

One of the largest cattle empires in the west was developed in Navajo County with headquarters near Holbrook. This was known as the Hashknife Outfit. Burton C. Mossman was in charge of the Hashknife Outfit, and was later made first captain of the Arizona Rangers.

Men from the east recognized the natural aspects of climate, vegetation, and water supply for cattle grazing. The summers were mild, the area abounded in short grass and browse, and the water supply along the Little Colorado River was desirable.

Although the winters are cold, humidity and rainfall are low during the winter, making the climate advantageous for working cattle. This also minimizes the disease and insect problem among livestock.

Archaeologists say the year 200 A.D. was the most likely time that Indians first settled among the headwaters of the Little Colorado River. The Indians could also have been within the area at this time. They grew corn, beans and squash for their food. Although primitive, they continually advanced in the arts of building houses, supplying food, and making utensils.

Droughts, wars, and disease caused them to migrate in and out of the area, and each migration changed their pattern of living. Many Indian ruins are in the area, but none has been systematically excavated for

Amos H. Underwood was born and grew up in Arkansas. After two years at Arkansas State College he went on to the University of Arkansas, where he received his Bachelor of Science in Agriculture degree in 1942.

He was an experiment station assistant one year and a county agricultural agent five years in Arkansas. Then he was a teacher for three years and in the armed forces, with officer rank, for four and one-half years.

Mr. Underwood came to Arizona and Navajo County in July of 1957. He now has the title of county-agent-in-charge at the office in Holbrook.

Heritage of Three Races United in HISTORIC NAVAJO

Amos H. Underwood

archaeological study. Only the lower parts of the stone walls remain intact. These indicate that the habitations contained from two to about 60 rooms. Indian villages are usually built along flood plains, on terraces, knolls or mesas.

Spanish Came in 16th Century

Spanish Conquistadores, the first white men in the area, found the Apache Indians occupying the land. The Conquistadores traversed the Southwest in search of gold and glory. Juan de Onate led a small expedition into the Hopi villages in 1598. On his return trip, the "El Morro," a national monument in western New Mexico, may have taken him to the area. Other Spanish expeditions in the Southwest may have passed this way.

A few Spanish sheep herders entered and settled in the territory in the late 1860's. They were followed by a few cattle ranchers in the early 1870's. This was the period that the Hashknife Outfit was formed.

Mormons Came in 80's

Trading posts were built at Hol-

4-H CLUB MEMBERS in other Arizona counties surely must envy Navajo County 4-H'ers, whose county 4-H camp is on Blue Lake in the White Mountains. In the photo below, fishing seems to top the program.

brook in 1870 and in Show Low in 1872. During the 1880's the Mormons migrated from Utah to establish permanent settlements in Arizona. These were primarily farmers who developed irrigation systems and dry land farming over the county. Along about this time, the railroad helped further develop the area.

