The jackrabbit in its western habitat

Frederic H. Wagner, Utah State University
THE JACKRABBIT IN ITS

The long ears of the jackrabbit provide a good base for applying markers so that animals may be recognized in the field and their movements followed. A colored, numbered plastic marker has been designed which can be attached to the ear with a numbered, metal tag (left ear of rabbit above).

The average litter size found in the Utah studies was 5.4. Jacks have several litters a year. This high reproductive rate probably contributes to the violent population fluctuations which occur. All photographs in this article were taken by Jack E. Gross and Robert M. Rumsey.

FREDERIC H. WAGNER

From the time the earliest settlers chopped clearings in the eastern forests to grow crops, chased clouds of passenger pigeons from ripening grain on the prairies, or carved the first irrigation canals in the western landscape, the battle with the natural elements has been a major chapter in the history of American agriculture and livestock husbandry. The vagaries of weather and disease organisms, suitability of soil and topography, and competition with weeds, insects, and wild mammals and birds all take space in the chapter. And to a large extent, the productivity of our system is a measure of the degree of control we have achieved over Nature.

A natural adversary of the rancher and farmer

One of the many natural adversaries of the farmer and stockman in the western half of the country has been the black-tailed jackrabbit. This is one of the more abundant, conspicuous, and widely distributed wild mammals in western United States. Since the first farming operations were begun in the West, farmers have periodically been plagued with concentrations of rabbits that move into fields and wipe out many if not all of their crops. Entire grain and alfalfa fields have been clipped off, while vegetables have been ruined and fruit trees barked. Losses over the years undoubtedly have added up to many millions of dollars.

Jackrabbit competition with livestock for range forage is less evident and spectacular than heavy crop damage, but is probably a more general and persistent liability. Arizona studies of jackrabbit forage consumption found that somewhere between 12 and 30 rabbits eat as much forage as one sheep, while 60 to 148 jacks may be equivalent to one cow. Jackrabbit densities commonly run one to the acre, and such populations may eat as much as 4 to 10 cattle, or 20 to 50 sheep, per section. Recent studies at Utah State University suggest that rabbit populations, when high, may

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The age of rabbits can be determined by the condition of the epiphyseal (growth) cartilage in the leg bones. Young rabbits have open lines filled with cartilage (see the wavy, horizontal line just below the head of the bones at left). This gradually fills in with bony tissue as the rabbit gets older until no opening remains in a one-year-old animal (see bones at right of picture).

Eye lens weight is another means for determining the age of mammals. The eye lens grows continuously throughout the life of the animal. When oven-dried, (as above) the weight provides a clue to the animal's age.

From 50 to 150 jackrabbits are collected and autopsied each month in the laboratory. Each animal is sexed, aged, weighed and measured, the reproductive status recorded, and a number of internal organs removed and preserved for future measurement and analysis.

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Cover Picture: Trays containing “puff” dehydrated apricot, sour cherry, and peach juice powders. During World War II research was undertaken to develop powdered fruit juices in U.S.D.A.’s Western Utilization Research Laboratory, Albany, California. In spite of unpleasant memories of dehydrated foods during the war, dehydrated foods have found an important place on American markets because of their ease in handling, transportation, storage, concentrated nutritive value, rapid reconstitution, stability, and above all, high quality. Considerable research work has been conducted in the Albany laboratory on powdered fruit products and as a result several of these powdered juices have been placed on the market. Incidentally, the “puff” dehydration method was developed at the Albany laboratory. Dr. D. K. Salunkhe, associate professor of food science and technology, has been working cooperatively with the Food Technology group at the Albany laboratory for the past ten years on the several projects of mutual interest. The article presented in this issue is a result of cooperative study to determine the feasibility of using Utah-grown fruits for juice powders. Dr. Salunkhe believes that these products have tremendous implications in our economy as well as in food preservation methods.

UTAH FARM AND HOME SCIENCE

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Dr. John E. Butcher, associate professor of animal husbandry, attended a special seminar in statistics during the summer at North Carolina State College, Raleigh.

Dr. J. LeGrande Shupe flew to Ireland during August to testify at hearings on fluorine damage.

Daryl Chase, President
Utah State University

Wyone Thorne, Director
Agricultural Experiment Station

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