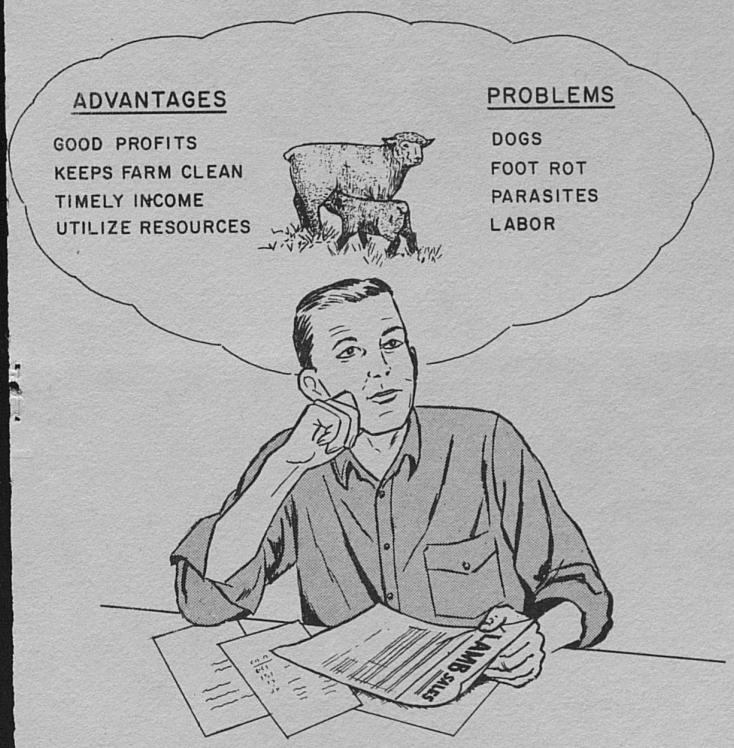

PROGRESS REPORT 102
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Advantages and Problems in

SHEEP PRODUCTION

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ADVANTAGES AND PROBLEMS IN SHEEP PRODUCTION

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Sheep numbers in Kentucky have been on a general decline since 1942. In 16 of the past 20 years the number of ewes (1 year old and over) on Kentucky farms on January 1 has been less than the preceding year. In the 4 years that the number of ewes increased, the increases were 10,000 or less. On Jan. 1, 1936 the largest number of ewes (1 year old and over) was recorded. [1]

Farmers through the years have said that raising sheep was one of their more profitable livestock enterprises. Even though farmers think sheep are profitable, nevertheless number of ewes and number of farms raising sheep have continued to decrease. This apparent inconsistency has brought concern to agricultural leaders. As a result, a study was started in 1958, entitled "The Role of Sheep in the Farm Business on Central Kentucky Farms." The general objectives were to study (1) the relative profitableness of the sheep enterprise and (2) problems sheep producers encounter. This report deals with the second objective.

The Inner Bluegrass Area was chosen for the study because of the heavy concentration of sheep and consistency of soil type and topography (Fig. 1). A random block sampling procedure was used to determine the farmers to be interviewed. Within each sample block, farmers were interviewed who raised sheep in 1957 or had raised sheep during the 10-year period from 1948 through 1957. During the summer and fall of 1958, interviews were taken on 156 farms. Even though the study was made in the Inner Bluegrass Area, the advantages, opinions, and problems apply in a similar way to sheep production in the whole state.

REASONS FOR CONTINUING AND ACQUIRING SHEEP ENTERPRISES

ADVANTAGES IN RAISING SHEEP

Of the 137 farmers interviewed who raised sheep in 1957, 129 farmers gave the following advantages (the number of times each one was mentioned appears in parenthesis): good profit and supplement other income (83); keeps farm clean from weeds and bushes (56); money comes in at a good time (39); uses a relatively small amount of labor which occurs mostly in slack seasons (27); low cost and investment livestock enterprise (12); uses barn space, home produced feed and/or pasture that would not be used (7); and diversifies and balances farming program (7). Only 8 farmers indicated that they could not see any advantage in raising sheep.

[1] Estimates of livestock on farms by classes began with the year 1920.

