance and cooperation extended by the personnel of the State Department of Agriculture.

November 2, 1960

Lyle C. Kyle  
Director

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\* Replaced Senator Rockard E. Finley, deceased

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COLORADO LEGISLATIVE COUNCIL  
REPORT OF THE COMMITTEE ON AGRICULTURE

November, 1960

In its 1959 Session, the Colorado General Assembly adopted House Joint Resolution No. 13 providing for a study of the laws governing the agricultural industry of this state, the administration of those laws, fee charges for inspection services, and means of expanding the market for Colorado agricultural products. The committee appointed by the Colorado Legislative Council to carry out this assignment held 18 days of meetings during the course of its study.

For the first year of its study, the committee engaged in a section-by-section review of the activities within the Colorado State Department of Agriculture, conferring with the officials responsible for the administration of these programs. Subsequently, the committee met with the members of the State Agricultural Commission, which is the general governing body of the department, and with representatives of various interested agricultural groups and associations. The report submitted herewith represents a culmination of the committee's efforts for the past 18 months.

LAWS GOVERNING THE AGRICULTURAL INDUSTRY

The first directive of H.J.R. 13, 1959 Session, was "to study the laws governing the agricultural industry of this state." In reviewing the application and administration of the laws assigned to the State Department of Agriculture, the committee adopted the general position of considering the adequacy of the present statutory provisions and whether any changes therein are critically needed. That is, these laws encompass such a wide range of activities that the committee believed it generally unwise to propose changes other than those which appear to be absolutely necessary at this time. However, in some instances the committee is by no means convinced it has all of the information and opinions necessary to recommend legislative changes. Consequently, the committee has prepared a few suggestions in bill form as a meeting ground on which to discuss more fully the issues involved and as a means to draw attention to these issues.

Colorado Poultry Law

At present, the use of antibiotics in processing poultry is permitted by the federal government, Canada, and all states except Colorado. Section 7-10-5 (5), C.R.S. 1953, which prohibits

the treating of poultry with "any ... preservative," should be amended to permit the use of antibiotics in processing poultry in accordance with federal provisions.

Section 7-10-10 (5), C.R.S. 1953, authorizes the State Agricultural Commission to set fees necessary to pay for the cost of inspections. This section should be amended to authorize a specific inspection fee of one-fourth cent per bird as now provided by departmental regulation.

#### Colorado Egg Law

While the committee has considered various changes in the Colorado Egg Law, Section 7-11-1 through 7-11-6, C.R.S. 1957 Supplement, it does not believe any are critically needed at this time.

#### Colorado Dairy Law

Permissive legislation should be adopted to authorize the establishment of a state-wide milk marketing order. In this connection, the committee does not foresee any immediate use being made of such a provision but at the same time it seems important for Colorado's milk industry to have this authorization available.

Currently the administration of laws regarding dairy products is divided between the State Department of Agriculture and the State Department of Public Health. The committee found this arrangement to be functioning as well as can be expected at this time. However, conditions may change in the future which will necessitate the consolidation of these functions in one of these state agencies.

#### Colorado Commercial Feeding Stuffs Law

The Commercial Feeding Stuffs Law of 1929, Sections 8-14-1 through 8-14-12, C.R.S. 1953, as amended in 1954, should require that, in the event companies registering feeds do not have a local representative located in this state, process may be served on the Secretary of State in order to carry out enforcement actions.

In Section 8-14-1, the present exemptions from the term "commercial feeds" relating to sugar beet by-products and cane molasses should be removed as these products are today quite prominent in the feed business. Also, at present "feeds that are ground and mixed for or by a feeder according to his specific direction and delivered directly to him for his sole use and not for distribution" are exempt from the definition of "commercial feeds." In order to assure equal protection to all under the law, this definition should be revised to exempt only feeds prepared by a mixer for his own use.

At present, some pet food manufacturers may emphasize a certain ingredient such as fish, liver, or chicken when a microscopic analysis reveals that the emphasized factor is less than one per cent of the contents. As it appears that some members of the pet food industry are not too eager to self-regulate this practice, the law (Section 8-14-2) should require that all pet food ingredients be listed in order of their percentage preponderance. Also, pet food manufacturers should be required to supply their methods of analysis to the agriculture department on a strictly confidential basis at the request of the department.

Section 8-14-6 provides: "Whenever a manufacturer, importer, jobber, firm, association, corporation or person manufacturing or selling a brand of commercial feeding stuffs shall have paid the license and inspection fee as required by Section 8-14-4, no other agent, importer, jobber, firm, association, corporation or person shall be required to pay such tax or fee upon such brand." However, in the feed industry, certain feeds are registered which may be prepared by various mixers over the state under one brand name. For example, a national concern such as Ralston-Purina may register a feed which is mixed and distributed by a local concern using the national company's basic concentrate and formula, and while the national concern will guarantee its concentrate, it cannot be certain of the quality of the additional products added by the local mixer. This situation should be changed to require local mixers to furnish reports on this type of production and to be responsible for the finished mix sold.

#### Colorado Livestock Disease Laws

In regard to livestock diseases, the committee recommends that the use of live virus vaccine for hog cholera be prohibited except by permission of the Commissioner of Agriculture. If this were done, live virus vaccine would still be available for use in case of emergency outbreaks but its application would be severely limited at all other times.

Sections 8-6-1 through 8-6-7, C.R.S. 1953, presently refer only to railroad cars in requiring disinfectant measures in transporting hogs. Where applicable, these provisions should be expanded to include trucks and other vehicles used in transporting hogs in light of modern marketing methods.

#### Colorado Fruit and Vegetables Law

The Colorado Fruit and Vegetables Law should be amended to allow the marketing of a premium grade of produce with less tolerance than now allowed under the present top grade of U.S. No. 1 for those products under state marketing orders. In addition to our present state-federal program of shipping-point inspections of fruits and vegetables, the committee recommends

the enactment of a separate supplemental inspection and enforcement program at the retail level. This proposed program should be limited to inspections of fruits and vegetables coming under state-wide marketing orders.

One major purpose of establishing such a program would be to promote Colorado agricultural products by providing additional incentives to the adoption of marketing orders with the result that uniform and better quality products would be offered to consumers. At the same time, this program would provide a means of insuring that out-of-state competitors meet required standards at the retail level, something which is not now being done under the present system of shipping-point inspections.

Through the checking of products packaged or offered for retail sale consumers would also benefit by receiving protection that the grade accompanying a product represents the actual grade and by being provided a better quality product as well. Because of the benefits afforded consumers, the necessary financing for this activity should be provided from general revenue funds and not from fees paid by growers and shippers.

As a related measure to a retail inspection program of fruits and vegetables, a provisions should be enacted requiring that when fruits and vegetables under state-wide marketing orders are offered for sale in other than a packaged form, such as in a bin or other receptacle, a placard must be displayed stating the correct official grade of the product.

#### Colorado Produce Dealers Law

The present bonding requirement specifying a maximum of \$10,000 is not sufficient to cover adequately the operations of some commission merchants, particularly in the lettuce industry, and should be increased to a maximum of \$50,000.

#### Colorado Frozen Food Provisioner's Law

A divided situation has resulted from the passage of the Frozen Food Provisioner's Law (Chapter 45, 1959 Session Laws) in that some of the persons engaged in preparing and selling frozen foods are regulated by the state under a policy of "let the seller beware" whereas others are unregulated and are under a policy of "let the buyer beware." In order to provide uniform protection to consumers and to the industry, the committee recommends that all who process and freeze meats for sale to consumers be brought within the provisions of this law. Also, the bonding provisions in this law should be clarified so that any actions thereunder will be instituted through the Commissioner's office.

### Colorado Seed Inspection Law

Johnson Grass and Sorghum Almum should be added to the list of primary noxious weeds under the provisions of the Colorado Seed Inspection Law, Section 6-8-1 through 6-8-13, C.R.S. 1953. Also, the label requirements in Section 6-8-2 should be extended to require that the percentage of noxious weed seeds contained therein be specifically and separately listed. These changes will enable buyers to know exactly what seeds they will be planting in their soil, including any noxious weeds, and will serve to reduce mistaking seeds of Johnson Grass for Sorghum Almum which are largely, if not completely, indistinguishable from one another.

### Colorado Insecticide, Fungicide, and Rodenticide Law

The Colorado Insecticide, Fungicide, and Rodenticide Law, Section 6-12-1 through 6-12-12, C.R.S. 1953, should include growth regulators, defoliants, nematocides, and desiccants within its provisions. By extending the coverage of the present law to these products, the public would be protected through the regulation of these economic poisons.

### Colorado Soil Conservation District Law

In regard to the Colorado Soil Conservation District Law, Section 128-1-9, C.R.S. 1953, should be revised to meet the objections raised by the State Supreme Court in 1959 when it held that the provision pertaining to land-use ordinances was invalid as the section was an unconstitutional delegation of legislative power.

In addition, Section 128-1-15 (iv) (b), as amended by Chapter 226, Laws of 1959, provides that "...the board of its own initiative, may, upon sixty days' written notice to the owner or owners of the lands involved, cause such lands to be withdrawn from the district." This provision should be revised to the effect that the board, upon proper notification to the owner of lands involved through proper publication in legal newspapers, may on its own initiative cause such lands to be withdrawn from the district. This would eliminate the necessity of the board having to notify individually hundreds of landowners in housing developments that their lands are no longer included in a given soil conservation district.

### Warehouse Law

In 1931, a Grain Warehouse Law for this state was enacted (Sections 7-16-1 through 7-16-19, C.R.S. 1953), but for several reasons this law proved impractical and has not been used. The

committee is aware of the need for a state warehouse law and believes that a completely new act should be written. However, the committee understands that industry representatives are working on such a bill for consideration at the 1961 session of the General Assembly; consequently, no draft of a bill is being presented by the committee at this time.

### Predatory Animal Control Law

The predatory animal control program in Colorado is a cooperative activity financed by state, local, and federal funds. In a number of areas of the state, however, this financing program is insufficient and is supplemented by contributions from wool growers on a voluntary basis.

In order to provide a better method of supplemental financing in areas of the state where more predatory animal control work is needed, the committee recommends the enactment of a permissive or optional program for local financing on a county basis. This would in no way replace the present state-wide 20-mill levy on sheep for this purpose.

## ADMINISTRATION OF LAWS

The administration of the laws assigned to the Colorado State Department of Agriculture has received careful consideration by the committee in the series of meetings held with the departmental officials and in the two meetings held with members of the State Agricultural Commission. As a result of its deliberations, the committee submits the following comments and recommendations.

### Purpose of the State Department of Agriculture

A number of different activities have been given the agriculture department to administer, some of which appear to be more directly related to agriculture than others. That is, originally the state restricted its agricultural program generally to guarding against animal, insect, and plant diseases, and, later, to discovering methods of increasing crop production. Additional programs were adopted from time to time to protect growers and producers against irresponsible or dishonest buyers of their products, and sellers of goods used by growers in their operations. The state also provided programs to assist in the marketing of agricultural products, as well as a hail insurance protection program.

One department official reported to the committee that, "while the activities of the department may result in protection to the consumer, the main purpose of the department is to sell



agricultural products." The committee believes that this statement is too strong as the department has many functions. However, in view of the current economic trend downward for many persons engaged in agricultural pursuits and the apparent lack of a solution at the national level, the committee recommends that more emphasis should be placed on this function, at least in the immediate future.

### Department Staffing

In order to provide for the proper administration of the laws, an adequate staff is necessary. The committee therefore directed a good deal of its attention to the question of staffing within the department. In this respect, the committee noted four areas where it believes additional staff is immediately needed.

Deputy Commissioner. In order to reduce the administrative burden now placed on the Commissioner and to accelerate the improvement of administration within the department, the position of deputy commissioner should be established. The primary duties of the deputy commissioner would consist of: (1) administering the department when the Commissioner is out-of-town (approximately 50 percent of the time); (2) making continuous surveys and recommendations concerning such administrative matters as consolidating inspection functions with the specific objective of increasing services and reducing the number of different departmental personnel visiting the same establishments; (3) investigating the value (services compared to cost) of a plan of decentralized administration of the department; and (4) such other duties as the Commissioner may assign. His qualifications should include considerable experience in public administration and he should be a person not presently employed within the agriculture department.

Marketing Specialist. An additional marketing specialist should be added to the Markets Division to provide greater assistance to groups having or interested in having marketing orders and agricultural cooperatives. (See also subsequent recommendations herein regarding additional funds to Markets Division for Hope-Flanigan program and agricultural advertising.)

Assistant Attorney General. In the past, the agriculture department has experienced difficulty in effecting compliance in regard to some of its laws and regulations. The committee believes that much of this difficulty could be alleviated with the appointment of a full-time Assistant Attorney General having his office within the department, and recommends that the appropriations to the Attorney General's Office be increased to provide for such a position. In addition, this person would also be of assistance in reviewing the condition of the various statutory provisions pertinent to the department as well as seeing that complete revisions thereof are maintained by the department.

Weights and Measures Inspector. An additional large-scale truck and driver are needed to provide the services required under the weights and measures law. (See also subsequent recommendations herein.)

Other Comments. In reviewing the need for additional staff within the agriculture department, the committee considered the appointment of a public information officer. However, the committee views this addition as unnecessary. It is the opinion of the committee that good public relations begins in the field in the daily face-to-face contacts made by departmental personnel. If these persons are efficient, competent, and courteous in their activities, the department should not have many public relations problems.

### Department Organization

At present, Section 6-1-8, C.R.S. 1953, provides for the establishment of four divisions within the agriculture department, as follows:

- Divisions created.--There are hereby created in the department, four divisions as follows, the heads of which shall be appointed by the commissioner subject to the constitution and laws of the state:
- (1) The administrative services division shall conduct such central record keeping, filing, personnel, payroll, supply, communications, stenographic, typing, addressing, correspondence services, laboratory, public information, and any other services required by the department and several divisions thereto that can advantageously be so centralized. The administrative services division shall also perform other services such as compiling and publishing agricultural statistics, state hail insurance administration and other functions of the department that are not specifically assigned to some other division. The head of the division shall be the chief of administrative services division.
  - (2) The division of plant industry shall perform such duties relating to plants and plant products as defined in the functions of the commission under section 6-1-4. The head of the division shall be the chief of the division of plant industry.

(3) The division of animal industry shall perform such duties relating to the livestock industry, including dairying and poultry, in conformity with section 6-1-4, and other regulatory functions needed in the control and eradication of livestock diseases, and not contrary to law. The head of the division shall be the chief of the division of animal industry.

(4) The division of markets shall perform such duties relating to marketing of agricultural products as may be deemed advisable by the department and not contrary to law. The head of the division shall be the chief of the division of markets.

However, in order to spread the programs as equally as possible among the four divisions, not all of the duties assigned by the Commissioner to these divisions are felt to have been strictly in keeping with the statutory directive. For instance, the predator animal and rodent control and soil conservation programs are located in the Administrative Services Division, which division also administered the emergency grasshopper control program in 1958. Similarly, the Markets Division includes the regulation of frozen food provisioners and of weights and measures, and the Animal Industry Division regulates commercial feeds and fertilizer.

In this connection, however, the committee does not mean necessarily to imply criticism of the present arrangement. Rather, to place administrative responsibility where it belongs and to free the department of a somewhat awkward legislative restriction, the committee recommends that Section 6-1-8 be repealed and Section 6-1-6 (2) be amended to authorize the establishment of divisions by the State Agricultural Commission. This action would enable the department to make administrative adjustments based on the type of activities as well as the nature of the programs and would help to reduce sectional or divisional barriers to promoting over-all departmental policies and more unified performances. The committee also suggests that the commission consider creating a separate division to be known as the Livestock Sanitary Division, whose activities would be limited solely to livestock sanitary matters, with the State Veterinarian as its chief.

### Financing Generally

Primarily as a means to reduce bookkeeping procedures, the committee believes that it would be best if cash fund collections of the agriculture department, excluding revolving funds and hail insurance revenues, be credited to the state general fund and that the department be financed on the basis of appropriations therefrom.

## Financing Specifically: Present General Fund-Supported Activities

Markets Division. While past sessions of the General Assembly have provided the machinery for Colorado's agricultural industry to improve its production and marketing, the Markets Division needs additional funds to use in educating all of the various segments of the industry to help themselves. Already mentioned previously is the addition of another marketing specialist to assist marketing order boards of control and agricultural cooperatives. But this alone would not be sufficient.

The Markets Division should expand its activities under the federal Hope-Flanigan program of marketing research and should also embark on a program of advertising Colorado agricultural products within this state. However, in order to insure industry's participation in these two programs, appropriations should be limited on a dollar-for-dollar matching basis to the amounts budgeted for marketing research and advertising by marketing order boards of control.

