

# The Jack Rabbit Situation in the Western States

(By R. A. WARD, U. S. Biological Assistant.)

Since the arrival of farmers in the west, jack rabbits have shown a great fondness for all growing crops. At times they have become exceedingly abundant in Texas, Colorado, Utah, Idaho, Nevada, California and Oregon. During these periods of abundance the damage rabbits do to agriculture is enormous and in some localities has resulted in the entire destruction of crops. During the past three winters rabbit investigations for the Biological Survey of the Department of Agriculture, I have witnessed the complete devastation of crops and forage plants in portions of four of our western states namely, Idaho, California, Nevada and Oregon. The extent of this damage would seem unbelievable to those not familiar with existing conditions. Within a ten mile radius of one small Idaho town during the year of 1913 over \$50,000 worth of crops, most of it orchard stock, was destroyed by rabbits. One man contracted his nursery stock for \$5000 only to lose every tree by rabbit damage. Another orchard lost 50 acres of four year old apple trees and 10 acres of pear trees. The owners' estimate of this loss was \$25,000. Numerous similar cases could be cited and is worthy of note that most of the orchards that suffered severe losses were fenced with "rabbit proof" fence. Drifted snow and defective workmanship on the fences admitted the rabbits in large numbers. In the dry farming sections I have seen homesteaders who have lost all crops three years in succession. One of the most severe cases of complete devastation by jack rabbits is in the State of Oregon. I visited a small valley in a neighboring county where after a careful examination of the range, I found the brush grass entirely gone and the sage-brush stripped of foliage to the trees. Practically all of the crops have been eaten and the situation is really pitiful. Most of the homesteaders have left the country and those that have remained will have to choose between starvation and leaving also. These poor people have not the money to purchase fencing and the destruction of the rabbits will be necessary for them to succeed. Having depleted their natural food supply the great hordes of rabbits have left this desolate valley and have migrated across to the hay and stock raising sections in the neighboring valleys where they are at work on hay stacks. At a small drive near Silver Lake on December 19, 1915, 90 people killed 6000 jack rabbits in the drive and the consensus of opinion was that for every 10 rabbits driven into the corral 2 escaped during the drive. The following week the same ground was again driven and 3100 more killed. This drive covered about 4 sections and the present infestation is general over an area many square miles in extent.

**Losses are Heavy.**  
In the course of the concerted poisoning experiment which we have been conducting in Crook county, I have conservative damage reports from 11 poisoning organizations showing that during the year just closed 129 farmers lost \$18,000 worth of crops. No attempt has been made the damage to range though all stockmen complain bitterly of this loss. From these figures it appears that the annual loss for the entire county must exceed \$150,000. It is very evident that the jack rabbit situation is worthy of serious consideration and that systematic measures should be taken to reduce this damage.

For years the Biological Survey has been conducting careful experiments in the control of those mammals injurious to agriculture. The results of these investigations have been gratifying and large areas have been cleared of harmful rodents. Considerable work has been done on the jack rabbit problem and extensive experiments in the eradication of this pest have been and are being conducted.

The various agencies which destroy rabbits are: (1) natural enemies, (2) disease and severe winters, (3) driving, (4) shooting, (5) trapping, (6) hounding, (7) poisoning. Experiments to destroy rabbits by inoculation with an infectious disease have thus far failed notwithstanding rumors to the contrary. The State Livestock Sanitary Board in 1912-13 experimented with a rabbit infection called "anuffles" that had been used in the Australian plagues, but when used under field conditions, the disease did not seem transmissible.

**Natural Enemies.**

In eastern, southern and central Oregon the jack rabbit has several natural enemies. These include most of the large hawks and owls, eagles, bob-cats, coyotes and foxes. The smaller hawks and owls occasionally destroy the young rabbits. Unfortunately in many of the sections where these valuable birds and mammals are needed, they are being ruthlessly killed. It is in fact the absence of these efficient allies that has helped to bring about the present infestation of jack rabbits.

**Disease.**

Severe winters combined with the ravages of the rabbit disease which do more than all else to reduce the great number of rabbits. The winter of 1906 was extremely severe in southern Idaho. For several days followed by a light rain, several days followed by a light rain, snow, then the temperature fell to low zero and remained there for several weeks. The rabbits were unable to stand the cold and many were killed by the frost. The following year the air was foul from the smoke of fires. For four years the rabbits were common and no excess damage in 1910 they appeared

numbers and have been on the increase ever since. Usually when jack rabbits become exceedingly abundant, a fatal disease or epidemic breaks out among them and they totally disappear from vast areas. It appears that this relief is only temporary for I know of beautiful heavily infested where the disease killed large numbers several years ago. The exact nature of the disease is not well known. The throat and lungs of diseased rabbits seem much inflamed, the viscera exceedingly moist, and the flesh and skin dry. According to Major Bendire, this disease is reported to occur with some regularity in southern Idaho and we have since found this to be partially true. Mr. Bendire of our bureau notes that following an epidemic, the litter increases in size for a short period and then declines to normal.