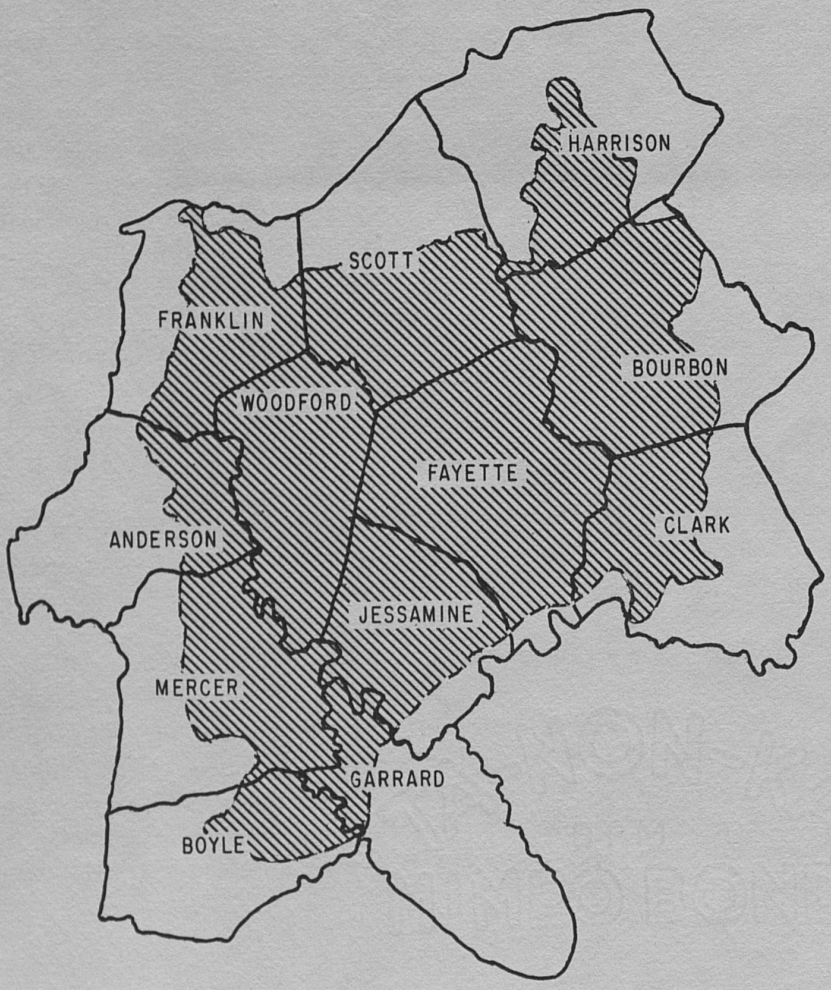

Fig. 1. - Sample area - Inner Bluegrass Area of Kentucky (shaded portion).

Good Profit and Supplementary Income

Good profit and supplementary income was the advantage mentioned most often by farmers; however, this may be the result of several advantages that lead to good income. Sheep use labor, barn space, pasture, and home-produced feed which are either in surplus or have a low market value on many Kentucky farms. When these resources have little or no alternative use or have a low market value, the cost is low to the sheep enterprise.

Most of the labor requirement for sheep is at lambing time during January, February, and March. Family labor is usually underemployed in productive work during these months. If family labor has no alternative use it has a zero value. Hired labor during these months is more available and less costly.

Sheep can be housed in tobacco barns with little or no extra expense when the tobacco is taken down before lambing time. Some farmers do use a small amount of labor and materials to make barns warmer and more convenient. A portion of the maintenance and depreciation of the tobacco barn can be charged to the sheep enterprise. This lowers the cost of housing tobacco, or the shelter for sheep can be assumed as a free resource because the tobacco barn would not be used at this season of the year if sheep were not housed in it. Either method of allocating costs results in a gain to farm income because of more efficient use of the tobacco barn.

A large part of the feed for sheep can be produced on the farm. About half of the sheep producers buy molasses which aids in preventing ketosis and/or some other type of commercial feed generally high in protein. The cash cost of commercial feeds, however, is small in relation to the value of home-produced feed used by sheep. Roughages produced on most Kentucky farms are not in sufficient quantity or marketable form to demand a good price. These roughages can be used very effectively by sheep.