Veterinarian Section. More funds are needed to provide for the necessary travel and subsistence expenses that the section now has, even at the present staffing level.

Weights and Measures Section. The Weights and Measures Section is required by law to provide certain services to the state without charge. In addition, the section engages in checking a number of packages and commodities in retail stores for which no fees are received. Also, the buying public benefits from the testing of scales as well as the producers and sellers who are presently carrying the costs of this program. Consequently, the state general fund should assume a part of the costs of this program on a regular basis. The committee suggests that one method of sharing this cost would be for the state to provide the money necessary to support the expenses of the additional large-scale truck and driver previously recommended.

### Budget Presentation

The department's presentation to the Joint Budget Committee should be made on the basis of programs rather than dollars and should be well documented and carefully thought out. Further, the actual presentation should be made by the State Agricultural Commission with department staff members present to provide technical information only.

### Coordination of Activities with Other State Agencies

The department should further investigate various ways and means of coordinating its activities with those of other state agencies and should report the results of any such efforts to the State Agricultural Commission for such action as the

commission sees fit. This would seem especially pertinent in regard to the Dairy Section and the State Department of Public Health, the Produce Dealers Section and the Ports of Entry, and the Weights and Measures Section and the State Inspector of Oils. As a general principle, it would be to the benefit of the state if over-all costs could be reduced as a result of coordinating various activities between state agencies just as it is in reducing costs by coordinating activities within any given department.

### Produce Dealer's License

The committee believes that some producers accept a produce dealer's license issued by the state as evidence of a dealer's sound financial status, sometimes to their subsequent regret. Consequently, the committee recommends that the agriculture department revise its present produce dealer's license to include the notation thereon that the issuance of a license is not a guarantee of the licensee's credit rating.

### MEANS OF EXPANDING THE MARKET FOR COLORADO AGRICULTURAL PRODUCTS

The tools to expand the market for Colorado agricultural products are available in the form of the Agricultural Marketing Act of 1939, the Cooperative Marketing Law of 1923, and the establishment of the Markets Division of the State Department of Agriculture in 1949. However, these tools cannot be used as they were intended to be without greater financial participation on the part of the state and greater efforts on the part of the various segments and organizations of the agricultural industry within this state.

It has been reported that markets are being killed in various places because the growers do not have a sound marketing program; thus they sell their produce at a loss. Growers need an arbitration board for the different areas to determine and establish markets and this should be organized by the state agriculture department. In addition, Colorado needs the cooperation between the State Department of Agriculture, Colorado State University, and county extension service agents continued and expanded in order to improve the growing and marketing of Colorado agricultural products.

### FEE CHARGES FOR INSPECTION SERVICES

As a part of its study, the committee has compared the fees charged for inspection services provided under a number of the agriculture department's programs with the services rendered. By and large, however, the committee did not receive the information

necessary to arrive at any sound conclusions, largely because the records kept by the department do not lend themselves to a ready comparison of this type. Accordingly, without prejudicing any attempts by industry to raise fees on their respective programs, the committee is not in a position to express an opinion on this particular question.

## THE COLORADO STATE DEPARTMENT OF AGRICULTURE

Historically, the agricultural industry in Colorado and elsewhere in the United States has been subject to pressures from external factors of market conditions and internal changes involving technology and productivity. A general imbalance of farm prices or income to non-farm prices over a period of years has resulted in a relatively depressed agricultural industry.

Government may be termed a third factor influencing the activities and economic condition of this industry. In Colorado most of the laws governing the agricultural industry are administered by the Colorado State Department of Agriculture. This report generally contains an examination of the activities of that state department for the ten-year period beginning with its establishment on July 1, 1949.

### External Conditions Affecting Agriculture

A brief review of external conditions affecting the agriculture industry shows that since 1910 each decade has presented different problems of market conditions. In the five-year period prior to World War I, agriculture in this country generally enjoyed a relatively stable market with a fair exchange ratio existing between farm and non-farm products. At that time when products could not be sold at home, wheat and other non-perishable farm products found a ready market in world trade. World market prices were not high but were considered to be sufficient. The reason a world market was available to our producers during these years was due largely to the fact that the United States was a debtor nation, which encouraged creditor nations to purchase goods produced in this country.

With the advent of World War I came the need for increased production, and the agricultural industry greatly expanded its output. While the war years represented a prosperous period for agriculture, the years immediately following left the farm population with a number of problems caused by inflated land values, high interest rates on short-term debts, and inflated non-farm prices.

In 1920, the farm price index dropped from 228 to about 128, using the 1910-14 period as a base of 100. Farm prices fell as a result of a large surplus of wheat and other non-perishable products--products which had been absorbed by the world market prior to the war and by our allies during the war. The foreign market for American products was practically non-existent since former creditor nations such as England, Italy, and Germany now found themselves debtor nations, and the United States had become the world's largest creditor nation.

Another factor limiting the purchasing ability of European countries was the establishment of a stringent protectionist policy for American industry, which restricted the marketing of foreign goods on the United States market and thereby reduced the purchasing power of these nations for our agricultural products.

The depressed farm conditions of the 1920's were increased further in the 1930's as a result of the substantial shrinkage of domestic purchasing power accompanying the widespread unemployment. During this period, farmers could purchase only about 60 percent as much of the non-farm products as they did during the 1910-1914 era with the same amount of farm products. While farm production for the nation remained at near-normal levels, non-farm production fell off considerably in adjusting to the prevailing depressed economy.

In World War II, the agricultural industry sought a substantial price rise in farm products and a more equitable balance between farm and non-farm prices. However, the federal government was interested in maintaining a stable price market. As a compromise, farm prices were allowed to reach parity based on the 1910-14 relationship with non-farm products.

With the withdrawal of price controls in 1946, agricultural interests shared in the general prosperity until 1949, one reason being that the United States had instituted a reconstruction policy and provided foodstuffs for Europe and Asia. Following this period, however, price adjustments began to develop and in 1950 farm prices had dropped to about 100 percent of parity.

Today farm prices for the nation as a whole remain at a relatively low level supported by various federal governmental programs.

#### Internal Changes - Colorado Agriculture

Within the present century a number of internal changes are represented in the Colorado agricultural picture. These changes, which are not unique to the State of Colorado, include a decrease in the number of farm and ranch units accompanied by an increase in their average size, increased mechanization, and greater crop production per acre.

In 1920, as shown in Table 1, there were almost 60,000 farm and ranch units in Colorado compared to 41,000 in 1955. During these years, the average unit size more than doubled--from 408 acres in 1920 to 942 acres in 1955. Mechanization, represented by the number of tractors in use on farms and ranches, increased substantially over the 35-year period, with 4,526 tractors



in 1920 compared to 61,909 in 1955. Thus, while less than one in ten farm-units on the average may be said to have utilized tractors in 1920, an average of one and one-half tractors per unit was reported in 1955.

Table 1  
FARM AND RANCH UNITS IN COLORADO  
1920-1955

<u>Year</u>	<u>Number of Farms and Ranches</u>	<u>Average Size of Farms and Ranches-Acres</u>	<u>Number of Tractors</u>
1920	59,934	408.1	4,526
1925	58,020	416.5	6,693
1930	59,956	481.6	13,334
1935	63,644	471.0	Not Available
1940	51,436	612.9	21,423
1945	47,618	760.6	25,368
1950	45,578	833.0	53,187
1955	40,749	942.0	61,909

Increased mechanization is not the only factor notable in the changing picture of agriculture in Colorado. The development of hybrids, summer fallow practices, improved commercial fertilizers, plant disease and pest control measures and numerous other developments have contributed greatly to generally increased crop yield per acre, as reported in Table 2. For example, non-irrigated winter wheat production jumped from an average of ten bushels produced per acre in 1925 to 25.3 bushels in 1958, and the average yield per acre for corn on irrigated land was 62.9 bushels in 1958 compared to 29.1 bushels in 1925.

In terms of total production of various agricultural commodities in this state during the 1920-1958 period, a rather fluctuating harvest pattern may be noted in the figures contained in Table 3. Using 1920 as the base year compared to 1958 totals, only wheat and barley show substantial increases in number of bushels produced. Production of corn, oats, sugar beets, cattle and sheep held fairly steady, while the number of hogs and pigs generally decreased.

Table 2  
 AVERAGE CROP YIELDS PER ACRE  
 SELECTED COLORADO CROPS  
 1925 Through 1958 (a)

Year	Average Bushels Produced Per Acre												Tons Per Acre Sugar Beets Irrigated
	Winter Wheat		Spring Wheat		Corn		Oats		Barley		Potatoes		
	<u>Irr.</u>	<u>Non-Irr.</u>	<u>Irr.</u>	<u>Non-Irr.</u>	<u>Irr.</u>	<u>Non-Irr.</u>	<u>Irr.</u>	<u>Non-Irr.</u>	<u>Irr.</u>	<u>Non-Irr.</u>	<u>Irr.</u>	<u>Non-Irr.</u>	
1925	25.0	10.0	20.0	7.0	29.1	13.0	36.0	17.0	27.0	11.0	201.0	43.0	12.6
1929	30.9	10.2	28.1	9.3	34.0	11.4	Not avail.	Not avail.	40.1	14.2	158.6	48.4	Not available
1935	21.9	8.0	23.6	5.5	27.9	5.7	36.5	14.6	30.9	8.6	190.6	73.0	13.0
1940	24.3	10.2	23.4	7.2	25.2	7.0	35.5	16.4	33.0	10.0	202.0	90.0	14.9
1945	28.0	22.2	27.5	15.5	40.5	15.3	39.5	29.0	39.0	24.7	121.0 <sup>(b)</sup>	48.0 <sup>(b)</sup>	Not available
1948	31.9	20.7	27.9	14.0	50.6	12.9	42.5	21.9	39.5	14.7	279.0 <sup>(b)</sup>	110.0 <sup>(b)</sup>	13.3
1950	25.0	15.7	25.0	9.5	49.5	15.5	36.0	16.5	31.0	9.5	201.0 <sup>(b)</sup>	33.0 <sup>(b)</sup>	15.0
1955	25.5	13.1	28.4	10.0	54.9	9.2	38.0	19.3	36.0	14.5	177.0 <sup>(b)</sup>	40.0 <sup>(b)</sup>	15.9
1958	36.0	25.3	33.0	10.9	62.9	20.0	41.8	21.0	40.0	24.4	230.0 <sup>(b)</sup>	50.0 <sup>(b)</sup>	16.7

(a) Source: Colorado Crop and Livestock Service Reports

(b) Cwt per acre

TABLE 3

PRODUCTION OF MAJOR COLORADO AGRICULTURAL COMMODITIES  
1920 THROUGH 1958 (a)

Year	Thousands of Bushels Produced (000 omitted)						Tons of Sugar Beets	Number of Head (d)		
	Corn	Oats	Barley	Wheat	Dry Beans	Potatoes		Cattle & Calves	Hogs & Pigs	Stock Sheep & Lambs (e)
1920	24,231	6,426	5,292	25,273	416	9,490	2,325,000	1,757,000	450,000	1,014,000
1925	21,150	5,778	8,610	14,988	2,240	12,090	1,640,000	1,465,000	493,000	965,000
1930	38,970	6,045	12,298	23,356	2,592	17,480	3,312,000	1,454,000	495,000	1,715,000
1935	10,910	4,480	6,420	6,645	1,256	18,000	1,826,000	1,590,000	268,000	1,671,000
1940	9,808	4,179	10,106	12,327	1,827 <sup>(b)</sup>	7,839 <sup>(c)</sup>	2,092,000	1,400,000	385,000	1,752,000
1945	14,971	7,325	22,541	34,694	1,493 <sup>(b)</sup>	10,413 <sup>(c)</sup>	1,835,000	1,843,000	356,000	1,575,000
1950	13,364	4,641	9,548	36,792	1,741 <sup>(b)</sup>	10,909 <sup>(c)</sup>	2,183,000	1,800,000	338,000	1,198,000
1955	17,064	3,906	8,294	27,712	1,640 <sup>(b)</sup>	9,120 <sup>(c)</sup>	1,621,000	2,054,000	181,000	1,241,000
1958	25,725	5,106	13,664	66,274	1,882 <sup>(b)</sup>	13,505 <sup>(c)</sup>	2,372,000	1,979,000	170,000	1,252,000

(a) Source: Colorado Crop and Livestock Service Reports

(b) Number of 100 lb. bags produced

(c) Production by 1000 cwt.

(d) Estimated number of head on Colorado farms or ranches

(e) Excludes sheep and lambs on feed

## The Role of the State

Just as agriculture has been forced to adjust its operations to meet various external and internal pressures, so has the State of Colorado felt required to re-evaluate and redefine its role and activities in relation to the agricultural industry. In this connection, the state has provided many services and programs to assist the agricultural industry within this state. In addition to substantial services performed by such other state agencies as Colorado State University, a significant part in the application of many of the state's agricultural laws and programs has been assigned to the Colorado State Department of Agriculture.

Generally, the laws assigned to the agriculture department consist of regulatory programs designed to maintain product standards or to combat animal and plant diseases. In addition, the department is responsible for assisting growers with their marketing problems and programs, as well as providing such other services as hail insurance, agricultural statistics, and weights and measure testing. From time to time the department is also called upon to supervise programs of an emergency nature such as drought and grasshopper control.

Some of the programs assigned to the state agriculture department are carried out jointly on a cooperative basis with federal and local governmental agencies. Others are administered solely by the department. Some of these programs are financed entirely from general fund appropriations while other services are financed by license and inspection fee receipts.

The creation of the State Department of Agriculture in 1949 is reported to have resulted from the belief that the agricultural interests of this state could be better served through one centralized agency which would coordinate the various regulatory and assistance programs. At the same time, such an agency could achieve maximum utilization of personnel and equipment, thereby reducing over-all costs.

House Joint Resolution No. 13, 1959 session, was adopted partially because there had been no over-all study of state government activities in the field of agriculture in recent years to determine the necessity or desirability of such activities and because of a need to review the programs of the state for promoting a wider market for Colorado agricultural products. H.J.R. No. 13 consequently directed the Legislative Council "to study the laws governing the agricultural industry of this state, the administration of those laws, the fee schedules for inspection services, and the means of expanding the market for Colorado agricultural products."

In general, the sections which follow herein contain background information on the activities of the agriculture department for the first ten years of its existence, i.e., from fiscal year 1950 through fiscal year 1959.

# ACTIVITIES OF THE STATE DEPARTMENT OF AGRICULTURE

## Fiscal Years 1950 through 1959

The State Department of Agriculture Act of 1949 (C.R.S. 6-1-1 through 6-1-12, 1953 as amended) assigned a number of duties to the new agency. As authorized by the act, these duties were allocated to the four departmental divisions established at that time--administrative services, plant industry, animal industry, and markets.

In 1949, most of the activities or programs delegated to the agriculture department represented consolidations of separate activities or programs in effect prior to that time. During the ten-year period beginning on July 1, 1949, and ending on June 30, 1959, some changes in the basic programs were authorized by the General Assembly and one completely new program (weights and measures) was initiated.

Chart 1 displays the administrative organization of the agriculture department. The 1949 law established an eight-member State Agricultural Commission which is the general policy-making body for the department. Commission members are appointed by the governor with the consent of the senate for four-year terms on an equal bipartisan basis. It is required to hold a minimum of four regular meetings each year.

In reaching its policy decisions, the commission utilizes industry advisory groups; once a decision has been made it is the responsibility of the Commissioner of Agriculture, as the department's chief administrative officer, to see that the commission's decisions are carried out.

As shown on the chart, the commissioner has the chiefs of the four divisions within the department under his direct supervision. In turn, each chief acts as the immediate supervisor of the several activities within his division.