**Driving.**

Driving is resorted to every winter in heavily infested localities as a pleasant diversion. I have attended drives where as many as 9999 jack rabbits have been killed in a day. Although thousands of the pests are killed in this manner, the spasmodic efforts in connection with the management of drives and other factors have proved this an ineffectual method of destroying jack rabbits over large areas. I have known of a few areas driven over which remained free of rabbits for a short period, but usually the rodents swarm in and infest the cleared areas. As it takes from 200 to 400 people to conduct a successful drive, driving can only be resorted to when no other farm work can be done.

**Trapping.**

Trapping about hay stacks and regular feeding grounds with the various forms of fence traps effects the capture of large numbers of jack rabbits. It is not so effective on a large scale as poisoning however.

**Hounding.**

Some ranchers kept large packs of greyhounds, Russian wolf hounds and fox hounds to catch the rabbits. Owing to the abundance of the rodents, the dogs soon lose interest in the sport and this method of eradication has proven a failure.

**Poisoning.**

As there is no profitable way of utilizing the jack rabbit at present, with the possible exception of the few killed for market purposes, the most generally applicable method of destroying them is by the use of poisons. For several winters past the Biological Survey has been experimenting with rabbit poisons. Various baits, such as oats, bran, alfalfa, crushed barley, cabbages, carrots, apples, potatoes, raisins, prunes, sprouts, wheat heads, poisoned salt and poisoned water have been experimented with.

The most effectual poisons which we find it practicable to use at present are poisoned oats and poisoned chopped alfalfa. In our experience the best time for rabbit poisoning proves to be during the cold winter months, when the rabbit's natural food supply is scarce and they are congregated in large numbers about ranches, hay fields or in particularly favorable portions of their natural domain. The use of substantial poisons in corral about 40 feet square within which the poison is exposed is recommended when concerted rabbit poisoning is undertaken on a large scale. The results obtained by the use of these poisons at the hands of the farmers has in most instances been quite satisfactory. In the Crook county work one man reports killing 200 with 8 quarts of poisoned oats, another stock man killed 45 with 2 quarts and one organization killed 240 with 12 quarts. On the other hand some of those who do not follow directions concerning the proportion and distribution of poisoned oats have had poor results. Work of this nature cannot be accomplished without careful study and a couple years more experience will be necessary before the people will learn the most successful method of distributing the poison.

In order to obtain a maximum efficiency economically in co-operative poisoning, the following plan is advised. The infested communities should form community poisoning organizations, the expense to be prorated accordingly. One man should be put in charge of the poison preparation who will make systematic poisoning his business and who will have authority to order a general poisoning when conditions are favorable. Poison should be prepared at a central location thus eliminating to a large extent the danger attendant upon its use. Great care should be taken to prevent accidents and all equipment and utensils used in the preparation of poisons should be kept plainly labeled and out of reach of

children, livestock and irresponsible persons. Community poison corrals should be erected on those places where the jack rabbits are known to be more numerous and the entire locality should be poisoned intelligently including school sections, rocky sage brush plains, juniper-covered buttes and other areas of unhabited land. A good plan is to bait the rabbits to corrals several days previous to poisoning by exposing a few forkfuls of clean alfalfa hay and thus get the rabbits to feeding there regularly. In this way a larger number of rabbits can be killed with a smaller amount of poison than if it were distributed haphazardly through sage brush or on fields. Enclosed hay stacks are ideal bait spots for the exposure of poisons. The personal equation enters into the work here. The careful poison mixer will not expose poisons on windy, stormy, or warm nights when rabbits remain in the brush, but he will visit the bait spots in the evening preceding the poisoning and make sure the rabbits are feeding on the baits. Tracks on the snow are a poor indication of the number of rabbits present as 10 rabbits in a night can track up a small area so that the uninitiated would estimate that at least 75 rabbits had visited the spot. If the rabbits are going to visit the corrals on a certain night a large proportion of them will be feeding there about dusk. Then and only then should poison be exposed. If the rabbit problem is worthy of serious consideration it is also worthy of careful study and the application of business like methods. It is only by such systematic effort as this supported by every person concerned that good results can be obtained. Arrangements should be made to purchase strychnine in 100 ounce lots thus obtaining same at minimum cost.

This plan has been successfully followed in several counties and is essentially the same as the one at present in use in the Crook county experiment. Twenty of these community poisoning associations have been actively engaged in jack rabbit poisoning. Some of these clubs have made good kills and considerable progress has been made this winter. At the end of the first week in February, 19040 rabbits had been poisoned in Crook county. With the 3500 which the Biological Survey have killed at its experiment station in Silver Lake a total of 22540 rabbits have been killed. A letter from the Baker Commercial Club states that by the use of Government formulas, several thousand rabbits were killed this winter in that locality.