Sheep provide a means of marketing pasture. Because of rolling land, Kentucky farms produce a large amount of pasture which is usually unmarketable. Sheep can transform this unmarketable crop into a marketable product. Also, under good grazing practices sheep may improve pasture by removing weeds and bushes.

Sheep enterprises have several advantages for farms with limited operating and investment capital. Farms heavily burdened with debt, tenant operated farms where the tenant is required to own half of the livestock and small subsistence type farms are examples of capital limited farms. The use of off-season labor, home-produced feed, and pasture by sheep reduces the requirement for operating capital compared with some other livestock enterprises. Use of the tobacco barn, relatively low cost of equipment, and relatively low investment cost of breeding stock lowers the requirements for investment capital.

Timeliness of Income

Timeliness of income from sheep is an advantage to capital-limited farms. The sale of wool in the spring and lambs through the summer months distributes the income and gives the capital-limited farmer an opportunity to use income to buy supplies and production needs during the cropping season. On farms where tobacco is the major source of income, sheep provide income at times of the year when it is needed in crop production.

REASONS FOR STARTING SHEEP ENTERPRISES

In the sample area during the 1948-57 period, 58 farmers started sheep enterprises. Forty-eight of these farmers gave the following reasons for starting the sheep enterprise (times each was mentioned in parenthesis): good profit or to supplement income (20); clean up weeds and bushes on the farm (8); tenant, landlord, or partner wanted sheep (6); started farming or moved to a farm raising sheep (6); to utilize surplus pasture, land, or barn room (5); thought sheep would make more money than cattle

(4); stability of sheep enterprises (3); likes to work with sheep (3); and others[2]. Ten farmers did not give any reasons for starting the enterprise..

PROBLEMS OF SHEEP PRODUCTION

DISADVANTAGES OF RAISING SHEEP

The question was asked of 137 farmers raising sheep in 1957: "What disadvantages, if any, do you see in raising sheep?" A total of 93 farmers gave 137 disadvantages: some farmers gave more than one (Table 1). Forty-four of the farmers (32%) said they did not see any disadvantage to raising sheep. The disadvantages mentioned most were dogs, foot rot, parasites, trouble at lambing time, and difficulty combining sheep with other livestock enterprises.

Table 1. - Disadvantages of Raising Sheep as Stated by 137 Farmers -- Number and Percentage of Farmers Stating Each Disadvantage[a]

Disadvantage	No. of farmers	Percent of farmers	Disadvantage	No. of farmers	Percent of farmers
No disadvantage	44	32	Make paths on farm	5	4
Dogs	30	22	Pasture problems	3	2
Foot rot	30	22	Short life of sheep	3	2
Parasites	18	13	Not making as much money as used to	2	1
Trouble at lambing time	15	11	Farm arrangement not suitable	2	1
Difficulty combining with other livestock enterprise	11	8	Too much expense	2	1
Labor problems	7	5	Miscellaneous[b]	9	-

[a] Percentages do not total 100 because some farmers gave more than one disadvantage.

[b] Included the following: do not like sheep; sheep need expert care, gentleness, and patience, shearing hard to get done; maggots in a wet year; easily disturbed and temperamental animals; smell of sheep; cannot tell what is wrong with lambs before they die; price of feeder lambs sometimes too high; and requires the lowest type of mentality and will drive anyone insane..

[2] Low investment livestock enterprise (2); replaced decreased tobacco allotment (2); makes a more balanced farming program (2); stopped raising sheep to clean up foot rot and bought back later (2); went out of Grade A dairy into sheep because of labor difficulties (2); bought an additional farm and wanted some livestock on it (2); and got the farm in shape to carry sheep (1).

The Dog Problem

Dogs are one of the most aggravating problems in sheep production over a long period of time. Approximately one out of four farms raising sheep has one or more sheep killed every year.

Farmers in the sample area were asked how many of their sheep had been killed by dogs in 1957, 1956, 1955 and 1954. The number of farms in the sample area raising sheep each year, number of farms that had sheep killed, number of sheep killed, average for farms losing sheep, and average for all farms in the sample area are presented in Table 2. To show the magnitude of the problem, each year's loss has been expanded to the Inner Bluegrass Area.

