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**Holly**

➤ IT TAKES 18 years for a holly plantation to come into its best bearing. Many farmers, when their first child is born, set out holly cuttings in late August of that year, knowing that a profitable crop will come in just in time to meet college bills nearly 20 years later.

European holly, with the greenest leaves and reddest berries of nearly 300 species of the Yuletide trimming, is grown in favorable areas from the Virginia tidelands to the Pacific Northwest. Its market, although restricted largely to the month of December, is huge—so huge that those who simply go out and steal native American holly have all but wiped out this New World variety.

By the torn bark and splintered ends of the branches can be seen the haste and destructiveness of its harvesting.

When it is grown as a cash crop, the care of holly is exacting. In August, cuttings from top grade trees are planted in cold-frames for the winter. They must be kept moist to ensure rooting. Sometimes they are treated with expensive growth-regulating chemicals to make sure roots will grow from the cut branch.

The following spring the young plants are transferred to cultivated garden rows. They grow there for one to two years. Then they are transplanted again to holly plantations, where they are kept in carefully thinned rows.

The farmer must know plant genders, for holly grows as both female and male trees. About one tree in ten in the plantation must be male. These bear no berries, but produce the pollen without which the female plants cannot bear fruit.

Historically, holly is older than Christmas. In German forests it figured in ancient pagan celebrations marking the beginning of the sun's return from its southward retreat, bringing with it the promise of another spring.

Holly was a sacred shrub not only among the Druids; it was highly esteemed by the Romans as well. Holly wreaths were hung at weddings. Pliny states that holly trees were planted to protect property from

lightning. Thus even before it came to be a symbol of the Christmas spirit it was believed to enjoy the special favor of Jupiter, thunderbolt-wielding terror of the gods.

How far back of antiquity these early beliefs about holly go there is no way of guessing. One hint of very early human association with holly was found in the refuse heaps under the stilt-supported houses of Switzerland's Stone Age lake-dwellers. Holly seeds and twigs are abundant there.

It is possible that these ancient people used the bitter stuff of the holly leaf, called ilicin, as a medicine or a beverage.

Science News Letter, September 25, 1954

**Questions**

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*Photographs: Cover, U. S. Fish and Wildlife Service by W. F. Kubichek; p. 195, Stanford University; p. 197, Scripps Institution of Oceanography; p. 199, University of Wisconsin; p. 208, Eastman Chemical Products, Inc.*

**PSYCHOLOGY**

**Body Muscles Tensed During Mental Work**

➤ WHEN YOU are studying hard doing arithmetic problems, the muscles throughout your body are tensed, but there is a slight tendency for your arm muscles to be most tense.

This was shown by measurements of the electrical activity in eight major muscles during severe mental effort. The results were reported to the American Psychological Association meeting in New York by Dr. Adelbert Ford of Lehigh University.

"Tensions (during the arithmetic work) seem to flow over the muscular system like the waves of the sea," Dr. Ford said. "One muscle is in a state of rise while another is subsiding, at a very slow rate."

Every one of the eight muscles studied dominated the tension output at some time or other during fairly long and consistent intervals, he said.

Science News Letter, September 25, 1954

