

HORTICULTURE

Better Nuts Coming

Scientists on lookout for better nuts and better trees on which to grow them. They want black walnuts that crack out easily and smaller almonds, with more nuts per tree.

By **MARTHA G. MORROW**

► **BOTANISTS TRYING** to remodel the nuts we eat are on the lookout for:

Black walnuts that crack out as easily as Persian (English) walnuts.

Pistachio nuts with split shells so they can be processed by machinery.

Super Persian walnuts that can be harvested in time for Thanksgiving.

Smaller almonds, but more per tree.

In their search for better nut trees, scientists are hoping to produce:

Sweet chestnuts that will flourish throughout most of the United States.

Black walnuts with resistance to bunch disease which produces tremendous mistletoe-like clusters of branches.

Pecan-bearing trees with the disease-resistance and hardiness of hickories.

Plant specialists of the U. S. Department of Agriculture's Plant Industry Station at Beltsville, Md., are already hard at work trying to cross the pecan with its close relative, the shagbark hickory. Through careful search they also have found a dozen natural hybrids scattered throughout the country. In early spring a million blossoms crown these "hican" trees, but only about a dozen nuts mature on any one tree.

A second generation hybrid, with one of these slim producers as one parent and a pecan as the other, may have the desired characteristics. The search for a more promising hican continues.

A freak or sport in the black walnut family, or a second-generation cross between this and a Persian walnut may produce a nut that tastes like a black walnut but cracks easily like a Persian walnut. In addition, scientists are hopeful of growing such nuts on a tree which has the hardiness of a black walnut, yet like a Persian walnut every year bears nuts all over the tree. Experts are looking for such trees in nature and also attempting to produce them by controlled cross-breeding.

Smaller, sweeter almonds are now desired because the American public likes whole kernels in its candy bars. Several promising varieties recently developed cooperatively by the U. S. Department of Agriculture and the University of California are excellent for use in many candy confections, but too large and plump for many to be used in a single chocolate bar.

A number of almond trees have recently been imported from Spain and Italy to be crossed with almond trees that flourish in

the United States. Some day trees that in this country will produce large crops of small nuts may result.

A Persian walnut as good as the Franquette variety, but one that matures ten days to two weeks earlier, is being sought. Such a stepping-up of nature's production schedule would put large unbroken walnut halves fresh from the orchard on the dinner table by Thanksgiving. Here plant specialists are testing the performance of little-known varieties rather than trying to develop new ones. Already one or two promising types have been found.

The search for better nuts and better trees upon which to grow them is being spearheaded by Dr. H. L. Crane of the division of fruit and nut crops and diseases of the U. S. Department of Agriculture. He is assisted by Dr. J. W. McKay and others in the division, who, wherever possible, are cooperating with state experiment stations and industrial nut agencies.

Blight has destroyed practically all of the lovely old American chestnut trees that

several decades ago furnished a goodly supply of these sweet nuts. But chestnuts are returning to the American scene in blight-resistant Chinese varieties. Three promising new chestnuts have recently been made available by the U. S. Department of Agriculture for orchards in the Southeast and can be obtained from nurserymen. Plant scientists are still trying to develop a hardy variety that will produce well in northern climates.

Promising Filbert Varieties

Two new filbert varieties look promising for the Northeast. Obtained by crossing the wild hazelnut and the commercial European filbert such as is grown in Washington and Oregon, these first generation hybrids are much better than the plant specialists who produced them dared hope.

Some day the pistachio nuts you obtain from the corner vending machine may be grown in the United States. Native to Iran, Turkey, Syria, and bordering Mediterranean countries, a few pistachio nuts are now being grown experimentally in localized areas of California. The Department of Agriculture is attempting to develop varieties that will be commercially profitable in this country, reports Dr. W. E. White-



BETTER WALNUTS—Pollen of the Persian walnut is being used to pollinate the female flowers of this black walnut to improve the species. Dr. J. W. McKay, horticulturist of the U. S. Department of Agriculture's Plant Research Center at Beltsville, Md., uses a syringe gun for the job.

house. Not only must the trees do well here, but they should produce nuts with split shells so they can be opened easily, either by hand or by machinery.