Table 2. - Number of Sheep Killed by Dogs in the Sample Area and Inner Bluegrass Area[a]

Year	No. of farms in the sample raising sheep	No. of farms reporting sheep killed	No. of sheep killed by dogs	Average for farms reporting sheep killed	Average for all farms in the sample raising sheep	No. of sheep killed in Inner Bluegrass Area[a]
1957	137	34	178	5.2	1.3	2847
1956	131	35	240	6.9	1.8	3839
1955	127	24	160	6.7	1.3	2559
1954	121	21	115	5.5	1.0	1839

[a]Calculated by multiplying the number of sheep killed in sample area by an expansion factor of 15.9959.

Data are only given for those farmers who gave the number of sheep killed by dogs. Some farmers who said they had some sheep killed could not estimate the number (three in 1956, six in 1955, and seven in 1954). If we assume this latter group of farmers to have had the average number of sheep killed, the expanded figures for the Inner Bluegrass Area would be 4,175 sheep killed in 1956; 3,199 sheep in 1955 and 2,447 sheep killed in 1954.

Damage other than killing is caused when dogs attack sheep flocks. Many times sheep are "torn" or "chewed" and require a long time to recover. Excitement during a dog raid causes ewes to lose lambs, or ewes and lambs may go off feed. The general temperament of the flock may be changed, and the sheep become more difficult to handle.

Ways of Preventing Loss From Dog Raids

Fifty farmers who did not have a problem with dogs gave the following ways they avoided damage to sheep from dogs (number of times each answer was mentioned in parenthesis): killed dogs that came on the farm (12); kept sheep close to house or barn (10);

shot at dogs to scare them (6); called dog warden to pick up stray dogs (5); watched for dogs (4); kept dogs of their own to help handle the sheep (2); and others[3]. Nine of the farmers said dogs did not seem to be a problem or did not answer.

Eighty-four farmers who had problems with dogs gave the following ways they met these problems (number of times each method was mentioned is in parenthesis following the statement): shot at dogs with intent to kill (39); nothing done about the problem (10); called the sheriff or dog warden (9); went to the owner of the dogs (7); carried insurance (6); shot at dogs with intent of scaring (4); watched for dogs (3); and others[4].

Commercial insurance is used to cope with the dog problem. Fifty-two farmers or 38 per cent of the 137 farmers had their flocks insured (one farmer did not buy insurance until after he had some sheep killed). Of the 52 farmers who had insurance, 10 farmers had never lost any sheep because of dogs. They had been raising sheep an average of 7.6 years compared with 15.4 years for the insured group who had lost sheep. On the 85 uninsured farms, 34 had never lost sheep because of dogs. Practically no difference existed in the average number of sheep killed per farm per year between 42 insured farms and 51 uninsured farms on which dogs had killed some sheep[5]. When both farms losing and not losing were added together, however, the average loss per farm per year on the insured farms was 0.86 sheep while on the uninsured was 0.7 sheep.

State payments for sheep killed by dogs is another way farmers recover some of the loss. This method, however, is not available many times, or farmers do not turn in losses because of limited funds in the state livestock fund. Farmers were asked if they applied for state payments. Of the 137 farmers raising sheep in 1957, 44 had never lost sheep because of dogs. Thirty-nine of the 93 who had suffered losses applied for payments. The remaining 54 farmers gave the following reasons for not applying: county so far behind in payments or owner would never get paid[6] (21); no particular reason (15); did not know it was available (4); did not want to bother making application (4); and others[7].

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[3]Check sheep daily (1); keep goats with sheep (1); try to fix the barn so dogs cannot get in (1); and dog warden does an excellent job (1).

[4]Tried to find out who owned the dogs (2); turned in sheep that were killed (2); pastured cattle and sheep together (2); tried to keep sheep close to barn at night (1); moved a dog off the farm that was suspicious (1); sprayed sheep with an odor solution (1); and collected $20 from the owner of the dog (1).