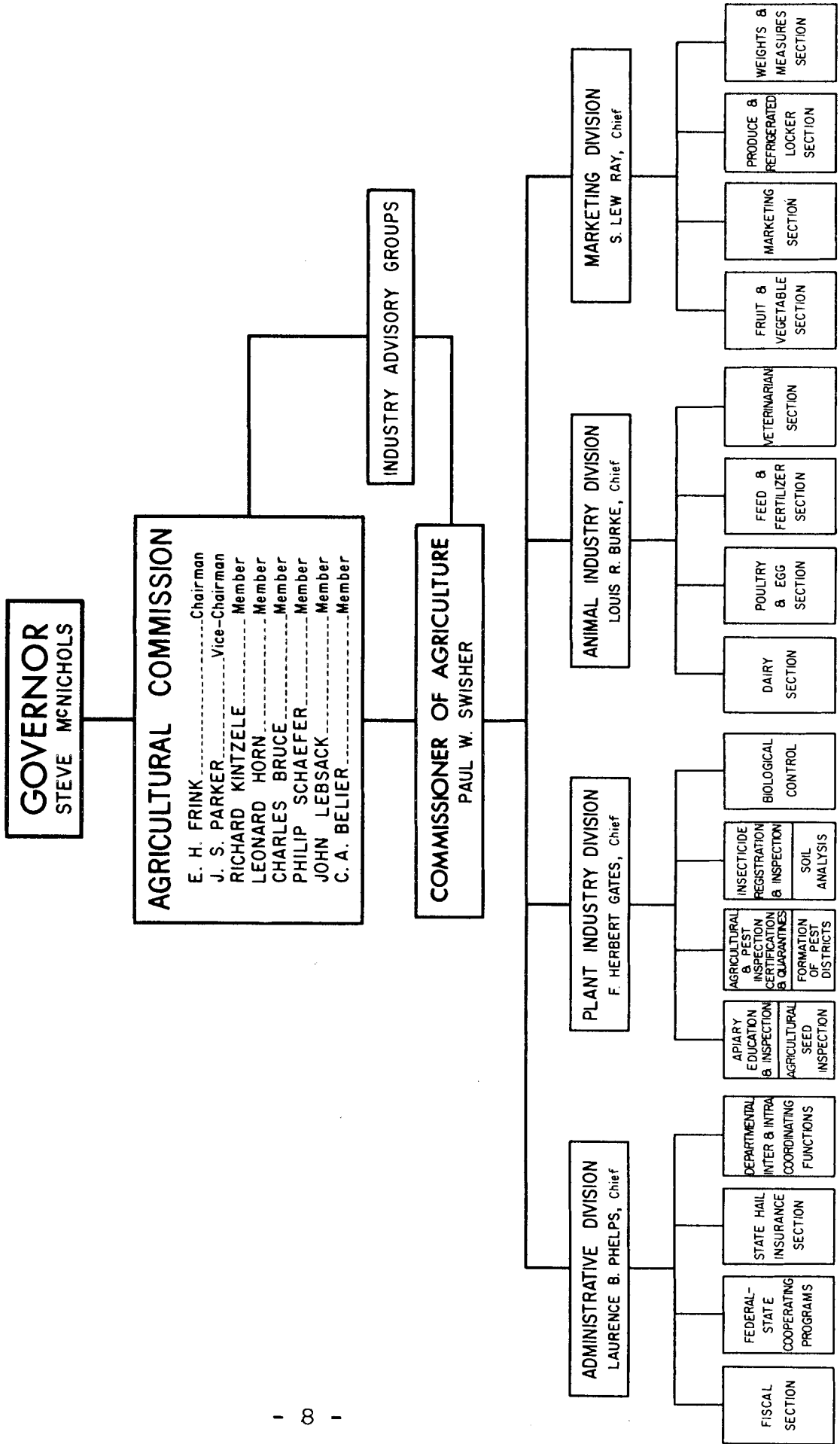
### Commissioner of Agriculture

As the chief administrative officer of the State Department of Agriculture, the commissioner reports his primary activity to be the supervision of the four divisions and the coordination of all work within the department. In this respect, the commissioner attempts to develop over-all programs for the best utilization of departmental employees.

Also, in directly supervising the administration of all laws assigned to the department, the commissioner is responsible for the development of programs for the improvement of agriculture within the state; for representing the state on agricultural problems which are inter-state or national in scope; and for seeing that policies established by the agricultural commission are followed by employees of the department.

Chart 1

# COLORADO DEPARTMENT OF AGRICULTURE



As a necessary part of his duties, the commissioner reports that approximately 50 percent of his time is spent away from his desk on field trips. These field trips involve in-state and out-of-state meetings concerning agricultural problems, and in-state field checks of departmental personnel.

The commissioner's personal staff is quite small, consisting of one full-time secretary. Concerning the employment status of the commissioner, Section 6-1-7, C.R.S. 1953, as amended, states, in part: "The commissioner of agriculture shall be the chief administrative officer of the state department of agriculture and shall have direct control and management of its functions, subject only to the powers and duties of the commission as prescribed in this article. The commissioner shall be appointed by the governor, subject to the laws and constitution of the state, on recommendation of the commission." (emphasis added)

The Attorney General ruled that the commissioner of agriculture is a civil service employee; therefore he is not "subject only to the powers and duties of the commission as prescribed in this article." In the case of the incumbent commissioner, the Agriculture Commission determined from the civil service eligibility list its selection for commissioner of agriculture. Thus far, however, this procedure has been used little as the present commissioner assumed his office in 1950 and has served continuously since.

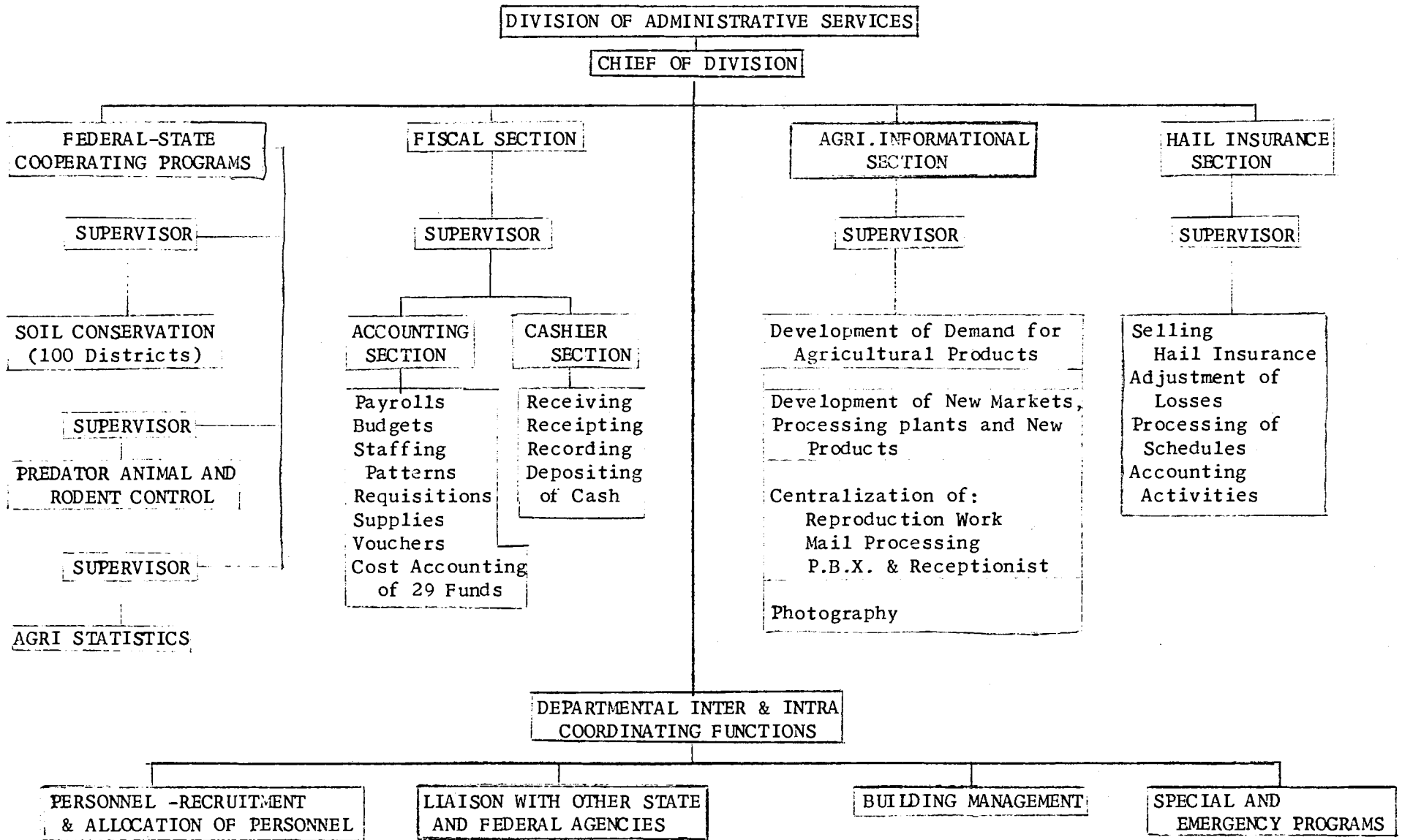
### Division of Administrative Services

The Division of Administrative Services includes such central administrative functions as fiscal and personnel matters, as well as various inter- and intra-departmental coordinating functions and other administrative duties assigned or delegated by the commissioner. Also included in the division's activities are the state hail-insurance program and federal-state cooperative programs involving agricultural statistics, soil conservation, and predator animal and rodent control. The administrative organization of the division is depicted in Chart 2.

### Central Administrative Duties

Fiscal Section. Prior to 1949, there were six separate state departments engaging in agricultural work, each handling its own fiscal and accounting matters. When these six departments were combined into one department with the enactment of the State Department of Agriculture Act of 1949, a centralized fiscal and accounting system was created to receive and disburse departmental funds in accordance with the law and with the requirements of the State Controller, State Auditor, Purchasing Department, and Civil Service Commission.

Chart 2\*



\* AGRICULTURE INFORMATIONAL SECTION HAS NEVER BEEN ACTIVATED AS NO FUNDS THEREFOR HAVE BEEN APPROPRIATED BY THE GENERAL ASSEMBLY



The Fiscal Section is assigned the responsibility for departmental purchasing, from receiving requisition requests through payment of purchase by vouchers. The section also handles the payment of travel expenses and payrolls for the department.

Another function of the Fiscal Section is to assist in preparing and in analyzing budgets for the 31 funds administered by the department, plus any new programs which are requested.

Personnel Service. Until fiscal year 1957, personnel services were handled by the division chief and the Fiscal Section; in that year, a separate employee was assigned to service the personnel matters of the department. In fiscal year 1960, all personnel processing formerly done by Predator Animal, Rodent Control, and the Fruit and Vegetable Service sections was transferred to this employee.

Inter- and Intra-Departmental Coordinating Functions. The Administrative Services Division also serves as a coordinating and clearance agency for the other three divisions in those functions which lend themselves to centralization. These functions consist of the following:

- 1) Informational letters
- 2) Statistical compilation
- 3) Television and radio programs
- 4) Visual aids (educational meetings)
- 5) Newspaper and periodical releases
- 6) Exhibits and displays
- 7) All reproduction work
  - a) photography
  - b) mimeographing and duplicator work
  - c) multilith work
  - d) compilation of education brochures, annual reports, etc.
- 8) Centralized distribution and processing of incoming and outgoing mail
- 9) Other
  - a) P.B.X. operator
  - b) Building management (3130 Zuni Street)

Other Duties. From time to time other administrative duties have been assigned or delegated to the division by the commissioner. In the past, these have included the administration or joint-administration of such emergency programs as hay drought, wind erosion, and grasshopper control.

### Soil Conservation Section

The Soil Conservation Section of the Division of Administrative Services is presently assisting the State Conservation Board with problems of administration, coordination, consolidation, planning and other functions pertaining to the activities of the 96 soil conservation districts in Colorado. Since the conservation districts operate on a purely voluntary basis without any permanent staff or trained administrators, this technical aid is necessary in such routine matters as bookkeeping, equipment rental, contracting, and similar services.

Soil conservation districts are organized on a cooperative basis for the conservation of soil and water resources through the improvement of range practices, adoption of sound land utilization policies, watershed projects, flood control projects, and other similar measures.

Legislative Basis. The activities of the Soil Conservation Section are primarily based on the Colorado Soil Conservation Act (Section 128-1-1 through 128-1-21, C.R.S. 1953) and on the Watershed Protection and Flood Prevention Act (P.L. 566, 83rd Congress, as amended). For the most part, the Colorado Soil Conservation Act provides for the establishment of conservation districts and for the organization of the State Conservation Board. The conservation act itself does not assign any duties or coordinating functions to the State Department of Agriculture; however, the State Department of Agriculture Act (Section 6-1-4, C.R.S. 1953) provides that one duty of the department is "to assist the state soil conservation board in the administration of the soil conservation act...." P.L. 566 provides generally for federal assistance for flood control measures and designates states, or their political subdivisions, as the contracting bodies for engineering and planning of such projects subject, of course, to federal approval. Since the personnel of the local soil conservation districts are not trained for the technical aspects of contracting, a state coordinating agency for such problems is needed.

The department of agriculture is also charged with the administration of the Colorado Agricultural Conservation and Adjustment Act (Section 6-3-1 through 6-3-11, C.R.S. 1953); however, the section supervisor reports that this 1937 law has never been used since the program is being carried out through federal-local agreements, and in a manner similar to that prescribed in the state statutes. If the state were to activate this program of district planning and technical agricultural aid to conservation districts, it would probably mean that the state would have to match federal funds so expended.

In regard to the Colorado Soil Conservation District Act, a 1959 State Supreme Court case (Olinger v. People of Colorado, 344 P2d 689) resulted in a ruling that Section 128-1-9, C.R.S. 1953, pertaining to land-use ordinances, is unconstitutional. In the opinion of the court, the statute authorizing organization of soil conservation districts and delegating to qualified voters of such districts authority to adopt regulatory ordinances for violation of which a penalty may be imposed is invalid as an unconstitutional delegation of legislative power. In part, the opinion of the Court stated that: "The General Assembly may not delegate the power to make a law; but it may delegate power to determine some fact or a state of things upon which the law, as presented, depends..." (Page 691)

Personnel Activities. At present, the staff of the Soil Conservation Section consists of the supervisor, one soil conservation representative, and an administrative secretary. The supervisor also acts as the Executive Secretary to the Soil Conservation Board. Staff members are engaged in soil conservation work on a full-time basis. However, as a normal procedure within the department of agriculture, other services are performed by these staff members if an emergency warrants.

Approximately one-half of the supervisor's time is devoted to watershed problems in connection with P.L. 566. The workload resulting from this act is increasing to the extent that additional office help, at least on a part-time basis, is reported to be needed to meet the demands of the new requests for projects. The increased demand for watershed protection and flood prevention projects may be noted from the following tabulation:

<u>Year</u>	<u>Projects Approved or Under Consideration of Board*</u>
1954	2
1955	3
1956	4
1957	6
1958	3
1959	8
1960	5 **

\* Source: State Department of Agriculture

\*\* Four other projects are in process of being sponsored.

Part of the supervisor's work under P.L. 566 consists in acting as the contracting officer for local conservation districts, which includes the following duties:

1. Check on easements and rights-of-way to be certain that required areas are covered.
2. Check plans and specifications.
3. Write invitations to bid.
4. Mail bids to all prospective bidders on mailing list.
5. Open bids, prepare abstract of bids, and determine successful bidder and award contract accordingly.
6. Meet with contractor and explain requirements with regard to the numerous details involved, particularly payment documents, time extensions, etc.
7. Check on progress of contractor and determine that terms of contract are being fulfilled.
8. Participate in final inspection of completed job and make certification for final payment of contract.

The soil conservation representative has been devoting most of his time to the preparation of training manuals and the development of training techniques regarding the administration of the districts. The districts need this type of assistance as in the past many of them have failed to maintain any semblance of effective bookkeeping.

### Agricultural Statistics

Agricultural Statistics, or the Colorado Crop and Live-stock Reporting Service, is a joint federal-state program which fulfills two basic functions: (1) it provides statistical information on Colorado agricultural production for national needs, that is, total Colorado figures are compiled with other state totals so that a national picture may be developed; and (2) data are compiled on a local or county basis for the purpose of establishing a statistical picture of the state for the benefit of all local groups interested in agricultural production.

Summaries of state agricultural production are needed for national purposes for many reasons such as national defense; policy development based on estimates of total national production; national planning needs; guides to farm equipment industries; basic shipping information or probable estimated demands for use of rail and truck cars; estimates of probable farm income; indications of relative competitive positions of local farm groups, etc.

Data developed to indicate the agricultural production of the counties are used to provide communities with statistical information showing changing patterns of local agricultural industries; to relate the value of irrigation to non-irrigation; to indicate competition for local markets; to benefit potential farm buyers with facts on local production data; to provide estimates of farm income for banks and other business interests; to enable farm boards or market boards of control to measure probable production and competitive position, etc.

Legislative Authority. The Agriculture Statistics Act (Sections 6-2-1 through 6-2-7, C.R.S. 1953) authorizes the Commissioner of Agriculture to enter into a cooperative program with the Secretary of Agriculture or his accredited representative. This cooperative agreement is entered into on a year-to-year basis.

