

# Coyotes May Save Arizona Saguaros



The nation's largest cactus is vanishing from parts of its Arizona range, and botanists believe the often despised coyote might help save it.

The Saguaros stand like lonely sentinels overlooking the desert. They are so spectacular and scientifically interesting that President Hoover created the Saguaro National Monument near Tucson in 1933 for their protection.

Studies indicate that rodents are the major enemy of young Saguaros, according to the National Park Service.

In one test at the Monument, 1,600

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than those of older vines, so all possible precaution should be taken to prevent their becoming infested in the nursery or immediately after being transplanted to the field.

## Investigations Continue

Although our information concerning nematodes associated with Arizona vineyards has advanced, surveys are still in progress to broaden our knowledge about the diseases they cause in grapes. Investigations under controlled greenhouse conditions seek to establish the role of nematodes alone and in complexes with other pathogenic organisms. We are also studying the efficiency of nematodes as vectors of grape virus diseases.

As our information increases, it is hoped that the Arizona grape industry will benefit.

plants were set out on the desert; within two years all but 30 were dead. Ground squirrels, wood rats, rabbits, and other rodents killed them. Wire cages placed around the plants merely delayed death; the animals tunneled under the wire to get at water stored within them.

Park Service botanist Robert M. Linn recently suggested the possibility of reintroducing predators, such as coyotes, the National Geographic Society says. But he warned that ecologists would have to determine whether coyotes might harm domestic farm animals in the area. Significantly, Saguaros are reproducing much better at Organ Pipe Cactus National Monument in southwestern Arizona, which has a sizable predator population, than in the preserve set aside for the large species.

Another problem is grazing by cattle. The young cacti aren't devoured, but they perish when cattle eat the nurse plants that shade them.

Though the Saguaro may reach a height of 50 feet, it grows very slowly in its early years. The plant needs a decade to reach the unimpressive height of one inch. Growth later speeds up, but a 30-year-old plant may be no more than three or four feet tall. A 75-year-old sapling measures perhaps 15 to 20 feet. Before dying at 200 years or so, the Saguaro may have grown as tall as a four-story building and weigh 10 tons.

The plant is an engineering marvel, especially adapted to its blazing hot

environment. It can live three years without a drop of water.

Like other cacti, it has no leaves, their function being assumed by the tough, green stem covering. Spines provide appreciable shade from the desert sun and also discourage hungry desert animals.

The stem is a cylindrical framework of long vertical ribs fused at the base. This skeleton supports the pulpy tissue that stores water. During long dry spells, the plant shrinks as it uses up its water supply. When rain comes again, the stem swells like an accordion. Through its huge mat of roots, spreading out just under the desert surface, the plant may absorb a ton of rainwater at one time.

Sometimes the thirsty Saguaro drinks so much that it splits open. It is the water supply, rather than the plant itself, that primarily attracts rodents.

The Saguaro blossom is the state flower of Arizona; the cactus grows in no other state but California. Each spring buds appear in crowded clusters at the tip of each arm. The waxy white blossoms bloom for a night only, closing by forenoon.

Egg-shaped fruits mature in June and July. On ripening, the fruits split open, revealing juicy red pulp with tiny black seeds. Pima and Papago Indians still harvest the fruits. The plant was so important to the Papagos' economy that they designated Saguaro harvest time as the start of the year.

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## NEW WRINKLE IN PLANTS

A natural chemical in plants that makes them "grow old" faster has been isolated and identified by United States Department of Agriculture researchers. If this hormone-like substance can be synthesized, it may someday be used to defoliate plants in any stage of growth and in any weather, thin fruit at blossom stage, and eliminate after-harvest growth of perennial crops such as cotton. It might also be used to delay flowering or to keep buds dormant to escape winter damage.

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## SOYBEAN IN MANY ROLES

Many people wouldn't recognize a soybean if they saw it—but this farm product appears frequently in the everyday life of nearly everyone. Soybean oil, for example, is an ingredient in mayonnaise, margarine, candies, frozen desserts, sandwich spreads, salad and cooking oils, and high-protein low fat liquid diet foods. Soybean oil goes into many non-food items — soaps, shaving creams, paints, varnishes, lacquers, pharmaceuticals and vitamins, leather dressings and linoleum.