[5]The insured group averaged 0.96 sheep killed per farm per year, and the uninsured group averaged 0.95 sheep killed per farm per year.

[6]Farmers referred to the payments made by the state livestock fund as county payments.

[7]Lambs were too small when killed (2); too late when dead sheep were found (2); had insurance and did not think they could turn losses in (2); forgot about it (1); did not get around to it (1); had too few (1); and dog warden did not know how to handle it (1).

Of the 39 farmers who applied for state payments, 23 received payments (some for only part of the years), 15 did not receive any payments, and 1 could not remember.

Farmers were asked if there had been any sheep killed by dogs in their neighborhood (excluding their farm) in the past few years. The 137 farmers answered as follows: yes (95); not that he knows of (29); not around close (9); not in recent years (2); and no answer (2).

The risk of loss to the sheep enterprise from dogs is always present even though some sheep raisers have never experienced a loss. Of the 30 farmers who gave dogs as a disadvantage of raising sheep, 3 farmers never had lost sheep due to dogs; 12 farmers had lost less than one sheep per year; 9 farmers had lost from one to two sheep per year; and 6 had lost over two sheep per year.

Answers for improvement of the dog law were given by farmers as follows (number of times each one was mentioned in parenthesis); better enforcement (65); does not think it could be improved (32); not familiar with dog law (29); make people tie or confine dogs at night (6); thinks the law could be improved but does not know how (5); raise the dog tax (4); and others[8].

Managment practices are helpful in combating the dog problem. Some of these practices farmers can follow are:

1. Keep sheep close to barn and house at night (it may be desirable to put sheep in a lot[9] or barn at night in communities where attacks are frequent).

2. Take a look at the flock during the day.

3. Call the dog warden or sheriff when stray dogs are seen in the area.

4. Call the dog warden immediately in cases of damage or deaths to sheep or other livestock.

5. Inform themselves and the people with whom they have contact about provisions of the dog law. [10]

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[8]Something should be done with people "dropping" (abandoning) dogs (2); make owner of dog pay damages (2); limit the number of dogs per family to one (2); speed up payments for sheep killed (2); allow farmers to kill dogs bothering them (1); hire a good dog warden (1); educate farmers about dog law (1); put vaccination and licensing both under control of dog warden (1); increase penalty for not licensing (1); and control female dogs (1).

[9]Frequent use of a lot may increase the intensity of parasite infestation.

[10]Information on the dog law can be obtained from the State Deparment of Agriculture, Dog Law Section, Frankfort, Kentucky.

Farmers through organizations and group action, should strive to:

1. Educate the membership and people in the community on benefits, provisions, and penalties of the dog law.

2. Keep the fiscal court informed on conditions in the county.

3. Encourage the fiscal court to hire a competent, conscientious dog warden and to provide him with adequate facilities to perform the duties of this office.

4. Invite the dog warden to meetings when discussions pertain to the fulfillment of his job.

5. Encourage the dog warden to publicize his office address and phone number and to make purchase of licenses and reporting of trouble with dogs as convenient as possible.

Foot Rot Problem

Foot rot has plagued sheep producers for many year. This disease has been on the increase, especially in the past four or five years. Since this report covers the period through 1957, it will not reflect the seriousness of the problem. Many animal husbandry specialists and producers think foot rot is the most serious problem facing sheep producers.

Of 156 farmers who had produced sheep during the 1948-57 period, 43, or 28 per cent said foot rot had been a problem. Slightly over one out of four sheep producers had experienced a problem with foot rot. Expanding the sample to an area basis indicates that 688 sheep producers in the Inner Bluegrass Area have had a problem with foot rot.

The extent of damage to each flock is not known and would be much more difficult to measure than in the case of losses from dogs. Before an extensive amount of measurable damage from foot rot occurs, producers will either bring it under control by treatment or sell part or all of their flock. However, if the results presented above (28 per cent of the producers had a problem with foot rot) are added to the opinion of livestock people that foot rot has even increased since 1957, the magnitude of the problem is made apparent.

Prevention of Foot Rot more Satisfactory than Treatment[11]

Foot rot is a contagious disease, and a clean flock can be infected only from some outside source. The sheep producer who patronizes sales on premises where foot rot is present is likely to take foot rot back to his farm with purchased sheep.