The act also specifies that county assessors shall compile any information requested by the commissioner and stipulates that failure to do so is a misdemeanor; it is also a misdemeanor for anyone to withhold information from the assessors, the commissioner or his representatives.

Personnel Activities. The present staffing pattern of the cooperative program consists of 14 federal employees and three state employees. The positions occupied by federal employees are: agricultural statistician in charge, four statisticians, one secretary, one chief statistical clerk, and seven statistical clerks. The State Department of Agriculture pays the salaries of one clerk-typist, one statistical clerk, and one agricultural economist (the agricultural economist performs the same duties as the federal statisticians). Thus, the program is primarily staffed by federal personnel and is entirely under federal direction.

The Crop and Livestock Reporting Service publishes annual, quarterly, monthly and weekly bulletins on crop and livestock conditions, prices, range conditions, cattle in feedlots, weather, and other information pertinent to the agriculture industry in Colorado. To obtain this information, the cooperative program maintains a list of voluntary correspondents or reporters who, for the most part, are local ranchers, dealers, shippers, bankers, and other individuals familiar with agricultural commodity activities. These correspondents are mailed questionnaires for the purpose of establishing basic data on local conditions, prices received, etc. Basically, there are two groups of correspondents: the first group includes the general crop correspondents who supply data on miscellaneous crop conditions; the second group of reporters consists of those primarily familiar with livestock and range conditions.

In general, the annual bulletin is concerned with the total agricultural production by county, irrigated and non-irrigated crop production, average prices obtained, livestock summaries, etc. Quarterly reports are issued for livestock and grain interests; monthly reports indicate current crop conditions, yields per acre, harvest estimates, range and feed conditions, etc.; weekly reports reflect conditions of crops, weather, and any new changes in the agricultural picture.

#### Predator Animal and Rodent Control

The variation in climate and topographical conditions in Colorado provides an ideal habitat for a variety of predator animals and rodents. These predators and rodents can cause severe damage to livestock, crops, grain, soil, game animals, etc. This creates a control problem in which a number of groups are interested, such as wool growers and other livestock groups,

National Forest Service, Federal Bureau of Land Management, and State Game and Fish Department. These various groups desire different levels of control; for instance, the State Game and Fish Department is generally interested in protecting the bear population (except when known predators are involved), while some ranchers may regard all bears as predators or potential predators that should be eliminated.

In any event, a centralized program is necessary for coordinating predator and rodent control into one efficient activity, keeping in mind the varied interests of the different groups and that the program is designed for the control and not complete eradication of predators. This is achieved through the cooperative efforts of the State Department of Agriculture, U.S. Fish and Wildlife Service, State Game and Fish Department, counties, livestock associations, and other interested groups.

Legislative Basis. The State Department of Agriculture is designated by the Predatory Animal Act (Section 8-7-1 through 8-7-19, C.R.S. 1953, as amended) as the state agency to enter into agreements with the United States Department of Interior, Fish and Wildlife Service, for the control of predator animals. The act also provides for the payment of bounties on mountain lions and coyotes. The district agent of the U.S. Fish and Wildlife Service reports that these bounties have little effect on the number of predators taken and that, for the most part, bounties are a waste of public funds.

The Rodent Control Act (Sections 6-7-1 through 6-7-17, C.R.S. 1953) designates the State Department of Agriculture as the state cooperator in rodent control, and authorizes the department to enter into agreements with the Bureau of Biological Survey, U.S. Department of Agriculture. In actuality, however, the rodent control program is conducted with the cooperation of the U.S. Fish and Wild Service and is administered under the same program as predator control.

In the administration of rodent and predator control, the district agent states that the U.S. Fish and Wildlife Service enters into between 70 and 80 cooperative agreements with various groups such as wool growers, the Bureau of Land Management, the National Forest Service, etc. Since the program is administered on a federal level, the regulations of the U.S. Fish and Wildlife Service, which to a large extent are based on problems in the various states, are a major factor in the administration of the program. Consequently, the state has relatively little to say about the activities under this program.

Personnel Activities. The following list of personnel constitutes the staff for the administration of the mammal (rodents and predators) control program in Colorado:

<u>Position</u>	<u>Number of Employees</u>	<u>Salary Paid By</u>
District Agent	1	Federal
Principal Asst. District Agent	1	"
Assistant District Agents	4	"
Management Assistant	1	"
Payroll Clerk	1	"
Clerk Steno	1	"
Mammal Control Agents	4	"
Mammal Control Agents (part time)	2	"
Mammal Control Agents	33	State Dept. of Ag.
Mammal Control Agents	2	State Dept. of Ag.*
Mammal Control Agents	7	State Game & Fish

\*No state appropriation was provided for these two employees for fiscal year 1961.

In general, the federal employees act in a predominately supervisory or administrative capacity; however, four of the permanent mammal control agents are paid by the federal government. The four part-time mammal control agents are hired for supervisory work regarding the dissemination of rodent poison and materials. Two of these part-time employees are paid by federal funds because of the extensive federal land holdings in the state.

The other 42 mammal control agents are under the state civil service program. Prior to 1959, mammal control agents were paid out of various funds of counties, wool growers, and other groups. This practice resulted in tedious bookkeeping procedures and, most of all, failed to provide a universal program for employee benefits as provided under state civil service.

Under the control program, the state is divided into four administrative districts, with an assistant district agent assigned to each one. District headquarters are located in Monte Vista, Glenwood Springs, Montrose, and Denver, with approximately ten mammal control agents assigned to each district.

Because the districts are quite large and there is considerable variation in predator problems, it may be difficult to establish specific uniform methods of supervision. For example, it is a problem to establish standards as to the number of predators an agent should capture since this depends to a large extent on the ruggedness of terrain, population of predators, and type of predator problem. The district agent reports that supervision is based on the knowledge assistant district agents acquire from contact work with forest service officials, ranchers, and others aware of predator and rodent problems, and the application of this information through field assignments to the mammal control personnel.

The coyote is reported to be the most serious predator in Colorado, and, as may be noted in Table 4, during 1959, 9,020 coyotes were taken. The total number of predators taken was 11,737 for 1959, which is more than double the number taken in 1950.

Table 4  
 PREDATORS TAKEN IN COLORADO  
Fiscal Years 1950 Through 1959\*

<u>Fiscal Year</u>	<u>Bear</u>	<u>Bobcat</u>	<u>Coyote</u>	<u>Lion</u>	<u>Total</u>
1950	171	781	4,366	8	5,326
1951	215	905	4,467	7	5,594
1952	185	976	3,951	7	5,119
1953	122	1,218	4,489	12	5,841
1954	180	1,418	4,590	14	6,202
1955	176	1,400	5,813	9	7,398
1956	112	1,552	6,039	4	7,707
1957	195	1,995	6,500	22	8,712
1958	149	2,654	6,798	19	9,620
1959	166	2,535	9,020	16	11,737

\* Source: U.S. Fish and Wildlife Service

In regard to rodent control, the four major districts of the state have their own types of rodent problems. In general, the Northwest district has problems with the Wyoming ground squirrel; the Southern and Southwestern areas are bothered by prairie dogs; and commensural rodents are prevalent in the Eastern part of the state.

The part-time mammal control agents supervise the application of rodenticides while the counties supply the personnel and purchase the bait from the federal-state cooperative program. This activity, in terms of the acreage treated, is reported in Table 5.



Table 5

RODENT CONTROL ACTIVITIES  
UNDER SUPERVISION OF COOPERATIVE PROGRAM

1950 Through 1959\*

Calen- dar Year	No. of Premises Treated Commensural Rodents	Acreage Treated					Misc.	Total
		Prairie Dogs	Ground Squirrel	Porcupine	Kangaroo Rats			
1950	8,223	451,408	94,952	---	3,295	45	549,700	
1951	6,405	300,710	45,831	---	4,963	130	351,634	
1952	3,055	189,742	66,649	---	10	130	256,531	
1953	2,603	218,913	50,738	---	506	380	270,537	
1954	2,037	247,256	49,124	---	---	1,319	297,699	
1955	2,751	194,612	51,530	7,000	40	5,525	258,707	
1956	3,321	229,378	38,998	33,444	2,379	9,928	314,127	
1957	3,879	181,946	61,137	1,249	100	595	245,027	
1958	5,232	272,261	109,272	5,100	506	1,402	388,541	
1959	7,740	136,808	176,520	380	69,000	3,318	386,026	

\*Source: U. S. Fish and Wildlife Service

### Hail Insurance Section

In 1929, the Hail Insurance Act (Sections 6-4-1 through 6-4-25, C.R.S. 1953, as amended) was enacted at the request of Colorado grain growers. At that time, hail insurance rates of private companies were prohibitive as far as the average farmer was concerned; some rates were as high as 25% to 30% of insured value. The problem was further aggravated in high-risk areas since private companies would not provide any hail insurance therein. This finally resulted in the establishment of the state hail insurance program.

Throughout its 30-year history, the state hail insurance program (a mutual insurance organization) has never dominated the hail insurance field in Colorado. At the present time, the supervisor of the Hail Insurance Section reports that, of the growers who regularly purchase hail insurance, only about one-third of their insurance is purchased through the three mutual insurance companies operating in Colorado (two private and the state program). The state program averages about one-third of this mutual business.

Since the inception of the state hail insurance program, a number of factors have restricted the growth of the program; some of these reasons are as follows:

1) The Colorado State Hail Insurance Program has been voluntary whereas in some states, such as Montana and North Dakota, a form of compulsory state hail insurance has been adopted. Such programs in the past required growers to purchase a minimum amount of state insurance if they desired protection from hail damage. The Colorado supervisor reports that compulsory programs were quite effective in establishing adequate reserves to cover years of severe hail damage. Once the reserves were established, the compulsory aspect was abandoned in these states. However, Colorado's hail insurance program has never been able to provide sufficient reserve strength and as a result the program has been restricted.

Table 6 provides a comparison of the activities of various state hail insurance programs. It may be noted from the table that the Colorado program is quite small in relation to other state programs, which is a primary reason for its relatively high operation expense ratio.

2) The state hail insurance program has always provided protection in the high-risk areas. This has created an excessive amount of insurance coverage in these areas while, at the same time, there has been a tendency for growers in the low-risk areas to do without insurance. Thus, the risk is not disseminated sufficiently and in years of severe hail damage the losses tend to be concentrated where there are policyholders.

3) The state program operates on a mutual basis and in some years in which losses have been heavy it has been necessary to prorate the losses. This has been a handicap since it has discouraged some growers from participating in the program.

4) Prior to 1952, the policy of the State Hail Insurance Section was to pay a nominal fee to assessors and other agents to write insurance schedules. Since the individuals writing the schedules received a flat fee of \$1.00, and later \$3.00, instead of a commission, there was not much incentive to perform extensive contact work in the field. In 1952, with the permission of the State Agricultural Commission, a program was adopted whereby agents and assessors were paid a 12 percent commission for writing insurance schedules; the commission rate subsequently was raised to 15 percent.

5) Private companies have an advantage in building reserve strength for their programs in that their policy is to deduct the first ten percent of losses, and in some cases the first 20 percent of losses, while the state program is attempting to reimburse all losses. However, the state stipulates that if a loss is ten percent or less, a grower should not file a claim. However, if the loss is 11 percent the entire amount is paid.

Generally, the state hail insurance program has failed to develop the extensive coverage necessary to build reserve strength sufficient to cover all losses, especially in years of severe hail damage.

Table 6

SUMMARY OF STATE HAIL INSURANCE  
PROGRAMS FOR 1959\*

	Montana	Colorado	Alberta	Saskatchewan	N. Dakota	Totals & Av.
1. Total risk written	\$7,135,784.32	\$598,473.00	\$17,190,421.73	\$40,475,764.00	\$21,855,121.33	\$87,255,564.38
2. Premium charge	\$ 562,468.55	\$ 71,961.10	\$ 1,406,588.65	\$ 2,218,480.78	\$ 1,510,251.45	\$ 5,769,720.53
3. Number policies issued	2,536	251	10,968	37,328	15,476	66,559
4. Total acres insured	656,835	53,779	2,107,124	6,745,961	1,974,743	11,538,442
5. Aver. acres ins. per pol.	225	214	192	181	127	\$ 173
6. Aver. risk per acre	\$ 10.86	\$ 11.13	\$ 8.16	\$ 6.00	\$ 11.07	7.56
7. Losses paid	\$ 217,108.50	\$ 50,012.81	\$ 383,718.22	\$ 2,112,858.27	\$ 1,337,647.96	\$ 4,101,345.76
8. Loss ratio	3%	8.4%	2.2%	5.22%	6.12%	4.7%
9. Aver. cost to insured per \$1000 of protection	\$ 78.82	\$ 120.24	\$ 81.82	\$ 54.81	\$ 69.10	\$ 66.12
10. Number of losses adjusted	222	73	9.80	4,904	4,360	\$ 10,539
11. Total adjusting expense	\$ 12,124.15	\$ 1,724.35	\$ 33,462.05	\$ 59,566.58	\$ 44,732.45	\$ 151,609.58
12. Aver. adj. cost per acre	21¢	15¢	26.7¢	6.9¢	8.6¢	9.6¢
13. Acres reported damaged % of all insured	57,077.9 8.7%	11,650 21.7%	125,537 6%	857,435 12.71%	520,328 26.35%	1,572,027.9 13.62%
14. Total operating expense	\$ 27,799.17	\$ 17,825.32	\$ 256,918.00	\$ 216,608.83	\$ 203,967.66	\$ 723,118.98
15. Operating expense ratio	4.9%	24.8%	18.3%	9.76%	13.50%	12.53%
16. Days with hail	31	20	45	51	73	44
17. Average cost of ins.	7.9%	12.02%	8.2%	5.48%	6.91%	6.6%

\* Source: International Hail Insurance Association.

Personnel Activities. The Hail Insurance Section is staffed with the following personnel: a full-time supervisor; a part-time hail insurance representatives' aide; a part-time rate clerk; an adjuster who is hired for about two months each year; and about 50 field agents who are active just prior to and during the hail season. The field agents are paid on a commission basis and are active for about three months of the year. Most of these agents are in some line of insurance work throughout the year.

The adjuster assists the supervisor during the peak periods of hail damage. If severe damage has occurred during a season, the supervisor usually has to appoint additional help in order to keep pace with adjustment demands.

The supervisor reports that the office workload requires that the rate clerk and the insurance representatives' aide must spend a total of about four months each in hail work during an average insurance year. The rest of the time the two employees are engaged in other work for the Administrative Services Division. For these two position, for fiscal years 1957 through 1959, the following months of salaries were paid by the Hail Insurance Section:

<u>Fiscal Year</u>	<u>Salaries Paid by Hail Insurance Section For These Two Positions</u>
1957	2 months
1958	7 months
1959	1 month

Hail Insurance Rates. Hail insurance rates are revised each year and depend to a large extent on the incidence of hail storms and damage over the past 30 years. The rates are normally established on a county basis and range from six percent to 16 percent of insured value. Table 7 reports the loss rates for the various counties and it may be noted that loss rates for Phillips and El Paso Counties for the 1929-1948 period have been higher than the 1960 insured rate. The loss rate for the period 1929 through 1958 for Phillips County was 19.73 percent while for El Paso County the loss rate was 15.83 percent; the insured rate for Phillips County for 1960 is 16 percent and for El Paso County the rate is 12 percent.

The supervisor reports that private insurance companies establish their hail rates on a township basis, while the state hail program adjusts its rates on a county basis. This policy has forced the state program to adopt arbitrary rates in Phillips and Logan Counties since the county-wide loss rate in these areas has been quite high and competition from private companies has forced the state program to adopt lower rates.