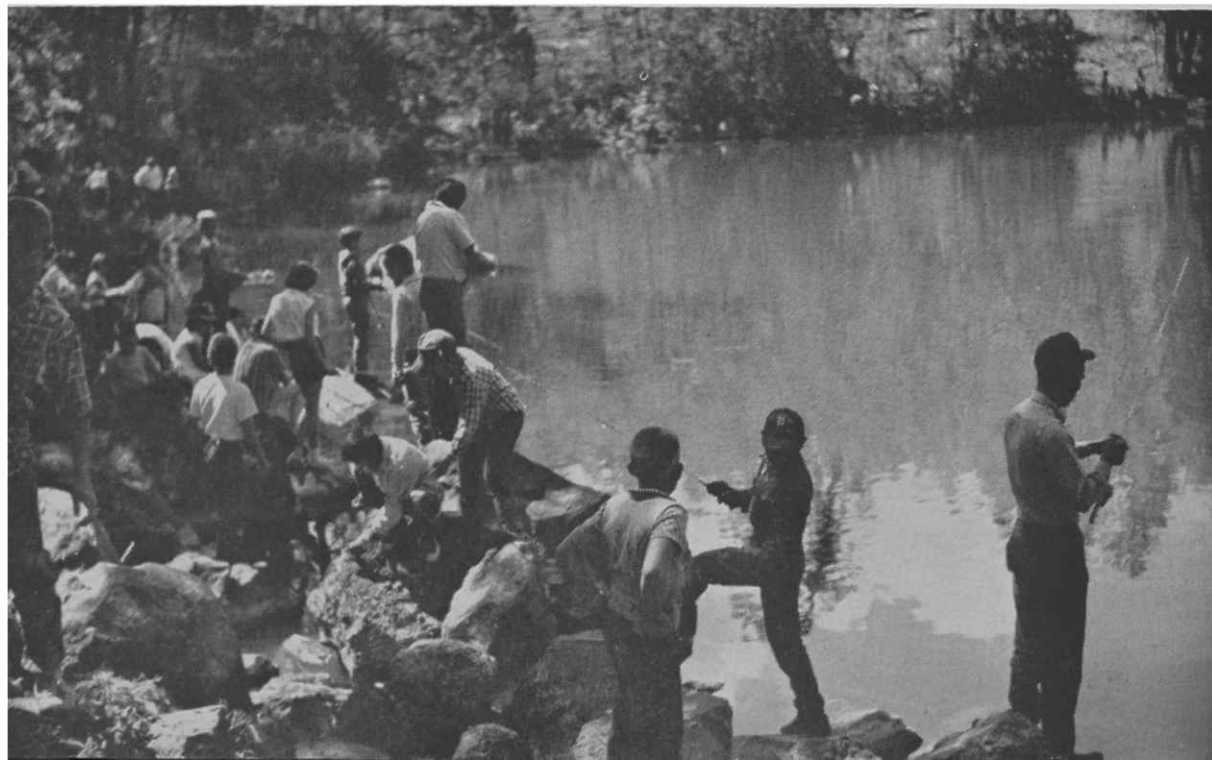
Today Navajo County has about 42,000 people. Half of these are on three Indian reservations — the Apache to the south, the Hopi and Navajo reservations to the north.

Until recently, agriculture has led in the source of income in the county, with livestock as the primary source of income. Recently two industries have added to the industrial income. These are the pulp mill developed by Southwest Forest Industries near Snowflake, and the Cholla Power Plant built by Arizona Public Service near Joseph City.

Tourists Leave Their Dollars

Service trades along Highway 66 and Highway 60 add greatly to the income of the county by attracting the many tourists who come through the county. Some of the tourist attractions are the Painted Desert-Petrified Forest National Park and the many Indian attractions. Many visitors are attracted to the White Mountain area for fishing, camping and hunting.

The primary source of agricultural income is livestock, with ranching the main agricultural enterprise. There are about 40,000 head of beef cattle in the county. These are managed primarily as cow-and-calf operations, with the cattle getting most of their feed from the open range. Most of the farming is aimed at obtaining supplemental feed for the livestock. Alfalfa is by far the principal irrigated crop, with corn and sorghum in a close second place. These two crops are fed to the cattle and sold to dairies and for horse feed. There is a demand for more alfalfa and ensilage than is grown in the area. Although there is a short growing season, alfalfa yields compare favorably with other parts



COUNTY

WINNING LIVESTOCK judging team in Arizona in 1964 was from Navajo County. Left to right, below: Bob Underwood, Jay Despain, Earnest Heward, Richard Underwood, John Heward (4-H Club Leader) and Dwain A. Gale, Assistant Agric. Agent.



are being tested for adaptation to northern Arizona.

This information serves not only Navajo County but other northern counties. Information is exchanged between the Experiment Farm in Snowflake and the Experiment Farm at Chino Valley in Yavapai County. In addition to information obtained at the Experiment Farm, additional knowledge is obtained from demonstrations on individual farms and ranches.

37 Tons of Beets Per Acre

Navajo County can produce 37 tons of sugar beets per acre. This is based on a demonstration plot on the Virgil Bushman farm, Joseph City. The demonstration was made by the county agent and Extension Agronomist Dennis, of The University of Arizona. The University of Arizona made a sugar beet study on the following farms: Virgil Bushman, Joseph City; Leo Webb, Snowflake; and the Snowflake Experiment Farm.