**Furs of Little Value.**

The press contains a good deal of rot these days concerning the jack rabbit situation written by poorly informed people who overlook the fact that for several years scientists have been carefully investigating this problem. Considerable has been written concerning the use of rabbit fur and it is popularly supposed to be of value in the manufacture of fur felt hats. This is true to a slight extent. However, native skins are very inferior for this purpose to those of European and Australian rabbits which can be bought in this country for about 5 cents each, so that manufacturers cannot pay over 1 or 2 cents for our native rabbit pelts. At this rate saving the skins would hardly pay.

It is doubtful if success in rabbit extermination on a large scale will ever be attained until all rabbit infested localities throughout the state are poisoning simultaneously. Such an ideal condition will be difficult to bring about and possibly this can only be accomplished by the passing of pest laws. Only temporary relief will be secured by killing them in one locality if the land is to be re-infested with rabbits from adjoining localities. The factor of weather conditions is a very important one in Central Oregon, though not so much so as in the eastern and southern portions of the State where more severe winter weather conditions prevail. It is possible that the mild winters may defeat to some extent our work in Crook county. After the factor of weather conditions is taken into consideration, the success of community poisoning depends entirely upon the progressiveness of those concerned. We can only demonstrate the method, its practicable application over large areas is the farmers' own problem.

However progress is being made and as this work will probably be necessary throughout the next decade I feel that its inception in this particular period is quite timely and will eventually result in considerable benefit to those concerned. In closing I wish to express my appreciation for the constant and efficient assistance of County Agriculturist A. E. Lovell, in the laborious task of arranging for meetings and getting farmers together in Crook county for the purpose of systematic and concerted warfare against jack rabbits.

The Sign of Better Quality Hosiery



When you buy hosiery what do you look for? Do you compare various grades? The Armor Plate Hosiery will stand the closest investigation. HARMS NOT DYE will assure you of a fast color in every pair of hosiery.



Drop in and let us talk this brand of hosiery to you. SHUEY'S

Oregon Transfer Company

OFFICE LOG CABIN CORNER Phone Black 451  
Moving Household Goods Our Specialty Coal and Wood Light and Heavy Freight  
EXPRESS AND BAGGAGE AUTO TRUCK MOVING ANYWHERE YOUR BAGGAGE CHECKED AT HOME



"WOOD-LARK" TRADE MARK SQUIRREL AND GOPHER POISON QUICK, CERTAIN, DEADLY. ALWAYS READY, NEVER FAILS.

Destroys squirrels, gophers, prairie dogs, sage rats. Apply early in Spring when the hungry pests awake from winter's sleep. Money back if it ever fails. "Wood-Lark" for 25 years has stood every test. It's crop insurance against rodent pests. Manufactured by Clarke-Woodward Drug Co., Portland, Oregon. Buy from your dealer.

REED & HORTON.

Good Taste BREAD

Once Tasted You'll Eat No Other

Sanitary Bakery & Grocery

HOPKINS & BEACH QUALITY, mixed with GOOD JUDGMENT

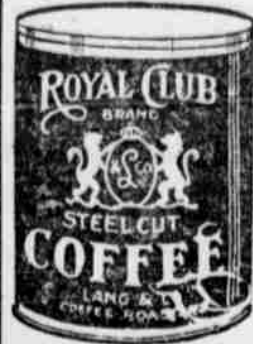


"A-h-h! That's What I Call Real Coffee—"

Thousands of coffee connoisseurs have declared it the finest that money can buy—

ROYAL CLUB

Super-Quality Coffee 1-lb. Tin 40c, 3 lbs. \$1.10, 5 lbs. \$1.75



The Coffee that's blended, aged and neutralized from the finest coffees that money can buy. Roasted, steel cut—and packed in air-tight tins—daily in Portland.

LANG & CO. The "Royal Club" House, Portland, Or.

Baker's Grocery

First Class Goods and Right Prices. What is not right we will make right. Our aim will be to get your Groceries to you on time.

AUTO FREE DELIVERY.

H. E. BAKER

Wall Street, Near Ohio

WOULD BE A ROW. "Enclosed please find a money order for \$1.50, so send me your Bulletin for one year from January 1, 1916, to January 1, 1917. Money was somewhat scarce article for me during last month or two. If you stopped The Bulletin coming to my office awhile, as I want your paper and cannot be without it". The Bend Flour Mill Co. has made a careful selection of suitable seed for spring sowing. Thoroughly cleaned and of the best quality. See list of varieties.—Adv.

HATS

CAPS

Announcing the arrival of our Spring Line of Hardeman's Hats and Caps.

The latest shapes, colors and designs.

A. L. FRENCH

Men's Furnishings

CAPS

HATS

We Have Moved

Our new stock of Spring Goods will arrive this week. Come in and look over a few of our specials. These will be money savers.

Complete stock of Ladies' and Misses' Middle Blouses 50c  
Boys' Blouses 25c  
Dust Caps 10c

OUR NAME IS OUR GUARANTEE



OUR NAME IS OUR GUARANTEE