Table 7  
 COLORADO STATE HAIL INSURANCE RATES  
 1957 Through 1960<sup>a</sup>

County	1956 <sup>b</sup>			1957				1958			Rate 1958	Rate 1959	Rate 1960	Average Loss Rate 1929-1958
	Amt. of Risk <sup>c</sup>	Amt. of Premium <sup>d</sup>	Amt. of Loss <sup>e</sup>	Amt. of Risk	Amt. of Premium	Amt. of Loss	Rate <sup>f</sup> 1957	Amt. of Risk	Amt. of Premium	Amt. of Loss				
Adams	\$ 26,971	\$ 2,456	\$ 2,208	\$ 20,268	\$ 2,301	\$ ---	10 %	\$ 145,740	\$ 14,683	\$ 21,460	10 %	10 %	10 %	8.46%
Arapahoe	---	---	---	2,290	282	---	6	62,700	7,044	10,709	11	11	11	10.22
Baca	1,550	124	---	14,150	1,166	1,000	8	61,600	5,045	12,753	8	10	i	9.61
Bent	260	26	---	---	---	---	10	480	53	---	10	10	10	6.77
Cheyenne	1,040	93	---	540	48	---	9	18,170	1,650	4,404	9	10	10	8.28
Elbert	1,200	138	---	2,010	221	---	11	15,295	1,682	4,291	11	11	11	10.66
El Paso	4,200	516	---	3,435	377	---	11	4,540	457	1,071	10	12	12	15.83
Kiowa	---	---	---	---	---	---	8	5,250	420	1,575	8	8	8	5.46
Kit Carson	---	---	---	23,588	2,997	391	12	89,248	12,226	8,485	14	14	14	12.50
Larimer	---	---	---	1,100	66	80	6	---	---	---	6	6	6	4.14
Las Animas	9,325	932	2,256	---	---	---	10	---	---	---	10	10	13	10.38
Lincoln	7,300	876	2,011	86,610	11,279	400	13	151,009	19,652	16,046	13	13	13	11.80
Logan	19,536	2,735	5,263	13,427	1,879	1,953	14	21,970	3,515	1,848	16	16	16	15.48
Morgan	3,237	445	---	2,950	429	1,054	14	30,250	4,235	7,706	14	14	14	13.74
Phillips	20,281	3,060	2,756	35,071	5,286	2,440	15	63,311	10,203	5,172	16	16	16	19.73
Prowers	---	---	---	---	---	---	8	20,910	1,695	573	8	8	8	6.82
Sedowick	---	---	---	850	119	---	14	32,867	4,638	1,948	14	13	13	11.52
Washington	24,657	2,859	7,550	23,783	2,907	1,550	12	47,205	5,675	19,584	12	13	j	12.23
Weld	12,337	1,460	3,800	43,587	5,138	6,775	11	156,766	19,103	41,361	12	h	h	11.30
Yuma	<u>36,452</u>	<u>4,351</u>	<u>5,924</u>	<u>161,848</u>	<u>19,442</u>	<u>13,273</u>	<u>12</u>	<u>258,405</u>	<u>33,447</u>	<u>62,093</u>	13	14	14	12.90
Totals	\$ 168,347	\$ 20,075	\$ 31,770	\$ 435,508	\$ 53,944	\$ 28,920		\$1,185,719	\$ 145,428	\$ 221,086				

- (a) Source: State Department of Agriculture. Totals may not balance as a result of dropping cents.
- (b) During 1956 and 1958 losses were pro-rated at 55% due to severe hail damage and insufficient reserves.
- (c) Risk is the maximum possible loss of insured crops.
- (d) Premium is the cost to the growers for hail insurance.
- (e) Loss is the amount paid to growers as a result of hail damage.
- (f) Rate is a percentage of risk based, for the most part, on losses of previous years.
- (g) Average loss rate is the percentage of insured risk lost from 1929 through 1958.
- (h) Weld County rates for 1959 were 12% west of R-60 and 14% for R-60 and East; 1960 rates are the same as 1959.
- (i) West of R-45 rates are 10% and R-45 and East rates are 8%.
- (j) North of baseline rates are 14%; South of baseline rates are 12%.

## Division of Plant Industry

The Division of Plant Industry within the State Department of Agriculture is primarily concerned with the control of insect pests, plant diseases, and noxious weeds. In maintaining the control and eradication of agricultural pests, this division is assigned the administration of the following laws:

1. The State Entomologist Act (6-10-1 through 6-10-15, C.R.S. 1953, as amended) provides for the inspection of "orchards, farm and garden crops and any other premises or objects to determine if any of them are infested or infected with pests which may be disseminated to the injury of others and...for the control of such pests when possible." The act also prescribes other duties such as the examination and licensing of county pest inspectors, the establishment of quarantines, allows for emergency inspection, and enables the Plant Industry Division to enter into agreements with the federal government.
2. The Pest Inspection Act (Chapter 41, Session Laws 1959) enables local communities to formulate pest control districts for the control or eradication of agricultural pests.
3. The Apiary Inspection Act (7-9-1 through 7-9-21, C.R.S. 1953) provides for the control, prevention, and eradication of bee diseases by such means as giving the department of agriculture the right to examine and license county apiary inspectors.
4. The Insecticide, Fungicide, and Rodenticide Act (6-12-1 through 6-12-12, C.R.S. 1953) is mostly concerned with the distribution, sale, and transportation of adulterated or misbranded insecticides or other economic poisons and provides for the registration and examination of such materials.
5. The Seed Inspection Act (6-8-1 through 6-8-13, C.R.S. 1953) establishes control measures concerning the sale and distribution of agricultural seed.
6. The Application of Insecticides by Aircraft Act (6-14-1 through 6-14-17 C.R.S. 1953) requires the examination and licensing of aerial-spray operators and the inspection of equipment and pesticides used in such operations.
7. The Nursery Stock Act (6-15-1 through 6-15-5, C.R.S. 1953, as amended) provides: "In order to prevent deception or misrepresentation as to kind and grade-size and variety of nursery stock for planting purposes, except dormant bulbs, tubers, roots, corms, rhizomes, pips, and seeds, whenever such nursery stock is sold or in the process of sale within this state, all types of nursery stock mentioned in the article shall, when sold or delivered, be properly graded and labeled as to name, grade, size and variety..." This law also provides for the inspection and licensing of nurseries, nursery dealers, and agents.

8. The Pest and Plant Quarantine Act (6-11-1 through 6-11-8, C.R.S. 1953, as amended) authorizes the establishment of quarantines to prevent the introduction or migration of insect pests or plant diseases and for the Plant Industry Division to provide funds, labor, and supplies to carry out this purpose. The act also prescribes that the division is to cooperate with other groups, municipalities, or agencies in maintaining these control measures.

9. The Noxious Weeds Act (6-9-1 through 6-9-7, C.R.S. 1953) supplements the "Pest Act" by requiring the cleaning of threshing machines and combines to prevent them from transporting noxious weeds from one area to another. Other control measures of this law include the right of county commissioners to purchase equipment, employ weed supervisors, and allows the counties to enter into agreements with the federal government and State of Colorado for weed control.

To supplement the preceding laws and to facilitate agriculture pest control, a memorandum of understanding among the Colorado State Department of Agriculture, the Extension Service and the Agriculture Experiment Station of Colorado State University, and the United States Department of Agriculture, was put into effect on July 1, 1957. This agreement provides the basis for which special or individual programs may be cooperatively worked out.

Under this basic agreement, the Division of Plant Industry maintains a memorandum of understanding with the Division of Plant and Pest Control, U.S.D.A., for the control of peach mosaic and khapra beetle. Another memorandum of understanding that has been in existence for a long period of time concerns the eradication of barberry bushes.

#### Activities of Plant Industry Division

The activities of the Plant Industry Division are divided into various programs such as nursery, apiary, and pesticide inspection, and the maintenance of a parasite laboratory for insect and weed control. These programs are administered on a geographical basis as well as a program basis, with one section being the eastern slope and the other the western slope. The western slope headquarters is located at Palisades, which is also the site of the parasite laboratory.

Table 8 presents a broad picture of the activities of the Plant Industry Division in relation to the staff of entomologists and the approximate amount of time spent per activity as performed in fiscal year 1959. Also, the basic differences between eastern and western slope activities may be noted in the table.

Table 8  
 PLANT INDUSTRY DIVISION  
 ESTIMATED PERSONNEL ACTIVITY BY LOCATION AND PROGRAM  
Fiscal Year 1959\*

<u>Activity</u>	<u>Eastern Slope</u>		<u>Western Slope</u>		<u>Division Totals</u>	
	<u>Man-Months</u>	<u>% of Time Spent on Activity</u>	<u>Man-Months</u>	<u>% of Time Spent</u>	<u>Man-Months</u>	<u>% of Time Spent</u>
Pest Survey	17	28.3	5½	15.3	22½	23.4
Pesticide	5 1/3	8.9	1 1/6	3.3	6½	6.8
Office, Denver	12 2/3	21.1	-	-	12 2/3	13.2
Seed Inspection	4 2/3	7.8	1 2/3	4.6	6 1/3	6.6
Apiary	2½	4.2	-	-	2½	2.6
Green House	6	10.0	-	-	6	6.3
Nursery	11 5/6	19.7	2 1/3	6.5	14 1/6	14.8
Insectary Laboratory	-	-	18 1/3	50.9	18 1/3	19.1
Bio-assay	-	-	1 2/3	4.6	1 2/3	1.7
Mosaic	-	-	5 1/3	14.8	5 1/3	5.5
TOTAL	60	100.0	36	100.0	96	100.0

\*Source: Graph prepared by Division of Plant Industry, State Department of Agriculture. The months represent an approximation of the time spent on various activities by the staff entomologists and the entomologist aide. The eastern slope includes five staff members: one principal entomologist, three senior entomologists, and one junior entomologist. The western slope includes one principal entomologist, one entomologist and one entomologist aide. The personnel activity reported does not include clerical help.



A natural restriction on the functions of the Plant Industry Division is the variation in the biological seasons of Colorado due to the differences in elevation of the crop areas. Since the seasons are not exactly the same, the department takes advantage of the differences by allocating personnel assignments according to these seasonal variations.

Western Slope Activities. One of the principal functions of the western slope office is the operation of a parasite or insectary laboratory for the control of plant pests. The laboratory was originally established in 1945-46 primarily for the control of the oriental fruit moth. However, this insect has not been found since 1952 and the production of the parasite used in controlling the oriental fruit moth is now on a stand-by basis.

Since there has not been any indication of the presence of oriental fruit moth for a number of years, the question may be raised as to why the program is being maintained at all. It is the opinion of the division chief that another outbreak of the moth might occur which would result in a severe loss to the peach industry. The division chief cites California as an example of the failure to maintain thorough control measures which resulted in an increase of the oriental fruit moth after it had been brought under control. Thus, the maintenance of the parasite program on a stand-by basis reduces the possibility of reinfestation and eliminates the need for a quarantine of states infested with the moth.

The activities of the parasite laboratory have expanded into new areas since it was established, and the laboratory is now producing European Elm Scale parasites for the control of shade tree pests. The parasite laboratory is also producing a beetle for the control of klamath weed.

Under the direction of the principal entomologist in charge of western slope activities, the field station or laboratory is presently attempting to establish standards from which biological assays of insecticides may facilitate present methods for the chemical analysis of insecticides. Such biological assays would enable the division to obtain quick and economical tests that would provide farmers and spray operators with a source of information for determining the potency or the strength of insecticides. The division chief adds that this program is in the development stage and that the costs of administering this service have not been determined as yet.

The parasite laboratory is one of only six similar laboratories in the world; the others are located in France, Italy, Great Britain, California, and Maryland. These laboratories work in close conjunction with each other and exchange information and parasites without charge. The laboratory has also supplied parasites to Oregon, California, Washington, and to the federal laboratory (when a culture medium was accidentally destroyed).

In the near future, the oriental fruit moth parasite will be supplied to Oklahoma and Missouri. Thus, the benefits derived from the operation of the laboratory are hard to measure if strictly related to the Colorado tax dollar. The laboratory is entirely financed by state funds since neither the peach industry nor the federal government make direct contributions therefor.

Another program administered under the auspices of the field station at Palisades is the control of peach mosaic. The mosaic program is a joint federal-state project under an agreement between the Division of Plant Industry and the United States Department of Agriculture Plant and Pest Control Section. In conjunction with the agreement, local county inspectors generally carry out the inspection program under the supervision of the Plant Industry Division.

Peach mosaic is a highly noxious virus, particularly to the Elberta and Hale varieties. The virus is transmitted by a vector known as eriophyes insidious which completely ruins the tree and fruit. At present, the only means of control is the elimination of diseased trees.

Table 9 cites some of the inspection activities of the mosaic program and it may be noted that in Mesa County the percentage of infected trees seems to be relatively constant. The division chief states that this is a maintenance program as the present method of tree elimination will never eradicate the virus completely. However, he believes that if the program were reduced or eliminated, in a few short years the peach industry would be wiped out.

In regard to the removal of diseased trees and symptomless carriers, some grower resistance has been encountered. In a very few cases assistance from the local district attorney was needed but at no time has the department lost a court case involving the removal of trees. Despite the scattered attempts by some growers to prevent eradication of diseased trees or symptomless carriers, the Peach Board of Control completely supports the program.

Stem rust is a highly destructive disease of small grains and is transmitted by susceptible varieties of barberries. The control of stem rust is obtained by the eradication of these susceptible barberries.

Barberry eradication is conducted by a joint federal-state program which is presently supported by about 60 percent federal funds and 40 percent state funds. For the past few years, barberry eradication has been on a maintenance basis since the original 74,685 square miles needing work has been reduced to the point where crews are now reworking areas sprayed in previous years. For example, in fiscal year 1959, 195 square miles were worked with one new property infested and 170 old properties infested out of a total of 280 properties inspected.

Table 9

## PEACH MOSAIC CONTROL PROGRAM\*

Fiscal Years 1950 Through 1959\*\*

<u>Fiscal Year</u>	<u>MESA COUNTY</u>					<u>DELTA COUNTY</u>	
	<u>Trees Inspected</u>	<u>Trees Infected</u>	<u>Per Cent Infection</u>	<u>Properties Inspected</u>	<u>Properties Infected</u>	<u>Trees Inspected</u>	<u>Trees Infected</u>
1950	909,432	1,933	.21	---	---	252,484	1
1951	894,908	1,929	.25	1,092	381	159,552	20
1952	884,350	3,127	.38	1,343	433	181,570	1
1953	817,869	1,557	.23	1,152	351	177,693	0
1954	815,085	2,401	.32	1,229	401	136,364	5
1955	809,194	4,028	.52	1,204	454	128,700	1
1956	770,516	3,393	.44	1,059	430	166,306	2
1957	747,401***	5,534	.74	---	---	---	2
1958	708,830	2,062	.29	1,086	389	143,687	2
1959	717,366	961	.14	1,099	319	152,308***	2

\*This program is a cooperative project involving the counties of Mesa and Delta, Plant Pest Control of U.S.D.A., and Division of Plant Industry, State Department of Agriculture.

\*\*Annual Reports, State Department of Agriculture. The inspection program is divided into two surveys. The first survey covers the entire peach area while the second survey covers the area of the intense mosaic problems. This table is based on first surveys only.

\*\*\*These figures have been calculated from percents cited in annual reports.

The pay rates of the seasonal crews are slightly different in that the federal government employees are paid a higher salary than those hired by the state. For this reason, the experienced crew members are usually put on the federal payroll and the less experienced men are placed on the state payroll.

The western slope office engages in such other activities as seed inspection, but the direction of these activities is the responsibility of staff members operating on the eastern slope and they will be discussed in the following section.

Eastern Slope Activities. One of the primary activities of the Plant Industry Division in regard to the Denver office is the administration of the Nursery Act. Basically, the purpose of this program is to prevent deception or misrepresentation of nursery stock, grade, size, variety, etc. An examination of Table 8 shows the relationship of the activity in regard to the over-all program of the permanent professional staff. The professional staff devotes approximately 14.8 percent of its time in nursery work, according to the work budget prepared by the division for fiscal year 1959.

Greenhouse inspection is a similar activity to nursery inspection but it is not provided for in a specific act. However, the State Entomologist Act is reported to serve as the authority for the administration of this program. All states require point-of-origin inspection of plants shipped in interstate commerce in order to be sure the plants are free of insect pests. Without this service the greenhouse industry would lose its markets. The 1959 work budget allocates approximately 6.3 percent of the employees' time to this activity and, since the fee increase of 1958, the industry seems to be providing sufficient financial support for this service.

Apiary inspection is conducted on a county-state basis with the state licensing and examining local county inspectors. The county inspectors are responsible for the inspection of all bee colonies suspected of having diseases such as American Foulbrood and European Foulbrood. State inspectors are often called upon to substantiate the seriousness of the disease and to recommend either the destruction of the colony or the use of antibiotics for treatment. Also, the state inspectors are the only ones who can legally certify that a colony is disease free for the purpose of certifying interstate shipments. In the past ten years, bee colonies have increased from 56,448 in 1950 to approximately 68,000 in 1959.

Colonies having trouble with American Foulbrood are generally destroyed or treated with suffathrazole while European Foulbrood lends itself to treatment with antibiotics. One of the problems on control of bee diseases, according to the division chief, is the prevalence of wild colonies which provide a constant source of possible infection and transmission of bee diseases.

The insecticide program is primarily concerned with eliminating adulterated or misbranded insecticides from sale in Colorado. In administering this program the division maintains a file of pesticides registered and tests by the U.S.D.A. and by some other states having test laboratories. Thus, in most cases, insecticides introduced into Colorado have already been tested by one of these sources, thereby eliminating the necessity of testing each insecticide registered in this state.