From data obtained, the university will be able to advise whether it will be economically feasible to grow the crop. If all is favorable, the County Development Council and the Farm Bureau will ask for a sugar beet quota for Navajo County when quotas are allotted. This is not only a possibility of a new cash crop, but it also can be a supplemental crop for feeding livestock, both by use of beet tops and the pulp.

Tansy Mustard costs northern Arizona farmers \$10 per ton on the first cutting of alfalfa. It has become the most alarming weed pest in alfalfa in

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of the state, and the cost of production is less.

In 1959, Navajo County farmers and ranchers met with the county agent and representatives of The University of Arizona and asked for additional research to learn what crops could be grown to the best advantage. This meeting was sponsored by the Navajo County Farm Bureau.

As a result of that meeting, five acres of land were leased in the Snowflake area. Experimental tests have been carried on during the past five years with several varieties of alfalfa, corn and sorghum. Fertilizer tests have also been made. At present, 15 varieties of alfalfa are being grown and 20 varieties of corn and sorghum

A CROP MOST ARIZONA counties do not have, but Navajo County has, is pulp wood, shown in the photo below. At Snowflake is located one of the most modern paper mills in the U.S., built in 1962.



HISTORIC NAVAJO COUNTY

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Navajo County. During the past five years it has developed from 5% occurrence in alfalfa fields to 80%. Herbicide demonstrations have been made on the Whiting farms, John Heward farm on McLaws Road, Leo McCleve of Taylor, and Leo Webb of Snowflake. These tests show that an application of from 1½ to 2 pounds of diuron per acre will control this weed.

Eliminating Water Loss

Irrigation companies in Navajo County have cooperated with the Extension Service in tests on control of weeds along ditchbanks and in irrigation ditches. As a result, definite recommendations are available on the control of willow, camelthorn, Russian knapweed, annual grasses, and many other pests that have caused serious water loss to the irrigation companies.

Twelve Navajo County farmers are cooperating with the Extension Service and the Tennessee Valley Authority in studying use of different types and rates of fertilizer to obtain yield information. These farmers keep yield records of fertilized crops and this information is made available to other farmers. The county agent and Dr. Lyman Amburgey from The University of Arizona enlisted the following cooperators in Navajo County: Virgil Bushman, Eldred Edwards, Eugene Hansen, M. K. Despain, Norman Randall, and Raymond Randall of Joseph City; Whiting Bros. and John Heward of Holbrook; Dean Flake, Rex Hunt, and Leo Webb of Snowflake; and Bert Solomon of Taylor.

Cattle Listing Services

The cattle marketing program under the cattle listing service has been popular both with Navajo County cattlemen and buyers. This aids buyers by letting them know what ranches have cattle for sale, the type and number of each. The committee directing this program includes Harve Randall, Chairman; Amos H. Underwood, County Agent, Secretary; Bill Jeffers, Holbrook; Lloyd Paulsell, Joseph City; Mike O'Haco, Winslow; Virgil Flake, Snowflake; Bill Bourdon, Show Low; Roge Pearce, Linden; Beverly Thomas, Pinedale; Warren Hutcherson, Holbrook; Howard Whipple, Show Low; Ammon Hunt, Claysprings, Irving Gibson, Heber; and Laurel Bigler, Hay Hollow.

Navajo County is the only county



MARY RILEY, cattle leader and former member of the Tribal Council of the Whiteriver Apaches, shows that she can grow corn and vegetables in her garden on the reservation.

in northeastern Arizona that has commercial dairies. This area is in a particularly favorable position, since insecticides are not used on feed crops, particularly alfalfa, in Navajo County and there is no residue problem in the milk. Despite these advantages, only about 20% of the milk consumed in the county is produced locally.