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[11]Richard C. Miller, Extension Sheep Specialist, University of Kentucky, collaborated in writing the sections on prevention and treatment of foot rot.

Foot rot is more easily prevented than cured. As far as possible a farmer should avoid buying sheep that have been exposed to foot rot. Unless he is absolutely sure the newly purchased sheep have not been exposed, he should give them preventive treatment at the farm before they are turned to pasture. The sheep should be placed in a lot, pen or shed that is dry under foot. The feet of each sheep should be carefully examined and any excess growth of horn should be trimmed smooth. Pruning shears or special foot trimmers will lessen the labor, but a sharp knife can be used. After paring the feet, stand the sheep in a foot bath of 5 percent formaldehyde for 10 minutes. An alternative is to smear the pared feet with a suitable medicament such as chloromycetin in methylated spirits.

Do not allow sheep to leave the dry lot or pen until several hours to avoid moisture in the grass destroying the effect of the medicament. The sheep should be held in a pasture separate from other sheep for at least a month, and twice at two week intervals their feet should be carefully examined to detect any trouble.

Avoiding low or swampy areas and muddy barn lots are practices that will prevent foot trouble of non-contagious nature. Trimming sheep's feet periodically as needed (usually about three times a year under Kentucky conditions) is helpful also. These precautionary practices are helpful in preventing contagious foot rot.

Begin Treatment of Foot Rot Upon Discovery of the Disease

Foot rot can be cured, but the treatments are involved. Few farmers succeed in curing foot rot without expert help. In the beginning the farmer who suspects foot rot in his sheep should obtain the assistance of a qualified veterinarian or other persons experienced in curing foot rot.

Parasite Problem

Parasites have troubled sheep producers probably as long as sheep have been produced in Kentucky. Losses from parasites are not as easily measured as losses from dogs. Many times damage is not as easily recognized as in the case of foot rot. Generally, parasites do not cause many deaths except in extremely heavy infestations. The greatest loss from parasites is the loss in gains of lambs and the weakening of general health and condition of the flock.

Of the 156 farmers who raised sheep during the 1948-57 period, 48 (31 percent) said they had a parasite problem. Actual loss and damage was not easily measured, but when almost one-third of the producers have a particular problem, it is large enough to cause concern.

Good Management Practices and Treatment Essential in Parasite Control

Every sheep producer should follow an all-season program of parasite controls. Good management practices should be used in addition to treatment. Finishing lambs early helps control parasites. Early marketing of lambs can be accomplished through proper breeding, early creep feeding, and utilization of small grain cover crops for early pasture. Rotation of permanent pasture and use of temporary pasture also helps control parasites.

Phenothiazine drench and salt did provide sheep producers a relatively easy and adequate method of controlling most internal parasites. During the early to middle 1950's, however, the discovery was made that one strain of the common stomach worm was resistant to phenothiazine. As a result of this resistance, finishing lambs for market became increasingly difficult. Many producers who usually sold all their lambs by the last of August were not selling out until December and sometimes as late as January and February. To combat the resistance of some internal parasites to phenothiazine, recommendations for treatment now include alternate drenchings with phenothiazine and cunic mixture (mixture of bluestone and drench-type black leaf-40).[12]

REASONS FOR DISCONTINUING SHEEP ENTERPRISES

During the period from 1948 through 1957, 31 farmers who were still farming in 1957 had discontinued sheep enterprises.[13] They gave 43 reasons for quitting (some gave more than one reason). Following are the reasons with the number of times each was mentioned in parenthesis: problems with dogs (11); foot rot problems (7); land and/or pasture limitations (7); labor problems (6); operator was growing old and reduced activity in farming (4) and others.[14]

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[12]Recommendations of when to dose, what animals to dose, amounts to use, and method of mixing materials are contained in Kentucky Extension Service Miscellaneous No. 187, "Don't Let Parasites Eat up Your Sheep Profits."

[13]There are at least three reasons for the number of farmers discontinuing sheep enterprises being less than the number who started.