When problem cases arise or insecticide tests are necessary, sample compounds are submitted to local laboratories for analysis. However, the complex hydro-carbon insecticides are sent to the Madison Alumni Research Agency in Wisconsin for analysis. The Madison testing service is quite economical to use, according to the division chief, since the equipment cost for such analyses is very high and the service is performed by the research agency at cost; this is much cheaper than establishing a state insecticide laboratory or expanding the facilities of the present laboratory of the department of agriculture.

The following table lists the companies and the number of formulations registered under the Insecticide Law:\*

<u>Fiscal Year</u>	<u>Number of Companies Licensed</u>	<u>Number of Formulations</u>
1951	225	2,000
1952	232	2,174
1953	266	2,142
1954	307	2,150
1955	310	2,113
1956	296	2,407
1957	310	2,574
1958	282	2,431
1959	329	2,702

\*Source: Annual Reports, State Department of Agriculture

The Division of Plant Industry has an entomologist on its staff who is experienced in aircraft dissemination of insecticides. Protection to the operators is extended by the knowledge of this staff member and the growers are also insured that proper equipment, methods, and insecticides will be used. The number of aerial-spray operators' licenses fluctuates from year to year due to changes in infestations such as those reported in grasshopper surveys.

In the past year, some damage and loss to apiaries has been caused by aerial-spray activities. Through coordinated efforts on behalf of the department of agriculture and the two industries involved, these losses have been greatly reduced by the education of spray operators to restrict operations when crops or fruit trees are in bloom and are especially attractive to bees. In addition, the Apiary Act (Section 7-9-11) provides: "It shall be unlawful to spray or dust with any poisonous material which is injurious to

bees in their egg, larvae, or adult stages, any agricultural crops or fruit trees while in bloom which are attractive to bees."

The administration of state quarantines to prevent the unrestricted transportation of plants and other agriculture products from areas of known infestation of agriculture pests is another program of the division. The quarantines are not designed as embargos or trade restrictions but generally require fumigation or a certificate of clearance that the products are free of insect pests.

The following lists the ten state quarantines currently active in Colorado:

1. Peach Mosaic: Prohibiting movement of host plant (peaches and stone fruits). Regulation and inspection of nurseries growing stone fruits. Eradication and removal of diseased stone fruit trees.
2. Potato Tuber Moth: Prohibiting and controlling movement of Irish potatoes from those areas known to be infested with Potato Tuber Moth.
3. Black Stem Rust: Prohibiting movement and planting of susceptible varieties of barberry. Eradication of susceptible varieties of barberry.
4. Colorado Potato Beetle: Regulating movement of host plants (peppers and tomatoes) from infested areas to non-infested areas.
5. European Corn Borer: Regulating the movement of corn and other products from areas known to be infested by the corn borer. (Regulations not being enforced pending additional studies as to the effects on industry and agriculture.)
6. Khapra Beetle: Regulating the movement of khapra beetle host material.
7. Proclamation No. 1: Requirements for shipping plant products, nursery, and greenhouse stock into Colorado.
8. Proclamation No. 2: Requirements for shipping boxes, barrels, baskets, or other fruit containers into or within the fruit areas of Colorado.
9. Symptomless Carriers of Peach Mosaic: Prohibiting the importation of those symptomless varieties of peach trees known to be carriers of peach mosaic.
10. Western Celery Mosaic: Prohibiting the movement of celery plants into the State of Colorado from the State of California because of western celery mosaic disease.

The khapra beetle quarantine is especially significant due to the destructiveness of this pest to stored grains. The insect is a native of the Orient and was first discovered in California in November of 1953. Since that time, the states of Arizona, New Mexico, and Texas have each developed areas of infestations. In these areas approximately \$7,000,000 in control work has been spent by the cooperating agencies.

In Colorado, the inspection program was originally a joint federal-state project but since Colorado has not developed any infestation, federal support has dropped to about ten percent of the program. The following table indicates the trend of the program from a federal-state to a predominately state-supported program.

<u>Fiscal Year</u>	<u>State Inspection</u>	<u>Federal-State Inspection</u>	<u>Federal</u>
1955	8	164	141
1956	80	128	111
1957	171	45	43
1958	231	17	15
1959	178	7	7

Another activity of the division, as authorized under Sections 6-8-1 through 6-8-13, C.R.S. 1953, is the inspection and testing of agricultural seeds. This activity is directed by a staff entomologist located on the eastern slope; however, the western slope office also engages in the inspection and collection of samples.

Seed testing is performed for the division at the Experimental Station at Fort Collins. For the past two years, appropriations have been made to support this activity but during the prior years little inspection and testing was performed because of a lack of funds. Based on Table 8, approximately 6.6 percent of the entomologists' staff time was spent on the collection of seed samples in fiscal year 1959.

The Division of Plant Industry is also responsible for checking shipments of agriculture products entering Colorado both in regard to quarantines and to insure that products are pest free from other sources. It is practically impossible for the staff to check each truck for certification papers from the point-of-origin. However, the department is assisted by the highway patrol, ports of entry, and in some instances by produce dealer inspectors. The division chief further reports that, although the activities of the ports of entry regarding the checking of certificates have not been complete, they have been very helpful.

Plant Industry Division personnel do not maintain stations at the ports of entry but rely on the preceding inspections plus calls from traffic managers of rail, air, and truck shipments to notify the division of applicable incoming shipments.

In general, the most time-consuming function of the division is in regard to pest surveys. Approximately 23.4 percent of staff time, for fiscal year 1959, was utilized in this general area, including surveys for such pests as grasshoppers, barberry, European corn borers, klamath weed, khapra beetle, fruit insects, potato tuber moth, and a host of other weeds and insects capable of causing damage or loss to agricultural crops.

Here again, especially in regard to pests such as the grasshopper, there is a great deal of coordination of activity between the federal government, states, counties, and various other groups or agencies interested in a particular agricultural industry.

### Relationship of Personnel to Activities

The administrative structure of the Division of Plant Industry is not divided into sections having generally specialized personnel as is the case of the other three divisions within the department of agriculture. Instead, the staff activities of the Plant Industry Division are designed to encompass the various programs therein, as shown in Chart 3.

The permanent staff of the division consists of the division chief, two principal entomologists, three senior entomologists, one entomologist, one junior entomologist, one entomologist's aide, one intermediate clerk-stenographer, and one clerk-typist. The Denver office also employs two part-time clerks during peak seasons of licensing and registration.

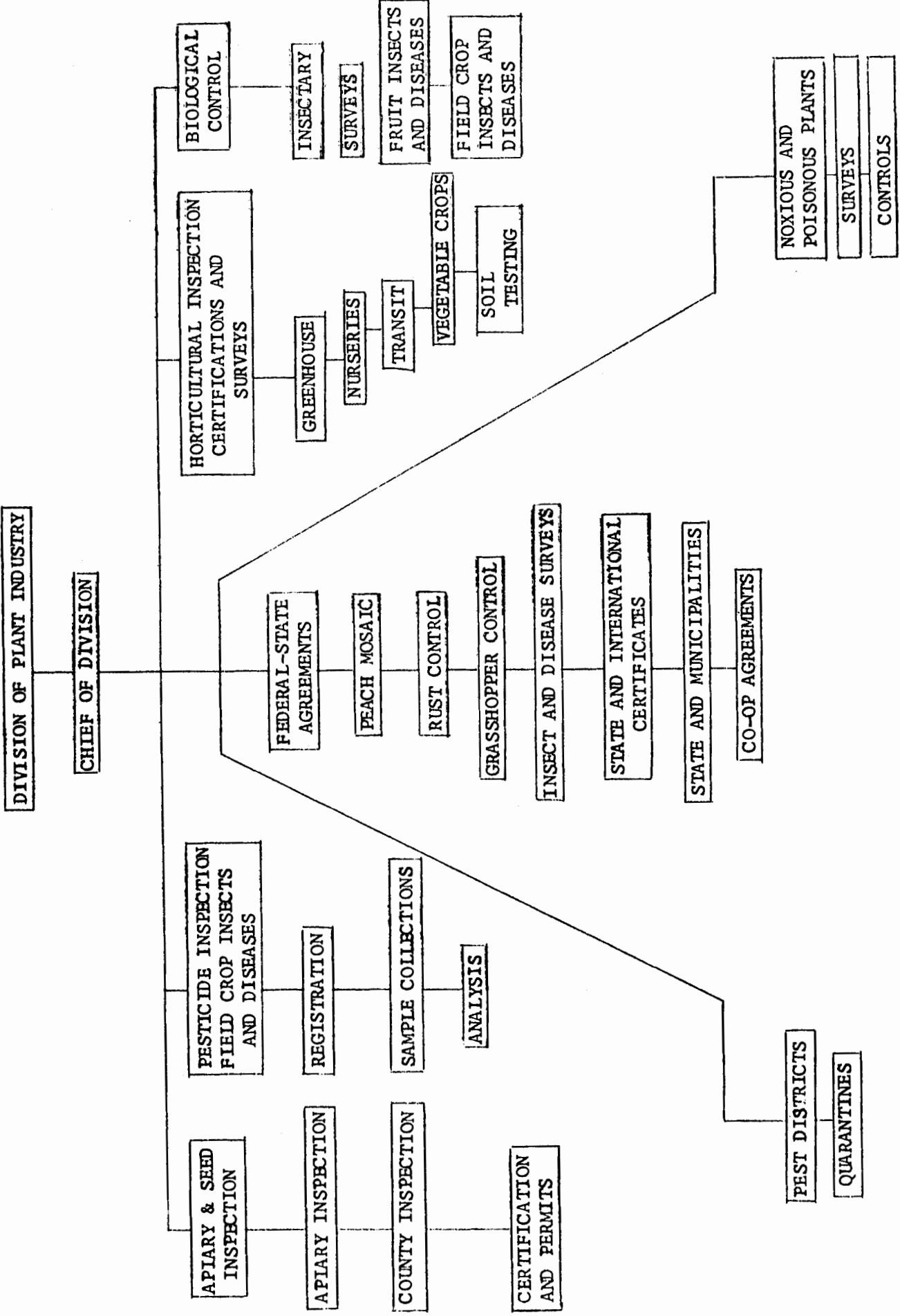
In addition to the full-time staff, a number of part-time inspectors are hired during the growing seasons. These inspectors are supported by federal, state, and county funds. For example, from 20 to 24 apiary inspectors are employed by the counties for temporary inspection work. These inspections are usually made on request of the beekeepers. Another temporary work force of from 10 to 12 inspectors is involved in the peach mosaic program. Most of these mosaic inspectors are familiar with the peach industry and have had previous experience in mosaic inspection. A training class is conducted every year prior to the peach mosaic season. Some of the temporary inspectors have attended these classes for about 15 years. As previously mentioned, a group of seasonal laborers are hired for barberry eradication work.

In regard to the full-time staff, the chief directs the over-all activities of the division. On the western slope, one of the two principal entomologists directs the activities in this area. Other staff assignments include:

1. The responsibility for nursery, greenhouse, and terminal inspection is the job of the principal entomologist in the Denver office.
2. A senior entomologist for the eastern slope is responsible for seed and apiary programs as well as the organization of pest districts.



Chart 3



3. Another senior entomologist is in charge of pesticide registrations and aircraft licensing.

4. The third senior entomologist assists the principal entomologist responsible for nursery and greenhouse inspection.

5. The entomologist is directly responsible to the principal entomologist directing activities at the Palisades field office.

6. The junior entomologist is involved in a training program designed to give all employees a thorough understanding of the nature of the agency and the various programs involved. The section chief does not believe in limiting an individual to one specialty but tries to develop the staff so that the employees will be completely flexible in moving from one job to another. Thus, the less experienced men may temporarily fill vacancies of senior men in times of sickness and vacation.

7. The entomologist's aide also works at the Palisades field office, generally performing work as a technician in the parasite laboratory.

In regard to prior training of personnel, the division chief comments that intensive specialization is not necessary and that an individual may major in entomology, pathology, or some other related area, or have the same equivalent work experience, or a combination of both.

#### Division of Animal Industry

When the State Department of Agriculture was created in 1949, four divisions were established by law, "the heads of which shall be appointed by the commissioner subject to the constitution and laws of the state (1953 C.R.S. 6-1-8)." Section 6-1-8-(3), C.R.S. 1953 provides: "The division of animal industry shall perform such duties relating to the livestock industry, including dairying and poultry, in conformity with section 6-1-4, and other regulatory functions needed in the control and eradication of livestock diseases, and not contrary to law. The head of the division shall be the chief of the division of animal industry."

Under this legislative assignment, the Animal Industry Division contains the four sections reported in Chart 4: poultry and eggs; dairy products; commercial feed and fertilizer control (including a standards laboratory); and veterinarian (including a joint state-federal brucellosis laboratory).

Generally, the Chief of the Animal Industry Division, under direction of the commissioner, plans, organizes, coordinates, and directs the animal industry program in the state. In carrying out these duties, typical tasks of the chief include the following, as reported by the Colorado Civil Service Commission:

**DIVISION OF ANIMAL INDUSTRY**

**CHIEF**

**DAIRY PRODUCTS SECTION**

**CHIEF, DAIRY SECTION**

**SANITARY INSPECTION**

Counter Freezers  
 Cream Stations  
 Mfg. Plants  
 Concentrating Sta.  
 Marketing Centers

**LICENSING**

Counter Freezers  
 Cream Sta.  
 Concentrating Sta  
 Manufacturing Plants  
 Sampled Testers  
 Oleo Mfgs. and  
 Wholesale Dealers

**TESTING & GRADING**

Butterfat & Sediment  
 OF Milk, cream, butter  
 ice cream and other  
 dairy products

**LABORATORY ANALYSIS**

Dairy Products

**COMMERCIAL FEED & FERTILIZER SECTION**

**SUPERVISOR**

**REGISTRATIONS**

Feeding Stuff  
 Fertilizers

**INSPECTIONS**

Feed Stores  
 Manufacturers & Mills  
 Farms & Dairies

**SAMPLING**

Commercial Feeds & Fertilizers  
 Pet Foods  
 Soil Amendments

**CONDEMNATIONS**

Adulterated Feeds  
 Misbranded Feeds  
 Low Analysis Feeds  
 Feeds not registered

**REFUNDS**

Analysis below guarantee  
 Short Weight

**POULTRY & EGG SECTION**

**SUPERVISOR**

**LICENSING**

Wholesalers  
 Jobbers  
 Retailers  
 Country Receivers  
 Producers

**GRADING INSPECTIONS**

(For wholesomeness)  
 Processing Plants  
 Groceries, Hotels,  
 Restaurants, Trucks  
 Creameries  
 Institutions  
 Producers

**SANITATION INSPECTION**

Processing Plants  
 Poultry  
 Rabbitries  
 Permits  
 Complaints

**ADVERTISING**

Labeling  
 Grades

**HEARINGS**

**VETERINARIAN SECTION**

**STATE VETERINARIAN**

**LIVESTOCK DISEASES**

Disease Programs  
 Scabies  
 Blue Tongue  
 Vesicular Exanthema  
 Paratuberculosis  
 Scrapies  
 Sales Ring Sanitation  
 Interstate Movement  
 Quarantines

**STATE-FEDERAL**

Cooperative programs  
 for control of  
 livestock diseases

**BRUCELLOSIS PROGRAM**

**SUPERVISOR**

Blood Testing  
 ABR Ring Testing  
 Tuberculosis Control  
 Dairy Herd Approval

**STATE-FEDERAL**

Cooperative Laboratory  
 & Programs for Control  
 of Brucellosis

**STANDARDS LABORATORY**

**CHIEF CHEMIST**

**FEED ANALYSIS**

Protein, Fat, Fiber,  
 Vitamins, Minerals,  
 Antibiotics, Hormones

**FERTILIZER ANALYSIS**

Nitrogen, Phosphates  
 Potash, Soil Amendments  
 Trace Elements

- 1) Directs collection of inspection fees and deposits these with the proper authorities;
- 2) Determines that expenditures of the division do not exceed approved budget;
- 3) Initiates regulations for various sections and submits them to the Commissioner of Agriculture for approval;
- 4) Prepares directives with approval of commissioner for use by division personnel;
- 5) Meets with interested agricultural groups for the purpose of promoting industry's interests and division's programs;
- 6) Conducts educational programs in grading and sanitation; assists producers in marketing products; and
- 7) Travels extensively throughout the state.