Joseph City, Woodruff and Snowflake produce most of the eggs in Navajo County. Here again, only about 20% of the eggs consumed lo-

cally are produced in the county. Weather conditions and other factors favor egg production. In addition to the local market, there is also a great potential egg market on the nearby Indian reservations.

Navajo County Fair

The Navajo County Fair, held each September, is a show window for agriculture. Departments include adult and 4-H projects and separate departments for livestock, field crops, fruits and vegetables, floriculture, home economics and commercial exhibits. In conjunction is the annual rodeo and horse racing.

The Navajo County development council serves as an advisory group to the Extension Service and the other agricultural agencies in the county. It sponsors development programs and helps to coordinate activities of all different agencies and development groups in the county. One of the most popular programs the last three years was Operation Windbreak. Thirty-five thousand trees were planted in the county as a result of these efforts. Mrs. W. B. Jeffers of Holbrook is the chairman of this committee and John Heward of Holbrook is chairman of the Navajo County Development Council. Emphasis has recently been placed on water development. Mrs. George Nagel, Winslow, is chairman of the water committee.

A Home Economics program is di-

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BELOW, TWO Navajo County champions—Christine Turley, Woodruff, and Richard Heward, Holbrook.





VIRGIL BUSHMAN exhibiting a sugar beet produced on his farm as part of a demonstration supervised by the University of Arizona and the Navajo County Extension Office. The county can grow this sweet crop successfully, plantings revealed.

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rected by the Extension Service with assistance of homemakers' clubs, rural development program, 4-H clubs, church groups and other groups.

Mrs. Ward, the home agent, has worked with low income groups in Winslow, showing how to use surplus foods. By use of demonstrations, Mrs. Ward has increased the efficiency in use of surplus food products.

1400 Enrolled in 4-H

Navajo County has 1400 boys and girls enrolled in the 4-H Club pro-

gram. This represents all of the communities off the Indian reservations and many communities on the reservations, especially the Hopi. Varied types of projects in agriculture, home economics and related fields are offered to the boys and girls. Most popular projects for girls are foods and clothing, while for the boys and also many of the girls, the livestock program is the most popular, with the horse clubs receiving much interest recently. On the Indian reservations, arts and crafts are very popular.

Activities hold the interest of the club members throughout the year.

"Convenience Foods" Usually Good Buys

Convenience foods often can actually save the homemaker money as well as time, says Miss June Gibbs, nutritionist with the U of A Extension Service.

To prove her point, Miss Gibbs points to a recent study of the U.S. Department of Agriculture.

Costs of 158 items were compared with the cost of equal amounts of homemade or fresh counterparts. Figuring price alone, 48 convenience items actually were less expensive.

Many more convenience foods would have a lower cost than fresh or homemade items, if a reasonable value were placed on the homemaker's time, she says.

Other factors to consider are the savings in work and utensils needed and less waste in preparation. Packages for convenience foods are designed to keep the contents fresh and handy for storage.

Modern processing methods make it possible to retain top nutritional values, and many processed foods are fortified with necessary vitamins.

Convenience foods that add to the cost of a meal are fresh ready-to-serve rolls, frozen chicken and turkey dinners, frozen broccoli and pre-cooked rice.

Shoppers buy convenience foods not only for what they cost but also for what they do for them. Some such foods can be bought in combinations and amounts that actually decrease total food costs.

These include county and state round-up, camping, talent shows, demonstration days, dress revues, food clinics, the county fair, achievement programs, junior rodeos, as well as horse shows and judging of all types of project work.

A Junior Rodeo was started last year at Winslow, with the Winslow Wranglers 4-H Horse Club and the Healthy Hard-Headed Herders Livestock Club cooperating. Two thousand people attended the Junior Rodeo and 200 youngsters competed.

Organizations working closely with the Extension program in the county are the Development Council, Northern Arizona Cattlemen's Association, the County Farm Bureau, Homemaker's Council, the 4-H Leaders' Council, 4-H Junior Leaders' Council, Cattle Market Listing Committee, and the Navajo County Fair Commission. In addition, the Navajo County Board of Supervisors has given valuable assistance through its financial support as well as encouragement and guidance.