



INSPECTING HIS OWN hives, in the shadow of the Graham Mountains, is John Sears Jr., a 4-H beekeeper for five years. ← Income from his bees, and his work summers for a commercial beekeeper, will provide funds to help this young entomologist get further education at The University of Arizona.

## A Sweet Industry in Graham County

# *Gila Valley Apiculture Is Humming Happy Song*

*An agricultural industry in Arizona that should not be overlooked is apiculture. It is extremely important in pollination of seed and melon crops and in production of honey and beeswax.*

By William E. Reynolds

In Graham County, an agricultural valley surrounded by high majestic mountains, the apiculture industry extends from the San Carlos Apache Indian Reservation on the west to the borders of the county on the east, spilling over to the Duncan Valley and into Virden, New Mexico. These 40,900 acres of irrigated land in the Gila Valley support approximately 10,000 bee hives which are owned and operated by six commercial beekeepers and five part-time operators.

Apiaries are located along the Gila River, and on the banks of the vast network of canals supplying the agricultural community with irrigation water. The size of these apiaries ranges from 20 to 60 hives per loca-

**YOUNG JOHN SEARS** inspects bee hives in an orchard apiary in a permanent location near a desert area. The site is ideal for mesquite honey, pollination of the orchard and nearby cotton fields. Natural shade of deciduous trees makes this an ideal summer and winter location for the hives.



County Agent Bill Reynolds of Graham County is too modest to admit it, but much of the success in apiculture which he discusses here is largely due to his own help and encouragement, fortified by his excellent training in entomology.

tion, depending upon the crop being harvested.

### Use Succession of Plants

In the spring the bees begin their build-up on the wild flowers of the desert, if winter rains are sufficient, followed by mesquite and catclaw, which produce a distinctive-tasting light-colored honey. Some beekeepers will transport their hives from their permanent locations to areas where the mesquite is still in abundance, but many permanent locations are close enough to all nectar sources.

Another honey producing plant that usually gives an abundance of honey in the spring is the salt cedar, situated primarily along the Gila River. Because this honey is red, or darker in color, it is used primarily for baking purposes. As the summer heat approaches, nectar sources become scarce until the long staple cotton begins to bloom near the middle of July. This plant produces an abundance of yellow honey until October, when the cotton plant goes dormant or is defoliated.

Honey production in the valley varies, due to climatic conditions. Average production, figured over many years by commercial beekeepers, is estimated at 90 pounds per hive. Beeswax, another product of the honey bee, is also produced in bulk. The estimated production is approximately one to two pounds of beeswax per 100 pounds of honey.

The economic value of the apiary industry in this area of eastern Arizona, with the average commercial price of honey being around 10 cents a pound and beeswax at 45 cents a pound, will gross \$90,000 for honey and \$8,100 for beeswax, totaling \$98,100. One other economic aspect that shouldn't be forgotten is pollination of the cotton crop, which can't be measured in dollars and cents, but research that has been conducted shows an increase in seeds per boll in areas where colonies of bees are working.

### One Door Still Open

Prior to becoming an Agricultural Extension Agent, I became interested in the apicultural field following an entomology course I had taken at The University of Arizona, taught by

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IN THE APIARY of R. L. Bigler, John Sears and Mr. Bigler ("Pokey") inspect hives to learn how many replaced Caucasian queens have been accepted by the Italian workers. This is the first introduction of Caucasians in the Gila Valley, an experiment to learn if that variety of bee will increase production and have a more calm disposition in the arid Southwest than the bees being replaced by this introduction.



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Frank E. Todd retired chief of the Apicultural Research Branch, Beltsville, Maryland. After I was assigned to the Graham County office of the Agricultural Extension Service in the field of 4-H Club work, I began to see an opportunity for our youth to make a beginning in this agricultural project and grow with it to establish an agricultural business. The trend in agriculture is toward larger and larger economic units. Most youths no longer have the opportunity—with rising costs of land and machinery—to start with small agricultural projects which grow into established businesses, as in days gone by, except in beekeeping and possibly poultry.

Upon visiting all of the beekeepers in the valley to obtain assistance for the 4-H youth program, we realized there was a need for cooperation between local beekeepers, thus the beginning of the Eastern Arizona Beekeepers Association. This group meets every month to discuss problems and work together in shipping their products and ordering their equipment together, to help reduce the costs of operation in the cost-price squeeze which has affected all agricultural industries today.

Experienced beekeepers in the association have helped and taught the inexperienced beekeepers in requeening, beehive modification for Southwestern desert conditions, overwintering methods, and short cuts in production of honey to help reduce costs and labor. This group has also been able to work cooperatively with insecticide applicators and insecticide companies for many years, except for the 1965 sorghum production year, when due to insecticide poisoning honey production and income were reduced by a third of the potential gross. It is hoped that, through meetings held this year, cooperation between all parties will be resumed in the future.

#### Marketed Via Cooperative

Honey and wax, the primary products of the Eastern Arizona Beekeepers, is shipped by truck and is marketed through a beekeepers' cooperative,

"The Sioux Honey Company" in Anaheim, Calif. One beekeeper in the Gila Valley ships directly to the Stewart Honey Company in Phoenix, where the product is bottled for human consumption, bakery needs and export.

The beekeeping industry in Graham County looks good. Young 4-H beekeepers are gaining interest in the industry and experienced 4-H'ers are able to assist commercial beekeepers during the summer production season, many of these young people thus helping put themselves through college.

Beekeepers in the valley are also cooperating with the Agricultural Extension Service, experimenting with their beehives on insecticide applications, introducing new strains of bees into production, and planning future pollination experiments in cotton. The Southwest Bee Laboratory in Tucson, under the direction of Dr. Marshall Levin, also assists in keeping the extension office informed of research which has been done and what is now being done. Laboratory personnel have also presented programs of interest to the Eastern Arizona Beekeepers Association.

### Mrs. Nellie Campion, 36 Years With UA, Dies

Mrs. Nellie Gayle Campion, administrative assistant in The University of Arizona's Agricultural Extension Service, died July 2. She was 67.

Mrs. Campion joined the UA staff in 1930 and served in the business office and in the Liberal Arts College dean's office before transferring to the Agricultural Extension Service in 1933. After several years of service there as a secretary she was appointed

administrative assistant in 1937.

Mrs. Campion was born in Winamac, Ind., Aug. 10, 1898. She attended Indiana University and, after moving to Arizona, she attended the U of A in 1920-21. She was a graduate of Tucson Business College and was employed by Tucson attorney L. G. Moore and the Arizona Daily Star before joining the UA staff.

Before moving to Tucson, Mrs. Campion was associated with the legal department of the Los Angeles Times.

At the time of her death Mrs. Campion had just completed 36 years of continuous service with the U of A.

### Meat Consumption

Total meat production for 1966 in the United States is estimated at 31.5 billion pounds, as compared to 31.7 billion pounds in 1965. This is still short of the record 32.7 billion pounds of beef, veal, pork and lamb produced in 1964.

### More For Dollar

The American consumer spends about 25 percent of his food dollar for red meat and less than 19 percent of his disposable income for groceries — getting more for a smaller part of his income than he could anywhere else in the world.

USA is the only country where it takes more brains to make out the income tax return than it does to make the income.