Employment standards required for the position of chief of the division are: "Any combination of training and experience equivalent to graduation from college with major work in animal husbandry or a closely related field, and seven years of experience in stock breeding, stock feeding, dairy production, general farming, farm management, farm research or farm organizational work, three years of which must have been in progressively responsible administrative work in the agricultural industry, state or federal service."

Enforcement Program. Present enforcement policies of the State Department of Agriculture are based upon a priority selection according to the seriousness of probable violations in the following order:

- 1) Violations that endanger public and animal health
- 2) Violations having a hygienic or esthetic significance, e.g., filthy or decomposed foods or foods produced under unsanitary conditions.
- 3) Violations involving economic fraud or cheat.

The general objectives of the Animal Industry Division's enforcement program are reported to be:

- 1) To achieve a maximum degree of compliance with the requirements of the agricultural laws, and thus to assure the safety and integrity of the state's food supply.
- 2) To insure that poultry and eggs imported or produced for sale in Colorado are not inferior in purity, quality, and fitness for consumption and use as compared with standards established under the authority of the act.

3) To insure that all milk and cream offered for sale in Colorado is shipped by holders of valid permits who have complied with prescribed standards of sanitation and disease testing of the producing cows.

4) To prevent the substitution of any fat or oil for milk fat in any milk, cream, or skimmed milk, except distinctly proprietary food compounds not readily mistaken in tests for milk or for evaporated, condensed, or powdered milk or cream.

5) To insure that commercial feed stuffs imported into Colorado or offered for sale in Colorado are honestly labeled as to content and that the specified ingredients meet analytical specifications.

6) To insure the prevention, control, and elimination of any and all disease condition threatening the livestock industry of the state through mandatory treatment, quarantine, and test and slaughter methods.

In achieving the aforementioned objectives, the Animal Industry Division has adopted a policy of effecting compliance through education and cooperation. As reported by the division, "these activities are designed (a) to obtain voluntary compliance with the standards required by law by the regulated industries; (b) to reach a higher standard of animal and public health and safety in this country through consumer and producer understanding of the laws administered by DAI; (c) to enlist the cooperation and assistance of scientific groups (universities, foundations, veterinary suppliers, professional societies, etc.) in establishing standards of grade, labeling, etc., and (d) to enlist the cooperation of the federal, state, and local enforcement officials in the interchange of information as an adjunct to the state inspection force."

### Veterinary Section

The Veterinary Section of the Division of Animal Industry is charged with two primary duties: First, to prevent any possible introduction of disease into Colorado livestock, and, where disease exists, to establish procedures for its control and eventual eradication; second, to take any other steps available to expedite the proper and legal movements of livestock into or within the state in order to prevent delay, economic loss, or loss of possible markets.

Typically, as a disease problem arises, steps are first taken toward investigation and isolation or quarantine as may be warranted by the conditions present. Confirmation of the initial diagnosis is a necessity in all cases, and in this operation the section is quite often assisted by the College of Veterinary Medicine, Colorado State University. The handling of the disease problem may be an extended operation for diseases such as anthrax, tuberculosis, and brucellosis, where specific decontamination and

vaccination procedures may be needed, or the disease may be one of the nature of rabies, blackleg, or encephalomyelitis which, even though diastic and deadly, may be contained rather rapidly by vaccination or isolation procedures under the supervision of a local veterinarian.

After the outbreak of the disease has been stopped and all precautionary measures taken with the livestock, a period of observation and re-examination follows as the next step toward total eradication, if such be possible for the specific disease. Plans are established for periodic tests, if any are available, to prevent the disease from occurring again.

During the time a specific disease problem is being handled at a given ranch or corral, plans are made to establish a definite preventive program so that the disease may be contained. These programs normally call for a specific vaccination or testing procedure to be established in which the immediately adjacent herds are of primary concern, with those radiating outward in location or possible contact decreasing in corresponding importance.

As a general rule, when a specific outbreak has once been diagnosed, an area or state-wide program is planned and placed in operation to cope with any possible existing disease or further outbreaks. These programs usually follow the over-all procedure previously described in regard to the handling of a general disease outbreak.

Livestock Disease Control Program. The Veterinary Section administers a number of specific livestock disease control programs, many of which appear to be closely related. The State Veterinarian ranks the top three programs in order of importance as (1) brucellosis, (2) tuberculosis, and (3) scabies.

Brucellosis--The program of seeking brucellosis control and eradication in Colorado livestock, which is a joint state and federal undertaking, is offered on a county or area basis primarily on the request of 85 percent of the cattle owners controlling 85 percent of the cattle within the area or county. In addition, a dairy herd approval program for producers of Grade A fluid milk, which is discussed subsequently herein, also deals approximately one-half with brucellosis control through official blood and milk ring tests and official calfhood vaccination of dairy heifer calves.

Presently, Colorado has 28 counties that have been tested and, since the reaction rate was found to involve less than five percent of the herds and one percent of the cattle, the 28 counties have been designated "Modified Certified Brucellosis Free." Further, there are seven additional counties in which this work is nearly completed. This "Modified Certified Brucellosis Free" status is generally recognized by almost all of the states in the West and Midwest and allows that shipment of feeding, breeding, show and dairy cattle to those states recognizing this designation without further need for brucellosis testing.

Colorado cattlemen generally have been urged to vaccinate their heifer calves officially as a means of further assurance that brucellosis will not occur within their herds at a future date. The history of official vaccination in several counties in the state, coupled with the exceedingly low incidence of disease in those counties when tests were conducted, is reported by the State Veterinarian to have given proof that vaccination is and will continue to be an important link in the prevention and final eradication of brucellosis. For the past 24 months, Colorado has had a brucellosis infection rate of less than one percent for the entire state, including both beef and dairy cattle.

Tuberculosis (and Johne's Disease)--Tuberculosis is listed second in importance because of its close association as a disease entity in growing beef and producing milk for human consumption. Actually, it is reported that little tuberculosis is found in Colorado except in imported dairy or purebred replacement cattle from areas to the east and north of this state. Under the tuberculosis program, tuberculin tests are periodically run on sample herds of beef and dairy cattle to ascertain if the disease does exist. The status of "Modified Accredited Tuberculosis Free" may be designated for a county or area, when, after testing at regular intervals (presently every six years), less than one-half of one percent of the cattle tested are found to be reactors.

Johne's Disease, a digestive disease caused by a "sister" bacteria in the tuberculosis family, is included in this program because of the similarity in methods used for its control and eradication.

Cattle and Sheep Scabies and Mange--Until recently, Colorado had been free of sheep scabies since approximately 1954. However, sheep scabies has become increasingly prominent in states to the east of Colorado due to the interstate movement of feeding and breeding sheep. The eastern one-third of the nation has not considered this condition too important since only small farm flocks were involved which were easily accessible for treatment or inspection when necessary.

Western states, on the other hand, have been largely free of the disease due to constant vigilance and protective measures to prevent its introduction in this area. With this goal of prevention in mind, Colorado and most of the other western states have used strict regulations and active contacts for inspection to see that scabies does not enter.

Concerning cattle scabies, this disease has been a problem for many years in Colorado. While the disease was eradicated in this state in 1957, cases have been uncovered from time to time but for the most part have not involved Colorado livestock.

The incidence of cattle and sheep scabies and mange is reported to be on the increase and "it is the demand of the livestock industries of Colorado that the vigilance and work of the

scabies and mange program, instigated many years ago, be continued indefinitely in our state. This necessitates a continuous inspection and permit procedure for handling livestock from areas not certified free of scabies or mange by the chief livestock sanitary official of the state of origin."

Under the procedures of this program, a constant inspection program is held for:

- 1) All registered quarantine feedlots for cattle and sheep;
- 2) All livestock auction consignments;
- 3) All terminal market and slaughter consignments; and
- 4) All interstate shipments of livestock.

If scabies is discovered in a herd or band, the livestock are immediately quarantined and the condition confirmed as to one of four types of mites. Treatment by official dipping is started as soon as facilities are available and the movement of livestock into or from the herd is traced as soon as possible. Adjoining herds are then placed under quarantine and closely examined in preparation for treatment. Infected herds receive two or more treatments at 10- to 14-day intervals, and exposed herds (those immediately adjoining the infected herds) are given at least one treatment.

At the same time, cleanup and treatment is also sought of barns, feedbunks and posts or rubbing trees within the lots having infected cattle. The release from quarantine is given when all requirements have been fulfilled, but inspection and surveillance of the livestock continues at 60- to 100-day intervals for a period of at least one year.

Dairy Herd Approval--The dairy herd approval program for Grade A fluid milk production is a cooperative effort between the state agriculture department and state, county, and municipal public health agencies. Under this program definite health qualifications are established for animals producing Grade A fluid milk that will eventually reach the consumer as a finished product. The program's objective is to reduce the incidence of disease or physical involvement in dairy animals which might be transmitted to man or other animals through contact or use of the finished product. The primary diseases included under this program are brucellosis and tuberculosis.

Dairy herd approval certificates are issued by the Veterinary Section to the herd owners requesting them when the livestock involved can qualify under the required health regulations. At the close of fiscal year 1959, there were approximately 2,500 dairy herd approval certificates in current standing. During that year, 191 new certificates were issued and approximately 50 dairy herds were dispersed.



Dairy operations in this state range from small dairies of 15 to 20 cows near outlying communities, with the milk production designed for local consumption, to larger herds of 80 to 200 cows located in the valley areas of milksheds which supply such communities as Denver, Pueblo, Colorado Springs, and Fort Collins. The state veterinarian adds that "imports for replacement have tended to increase the possibilities of an increased incidence of brucellosis and tuberculosis problems."

Swine Disease and Garbage Cooking and Feeding--The more common swine diseases are hog cholera and associated complications; swine erysipelas; swine influenza and pneumonia; infectious rhinitis; swine dysentery and coccidiosis; ergot and chemical poisoning; and acute parasitism. At one time, in 1952, vesicular exanthema was a threatening disease problem over the country but did not occur in Colorado. However, a Governor's Proclamation in 1952 enabled a program of garbage cooking to be established. From this program, other additional benefits have been recognized. For example, the causative agents of most of the infectious digestive disturbances and associated toxic factors appear to be destroyed by cooking. In addition, most feeders agree that cooking of grains and garbage releases amino acids and carbohydrate factors in such a manner that feed conversion is increased markedly.

The Veterinary Section plans to inspect each garbage cooking operation and equipment monthly and, if program requirements are not being followed, the premises and swine are quarantined. The swine may be slaughtered on special kill only and must be handled as processed pork when entering interstate commerce. As of September, 1959, there were 89 quarantined garbage feeding plants registered for approved operation. Two Colorado feeders are feeding raw garbage to approximately 300 swine and are under strict quarantine.

Colorado swine feeders normally market about four to six thousand hogs per month the year around. Most of these are consigned to federally-inspected slaughtering plants within the state; some are exported to California and Texas for slaughtering.

Section Personnel. The staffing pattern of the Veterinary Section consists of the following positions: state veterinarian, assistant state veterinarian; three livestock disease control inspectors; one senior clerk-stenographer; one intermediate clerk-stenographer; three intermediate clerk-typists; and a laboratory assistant.

In addition to the aforementioned positions, the Veterinary Section relies heavily on assistance from practicing veterinarians. All licensed, accredited veterinarians in Colorado are designated as deputy state veterinarians and, through prior arrangement with the Colorado Veterinary Medical Association, the veterinarians in each of the 11 districts of the association within the state regularly select one from their number who is designated as the District Deputy State Veterinarian. These latter persons may be called upon to work with or to represent the Veterinary Section in cases of emergency disease outbreaks.

Further, approximately 40 practicing veterinarians are officially appointed as "auction veterinarians" and see to the proper health of livestock being offered for sale at various livestock auctions throughout the state. Many of the auction veterinarians are responsible for the proper testing and vaccination of livestock before issuing a health certificate on shipments designated for interstate shipments. The use of practicing veterinarians gives the section a potential team of approximately 100 practitioners.

Also, the Animal Disease Eradication Division of the United States Department of Agriculture has augmented the section's staff by working closely with the state force under their instructions in emergency cases until state personnel were available. As the occasion demanded, the federal division has provided the Veterinary Section with the services of 8 to 11 additional veterinarians and 13 laymen.

Federal assistance is also received in the joint state-federal operations of the brucellosis laboratory. While the state furnishes the physical plant and one laboratory helper, the federal government provides the services of one veterinarian and two laboratory technicians. All of these persons work under the direct supervision of the state veterinarian.

Along this line, state-federal animal disease control and eradication programs are undertaken under cooperative agreements between the state and federal authorities. Efforts toward control and eradication of communicable animal diseases within the different counties are primarily the function of the state authority. The direct jurisdiction of the federal government extends only to interstate movements of livestock from districts where such diseases are known to exist. The authority to enforce local quarantines on farms or individual premises and to compel the destruction or treatment of infected or exposed animals rests entirely with the state. Consequently, the work of these state-federal cooperative projects is done chiefly under state laws and regulations.

### Poultry and Egg Section

The Poultry and Egg Section of the Animal Industry Division administers the poultry law (7-10-1 through 7-10-10, 1953 C.R.S.) and the egg law (7-11-1 through 7-11-6, 1957 C.R.S. Supplement). At present, the personnel of the Poultry and Egg Section consists of a supervisor, assistant supervisor, nine agriculture inspectors, one senior clerk-stenographer, and one clerk-stenographer. The section also employs temporary clerical help on occasions, usually during license renewal periods (beginning July 1 for poultry dealers and January 1 for egg dealers).

Colorado Poultry Law. Most of the present Colorado poultry law was enacted in 1937 and has remained unchanged since that time. Among other things, this law provides for the licensing of persons

engaged in the retail or wholesale buying or selling of live market poultry and the licensing of persons engaged in wholesale buying or selling of dressed poultry. Poultry in this case is defined to include chickens, turkeys, ducks, geese, and pigeons.

In 1951, with the enactment of Sections 7-10-9 and 7-10-10, 1953 C.R.S., all dressed poultry and rabbits in Colorado are to be identified "as to grade and place of processing, by clips, tags, or other acceptable method, approved by the department of agriculture." While the 1951 amendment did not include any new license fee provisions or changes in the 1937 schedule, the Colorado agricultural commission was authorized to establish "fees and inspection costs as may be necessary for the administration of sections 7-10-9 and 7-10-10," after consulting with industry representatives on this matter.

Concerning duplicate inspections resulting from overlapping statutory authorizations to more than one state agency, the poultry law as passed in 1937 (Section 7-10-5 (4), 1953 C.R.S.) provides that "any person defined as a dealer by the article engaged in the slaughtering and dressing of market poultry, shall maintain the premises where such dressing is practiced in a healthful and sanitary condition at all times." On the other hand, Section 66-1-7 (16), 1953 C.R.S., which was enacted in 1947, charges the State Department of Public Health with the responsibility of administering and enforcing sanitary standards for slaughtering establishments.

A cooperative agreement has been made between the agriculture department and the public health department which designates the agriculture department as the official state agency for the enforcement of sanitary regulations for poultry slaughtering establishments. This agreement states that, "in view of the fact that the Poultry Section heretofore has administered sanitary control covering the poultry industry, it was felt that in the interest of economy, good administration and to eliminate duplicate inspection that continuation of the work under the Poultry Section was advisable."

Colorado Egg Law. The current Colorado Egg Law was enacted in 1956, replacing a 1933 act which had remained in effect in almost its original form for some 23 years. The license fee schedules adopted in 1956 were revised in 1957 as a result of objections raised by some members of the egg industry, primarily the retailers.

The objectives of the 1956 law are generally much the same as those found in the earlier act of 1933. As reported by the agriculture department, these include:

- 1) Promoting and developing the egg industry.
- 2) Preventing the sale of eggs which are unfit for human food.
- 3) Preventing fraud and deception in the sale of eggs.

- 4) Encouraging greater consumption of eggs by regulating and standardizing the grade classification and labeling of all shell eggs offered for sale to consumers.
- 5) Preventing the importation of uncandled eggs and providing that all eggs imported into the state intended for human consumption must be Grade B or better.