1. Several of those starting sheep enterprises bought, inherited, moved to, or assumed management of farms that had grown sheep in the past.
2. Almost half (28) of those starting during 1948-57 began during the years 1955-57 when there was a small increase in sheep numbers in Kentucky.
3. The farmers included in the group that discontinued were those still farming in 1957. It did not include those who quit farming either by selling the farm, moving away, or because of death.

[14]Did not like sheep and rather raise cattle (1); parasite problem (1); barn space and other physical conditions were unfavorable (1); sheep were getting old (1); sold farm on which sheep were grown (1); landlord would not increase sheep (1); wanted to try cattle (1); and no particular reason (1).

Seven of the 31 farmers who discontinued their sheep enterprises during the years 1948 through 1957 returned to growing sheep during the same period. Only one of those farmers, however, who quit because of dogs replaced his flock. This farmer had never lost any sheep on his farm but his neighbors had suffered heavy losses. He also gave labor problems as a second reason for quitting. Three farmers who discontinued because of foot rot and two who had land and/or pasture limitations returned to sheep production. One farmer who quit because of a parasite problem replaced his flock with a feeder lamb enterprise.

Nine of the eleven farmers who discontinued sheep production because of dogs had an average of 18.4 sheep and lambs killed for an estimated loss of $372.53 per farm the last year they raised sheep. The average size of flock on the nine farms was 49 ewes. Most of these producers had experienced losses in previous years, but their loss in the final year was much greater. Two farmers did not have sheep killed the last year they raised sheep; however, one had suffered heavy losses in past years and the other lived in a community that had lost heavily because of dogs.

SHEEP PRODUCERS' PLANS FOR THE FUTURE

Farmers in the sample area who raised sheep in 1957 were asked if they planned to stay in the sheep business. Of the 137 farmers questioned, 105 answered yes, 21 answered no, and 11 were undecided. Expanding this sample to an area basis means that 1,680 farmers plan to continue raising sheep, 336 plan to quit, and 176 were undecided in the Inner Bluegrass Area in 1957.

Twenty-one farmers in the sample who said they did not plan to continue raising sheep were asked why not. Following are 24 reasons they gave with the number of times each reason was mentioned in parenthesis: foot rot problems (7); dog problems (4); labor problems (4); preference for another livestock enterprise (2); sheep not making money (1); do not like sheep (1); bad health (1); parasite problems (1); not going to rent farm any more (1); low mentality associated with sheep production (1); and no particular reason (1).

Eight of the 11 farmers who said they were undecided about staying in the sheep business gave the following reasons that might cause them to quit: foot rot problems (4); sheep are not making money (2); preference for another livestock enterprise (1); and labor problems (1). Three farmers who were undecided did not comment on what their reasons would be in case they decided to quit.

SUMMARY

Sheep numbers and farms producing sheep in Kentucky have been on a general decline since 1942. On January 1, 1960 there were a little over half (51.4 percent) as many ewes on Kentucky farms as the same date in 1942.

Good profit and supplementing income, timeliness of income, keeping the farm clean from weeds and bushes, and utilizing resources that would otherwise remain unused are the advantages given most by farmers continuing sheep production and acquiring sheep enterprises.

Dogs, foot rot, and parasites are the most serious problems facing sheep producers. About one out of four farms producing sheep has one or more sheep killed by dogs each year. More than one out of four sheep farms have had a foot rot problem. Almost one out of three sheep producers indicated that they had a parasite problem.

Dogs are a problem not only to producers who have suffered heavy losses but to some who have never had sheep killed by dogs and of many whose losses have been light. In many cases producers whose losses have been small live in a community that has experienced heavy losses making the fear of an attack by dogs a real problem.

Most sheep producers think the present dog law is adequate; however, they feel it should be more rigorously enforced.

The foot rot problem has been increasing in recent years and is considered by many producers as the major problem in sheep production at the present time. More producers who planned to discontinue or were undecided after 1957, gave foot rot as their problem.

Sheep producers who discontinue their sheep enterprises because of a large loss from dogs tend to stay out of sheep production. However, some producers who discontinue because of foot rot, parasites, and limitations of land, pasture, or labor do replace their flocks.

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