Reportedly, the 1956 laws was designed to strengthen the administrative and enforcement efforts of the Poultry and Egg Section. Some of the improvements included under the revised egg law are as follows:

- 1) A positive prohibition is placed against the importation of inedible eggs into Colorado. (Section 7-11-2 (1) )
- 2) Eggs imported into the state must first be candled and must be accompnied by a certificate stating that the candling had been done. (Section 7-11-2 (1) )
- 3) Eggs must first be graded into their proper consumer grades before being sold in the state. (Section 7-11-2 (1) )
- 4) Eggs must now be kept under adequate refrigeration from the time they are received from the producer until sold to the consumer, with such refrigeration not to exceed 60° Fahrenheit, whereas the former egg law merely required that eggs be kept in a cool place. (Section 7-11-3 (2) )
- 5) Vehicles used to transport eggs, except those used by producers to deliver their own eggs, must be maintained in a sanitary condition and be enclosed to protect eggs from extreme heat or cold. (Section 7-11-3 (3) )
- 6) Eggs advertised for sale in Colorado must include a statement as to their correct grade and classification. (Section 7-11-3 (7) )
- 7) Sale of eggs in carton or containers with evidence of filth or contamination on the outside or inside thereof are specifically prohibited. (Section 7-11-3 (8) )
- 8) A person candling eggs in the state must obtain a candler's license. (Section 7-11-4 (1) )
- 9) Firms engaged in commercial activities such as frozen eggs, liquid eggs, egg solids, egg whites, etc., must be licensed. (Section 7-11-4 (2a) )
- 10) Penalties for violations of the egg law or regulations adopted thereunder are established. (Section 7-11-6 (1) )
- 11) The Commissioner of Agriculture is authorized, after a hearing, to suspend or revoke a license. (However, it has not been necessary to suspend or revoke any licenses since the law became effective in 1956.) (Section 7-11-6 (2) )

Personnel Activities. The Poultry and Egg Section does not employ seasonal or part-time inspectors. However, inspectors paid from the poultry and egg fund work interdependently with inspectors from other sections, and vice versa. Under this system, poultry and egg inspectors will collect samples for the Feed and Fertilizer Section, for example, while in return some of the feed and fertilizer inspectors will inspect poultry and eggs as a part of their routine work. Similar services are also exchanged between inspectors paid from the poultry and egg fund and from the produce dealers' fund.

A general listing of inspection territories and the types of inspections performed is presented in Table 10. As reported therein, while 13 inspectors are engaged in poultry and egg work, the net inspection time performed thereon is approximately the equivalent of ten full-time inspectors, one of whom is the assistant supervisor of the Poultry and Egg Section who spends roughly ten percent of his time in the office.

Poultry and Egg Section employees devote a portion of their time and efforts to disseminating helpful information to producers, dealers, and the general public in order to raise the quality, production, and consumption of eggs in Colorado. For example, after the 1956 egg law was enacted, schools were held throughout the state to explain the new provisions, to assist in training people in the candling of eggs, to demonstrate egg quality, and to suggest methods for producing high quality eggs.

Until about 1956 there seemed to be little effort on the part of egg producers in Colorado to increase their output or to expand their sales in the state. In the Annual Report of the State Department of Agriculture for 1954-1955, it was reported that "according to the most accurate figures available, Colorado is now importing around 75% of her eggs." In 1957 the Poultry and Egg Section launched a program whereby it would help to establish, advise, and assist groups over the state that were interested in developing community egg projects on a commercial basis. Such programs were attempted at Cheyenne Wells, Holly, Eads, Meeker, Haxtun, Greeley, and Longmont, but failed to materialize because the projects could not obtain proper financing. In some communities, private individuals did enter the egg production field as a result of the advice furnished by the Poultry and Egg Section.

In 1957 the Poultry and Egg Section also assisted in the formation of the Colorado Egg Producer's Association, which now has a membership of 130--all interested in marketing Colorado-produced eggs. In October of 1959, this group put on an egg sales-promotion throughout the state urging housewives to buy more medium and small eggs because of surplus quantities of those sizes that develop each year about that time. Using the phrase "Egg-tober," if successful, the program will become an annual sales promotion effort.

Based on available figures, there seems to be room for increased production of eggs in Colorado and higher consumption of Colorado-produced eggs by residents of the state. A special

Table 10

TERRITORIES OF POULTRY AND EGG INSPECTORS  
AND TYPES OF INSPECTIONS PERFORMED

<u>Area</u>	<u>Salary Paid From</u>	<u>Types of Inspections</u>
1. S.W. Colorado (includes Dove Creek, Saguache, San Luis, Cortez)	Poultry and Egg	10% Feed and Fertilizer 90% Poultry and Egg
2. East half of Pueblo and S. Central areas (includes Ordway, La Junta, Branson, Trinidad, Walsenburg)	Poultry and Egg	10% Feed and Fertilizer 90% Poultry and Egg
3. North East area (to the east and north of Aurora to state lines)	Produce	75% Produce and Lockers 25% Poultry and Egg
4. Colorado Springs and Central area (includes Leadville, Fairplay, Monument, Limon, Florence, Westcliffe, Poncha Springs)	Poultry and Egg	10% Feed and Fertilizer 90% Poultry and Egg
5. North Central area (includes Boulder, Greeley, Ft. Collins, Walden, Estes Park)	Poultry and Egg	75% Poultry and Egg 25% Feed and Fertilizer
6. S.E. area (includes Eads, Holly, Camp, Kim, Las Animas)	Poultry and Egg	75% Produce and Lockers 5% Feed and Fertilizer 20% Poultry and Egg
7. N.W. area (to the South of Craig and Steamboat Springs to Ouray, and East of Steamboat Springs and Gunnison to state line)	Feed and Fertilizer	25% Feed and Fertilizer 75% Poultry and Egg
8. East Central area and area to the north from Nunn to Stoneham (includes Bennett, Idalia, Cheyenne Wells, and Hugo)	Feed and Fertilizer	50% Feed and Fertilizer 50% Poultry and Egg

<u>Area</u>	<u>Salary Paid From</u>	<u>Types of Inspections</u>
9. S.E. Denver and Aurora and area to the south of Denver (includes Englewood, Castle Rock, Palmer Lake, and Kiowa)*	Poultry and Egg	100% Poultry and Egg
10. N.E. Denver and area N.E. of Denver (includes Adams City, Ft. Lupton, Keenesburg)	Poultry and Egg	100% Poultry and Egg
11. N.W. Denver and area N.W. of Denver (includes Rollinsville, Broomfield, Golden)	Poultry and Egg	100% Poultry and Egg
12. S.W. Denver and area S.W. of Denver (includes Central City, Breckenridge, Morrison)	Poultry and Egg	100% Poultry and Egg
13. Downtown Denver and mountain area to N.W. (including Kremmling and Grand Lake)	Poultry and Egg	100% Poultry and Egg

Of these 13 inspectors, ten are paid from the poultry and egg fund, two from the feed and fertilizer fund, and one from the produce fund.

\* Assistant supervisor of Poultry and Egg Section who spends approximately ten percent of his time in office and 90% in the field.

Marketing Research Report published by the Colorado Department of Agriculture, January 1959, reports that Colorado consumes about 54 million dozen eggs annually, but only 45.6 percent of that amount is produced in the state -- about 29,400,000 dozen eggs, or 54.5 percent, are imported annually to meet consumer needs.

Obviously, Colorado producers will have to turn to large-scale volume production if they are to compete successfully with the firms now shipping eggs into Colorado. Yet, with the population increasing annually in Colorado, there seems more justification for the development of such ventures. In this connection, the following tabulation reveals the downward trend of egg production in the state despite the population increase, although the differential between national and Colorado egg prices has narrowed over the years.

Farm Production of Eggs, 1950-1957<sup>a</sup>

<u>Year</u>	<u>Total Produced, Colo. (Millions)<sup>b</sup></u>	<u>Total Produced U.S. (Millions)</u>	<u>Price per Doz. (Colo.)</u>	<u>Price per Doz. (U.S.)</u>
1950	433	58,954	33.5¢	36.3¢
1951	399	58,063	45.5	47.7
1952	387	58,068	39.9	41.6
1953	356	57,891	46.4	47.7
1954	347	58,933	36.3	36.6
1955	336	59,496	38.3	38.9
1956	335	60,877	38.3	38.7
1957	310	60,448	34.5	35.2

a. Colorado Agricultural Statistics, Colorado Department of Agriculture, April 1959, p. 92.

b. Includes eggs consumed on farms.

In regard to poultry promotion, during the past four years turkey growers, with the assistance of the Poultry and Egg Section, have instituted a program designed to increase their sales. Under the turkey program, five promotional times are scheduled each year - Easter, Midsummer Turkey Time, Colorado Turkey Week (in 1959, September 24 - October 3), Thanksgiving, and Christmas. These events are financed by a voluntary check-off of a penny a poult from producers.

The largest chain-store firm in Colorado and the largest independent retail group have informed the agriculture department that their sales of turkey have increased 100 percent in the past four years. Both firms gave much credit to the promotions held by the Colorado Turkey Foundation.

From 1949 through 1958, turkey production in Colorado almost doubled, as reported in the following tabulation. At the same time, however, Colorado turkey production did not keep pace with production in the rest of the nation, the percentage grown in Colorado dropping from 1.85 percent in 1949 to 1.70 percent in 1958 of the total national production.



## Turkey Production - Colorado and United States

1949 - 1958

<u>Year</u>	<u>Turkeys Produced</u>		<u>% Produced in Colorado</u>
	<u>Colorado</u>	<u>United States</u>	
1949	759,000	41,019,000	1.85
1950	720,000	44,134,000	1.63
1951	721,000	53,055,000	1.36
1952	722,000	62,117,000	1.16
1953	635,000	59,626,000	1.06
1954	896,000	67,507,000	1.33
1955	859,000	65,410,000	1.31
1956	1,161,000	76,527,000	1.52
1957	1,183,000	80,967,000	1.46
1958	1,325,000	78,124,000	1.70

The promotional program for the turkey industry sponsored by the Poultry and Egg Section during the past four years has recently been transferred to the Marketing Division of the agriculture department.

### Feed and Fertilizer Control Section

The Feed and Fertilizer Control Section of the Animal Industry Division has as its general responsibilities the enforcement of the laws and regulations governing the control of commercial feeding stuffs and commercial fertilizer and fertilizer materials in order to protect the manufacturers and purchasers thereof. These responsibilities include the following functions:

- 1) Review labels as to conformance with statutory provisions; this examination involves some 4,000 different registrations and labels as well as advising manufacturers in regard to new or revised labels.
- 2) Maintain an enforcement program against adulterated, low-grade, and short-weight feeds and fertilizers.
- 3) Operate a standards laboratory to perform chemical and microscopic examinations of feeds and fertilizers.
- 4) Approve the registration of commercial feeds, feeding stuffs, commercial fertilizers, fertilizer materials, soil conditioners, and soil amendments that fall within the scope of the statutory provisions.
- 5) Approve the terminology of ingredients, minerals, antibiotics, coccidiostats, anthelmintics, arsenicals, salmonellastates, hormones, anti-ketogenic agents, etc., to be used in the labeling and advertising of commercial mixed feeds and fertilizers to conform with the format of the Federal Food and Drug Administration, the Association of American Feed Control Officials, and the Association of American Fertilizer Control Officials.

- 6) Investigate complaints relative to commercial feeds and fertilizers not registered or inferior as to grade, type, quality, and weight.
- 7) Compile statistics and publish annually the Commercial Feed and Fertilizer Bulletin of analyses, tonnage, etc.

Personnel Activities. To administer the Commercial Feeding Stuffs Law of 1929 (Section 8-14-1 through 8-14-12, C.R.S. 1953) and the Commercial Fertilizer Law of 1937 (Sections 6-13-1 through 6-13-18, C.R.S. 1953, as amended), the following personnel program is used: supervisor, two agriculture inspectors, chief chemist, senior agriculture chemist, two agriculture chemists, one full-time clerk-stenographer, and temporary help.

One of the two agriculture inspectors is stationed in Denver and the other is located in Grand Junction. Generally, the Denver-based inspector handles the inspection load on the eastern slope and serves as general trouble-shooter, while the other inspector works the western slope. In addition, both men also perform services for the Poultry and Egg Section.

By the same token, the Feed and Fertilizer Control Section receives cooperative part-time services from three poultry and egg inspectors (in Colorado Springs, Longmont, and Pueblo) and two produce dealer inspectors (Arkansas Valley and San Luis Valley). However, this represents a reduction in inspection services from other sections compared to a few years ago when the Feed and Fertilizer Control Section had as many as nine such part-time inspectors.

On the basis of present schedules, the section programs a tour of an area once every six weeks. This may vary, however, depending on seasonal demands. Sales of commercial feeds reach a peak from October through May, and sales of commercial fertilizers have two peak periods--from February through May and again in August and September. "Specialty" fertilizers sold in cities maintain a peak throughout the summer months.

Promotional and educational activities of the section are limited for the most part to conferences at the colleges and universities on the use of fertilizers. As the name of the section implies, it functions more as a "control" agency and does not regard promotional and educational work as one of its major activities.

### Dairy Section

In general, since 1949 state governmental activities in connection with the dairy industry in Colorado have been divided between the State Department of Agriculture and the State Department of Public Health. This latter agency handles that part of the dairy industry engaged in providing fluid milk for human consumption while the Dairy Section of the agriculture department is responsible for manufactured dairy products such as butter and ice cream.

Historically, the office of State Dairy Commissioner was established in 1885 by the Colorado General Assembly. Financed entirely by appropriations for the first 38 years, relatively minor license fees were added in 1923 which helped to support the activities of the dairy commissioner. In 1947, a large part of the responsibilities of the dairy commissioner were transferred to the state public health department.

Two years later, in 1949 when the agriculture department was established, the office of dairy commissioner was replaced by the chief of the Dairy Section within the State Department of Agriculture. At the same time, the General Assembly transferred back some of the duties which had been previously assigned the public health department in 1947.

Specifically, the activities of the Dairy Section are governed by Section 6-1-4 (2-4-6-8-14-17-18-19-20-21), Sections 7-8-1 through 7-8-32, 1953 C.R.S. as amended, and by Senate Bill 101, 1959 Session. Included in these legislative assignments of function and duties are the following:

- 1) Enforcing minimum sanitary, bacteriological, chemical and physical standards for the manufacture, processing, and distribution of manufactured dairy products and for the raw milk, cream, and other ingredients used in these products.
- 2) Administering the butterfat testing program for all milk and cream bought and sold in the state.
- 3) Promoting and fostering the dairy industry through enforcement, consultation, and other service activities.
- 4) Providing official inspection and grading services for dairy plants under the U.S.D.A. program by duly-licensed employees within the section.
- 5) Carrying out licensing requirements of the dairy law for dairy manufacturing plants, counter freezer establishments, cream buying stations, milk and cream samplers, testers and graders, and bulk tank truck operators.
- 6) Providing standards of identity for ice cream, ice milk and other frozen dairy desserts, butter, cheese, evaporated and condensed milk, and other manufactured dairy products or imitation products.
- 7) Conducting a diversified laboratory program which includes performing chemical, physical, and bacteriological analyses on dairy products, ingredients, materials, and compounds used in dairy manufacturing processes. Analyses are also conducted on imitation products, water, additives and other chemical compounds.
- 8) Administering the Oleomargarine and the Filled Dairy Products Acts.

9) Collecting dairy production and manufacturing figures, analyzing trends, and investigating dairy industry changes in cooperation with the U. S. Department of Agriculture.

Inspection Schedules. The Dairy Section has the following personnel: chief, deputy chief, three inspectors, chemist, and secretary. The three inspectors as a rule devote their full time to dairy field work. The deputy chief spends part of his time in the field as does the chief of the Dairy Section. Also, the chemist, while spending most of his time in the laboratory, will do some plant work. The section does not employ part-time or seasonal employees.

Since most of the section's work is located along the eastern slope, all inspecting personnel work out of Denver under schedules determined by the section chief. No set schedules or inspection territories are assigned individual inspectors, but one has tentatively been prepared for possible use in the future. Present schedules are varied from time to time to avoid "anticipated" inspection.

Each year the Dairy Section prepares a rather detailed report on its inspection and laboratory activities for inclusion in the agriculture department's annual report. While this information probably reflects a substantial amount of day-to-day activities within the Dairy Section, the head of this section cautions that, due to the press of other work, complete figures on the various activities are not always recorded and hence are not included.

With this reservation in mind, the information in these annual reports is presented in Table 11. Much of the data therein appears to reflect the changing conditions within the dairy industry itself and the number and types of licenses issued by the Dairy Section.

For example, station inspections decreased substantially during the ten-year period, as did plant inspections to a lesser degree. On the other hand, however, despite the substantial increase in licenses issued for counter-freezer establishments, the annual number of counter-freezer inspections therefor remained about the same, averaging generally between 900 and 1,000 inspections per year.

Variations from year to year may be noted in Table 11 for some of the reported activities. Some of these, such as the increase in gallons of cream graded in 1954, 1955, 1956, and 1957, represent intensified section programs. Others, such as the decrease in cream graded in 1959 and the general decline in container cans inspected, result from lower production or useage than formerly was the case.