The macadamia nut, which looks like a marble and tastes somewhat like a cashew, has recently been introduced into the United States. Among its most enthusiastic supporters are men and women who were stationed in Australia and Hawaii during World War II. Native to Australia, particularly the Queensland area, it grows well in Hawaii. A few trees have already been planted in southern California. The California Experiment Station recommends them for avocado orchards to replace avocado trees that have died.

As pistachio planting in the United States is still in the experimental stage, practically all of the 6,000,000 pounds of pistachio nuts consumed today are imported. All our Brazil, cashew and macadamia nuts are imported from tropical countries. Most of the pecans, almonds, filberts and walnuts consumed in this country, however, are grown in North America.

200,000 Tons in 1951

An estimated 200,000 tons of nuts in the shell were produced in the United States last year. Persian walnuts have topped the list for the past three or four years with an average yearly production of almost 75,000 tons of nuts. Pecans have run a close second with a production of over 72,000 tons. The almond production has been around 39,500 tons per year, and the filbert crop, smallest of all, runs about 8,400 tons. In addition, hickory nuts, black walnuts, butternuts, and pinon nuts from a pine tree are enjoyed locally.

In few sections of the country today do people go into the woods and gather nuts for eating and cooking as did their parents and grandparents. Most of the nuts we enjoy are grown in commercial orchards, found in localized areas, and a much wider variety of nuts is now available.

The pecan is the most important nut-tree crop native to North America. A member of the hickory family, it grows over a wider area in the United States than any other orchard nut. Native to the lower Mississippi Valley and its tributaries, at present 11 of the southern and south central states are producing pecans commercially.

The improved varieties of Persian walnuts on the market today have resulted from hundreds of years of search for a nut that will crack easily to give unbroken halves of kernels. Some of the wild types are just as hard to crack as hardshelled black walnuts and hickories.

The name "English walnut," frequently used for these nuts, is quite inappropriate because this nut is native to Persia, not England. Traders carried them all through the Mediterranean region of Europe and far into China. They probably reached

England hundreds of years ago. The present commercial industry in California and Oregon dates back to some walnuts, imported from Chile, planted in 1867 by Joseph Sexton near Santa Barbara. From this bag of nuts came the Santa Barbara soft-shells.

Pecan and Persian walnut trees are large and tremendous bearers when well-cultivated. Filbert trees, on the other hand, are the smallest of the commercial nut-producing trees.

Almonds Grow in California

Filberts grow wild all through the eastern United States and far up into Canada. These filberts, or hazelnuts as they are commonly called, are much too small to be of commercial interest. Yet some varieties, when crossed with species from Europe, have proved promising sources of nuts. Filberts are grown commercially in certain western parts of Oregon and Washington; in the eastern United States some of the new hybrids are grown for home use.

There are few places in the world where almonds can be produced successfully. During the winter the temperature must remain uniformly low to hold the trees dormant until after danger of late spring frost. Otherwise the trees flower early and the blossoms are killed. To mature, they require a hot, dry atmosphere, but adequate soil moisture. Originating in the Mediterranean region, almonds today are grown commercially in the United States only in certain valleys of California.

Close relative to the peach and apricot, an almond is really not a nut at all. The fleshy part of a peach which we eat dries up in an almond and splits away, freeing the central pit or stone containing the nut-seed.

High Protein Value

Brazil nuts, pistachio nuts and peanuts likewise are not really nuts. Technically, a nut is a one-celled and one-seeded, hard-shelled bony fruit having a more or less distinct separate rind or shell. But practically any seed or fruit, be it edible or inedible, is popularly considered a nut so long as it has an oily or starchy central kernel enclosed in a hard shell. A dozen or so Brazil nuts grow together in a pod. Usually two peanuts or more are found together in a shell, which grows underground rather than on a tree.

Pecans have the highest oil content of all nuts; chestnuts, which are mostly starch, have the lowest. The oil content in a few pecan varieties runs as high as 76%, that in walnuts and filberts is about 65%, and that of pistachio nuts and almonds around 53%. The kernel of most of these nuts leaves a grease mark when rubbed across a bit of white paper and burns like a candle when lighted.

Nut kernels are also high in protein. Most of them supply about as much pro-

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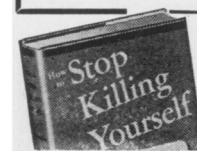
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INVENTION

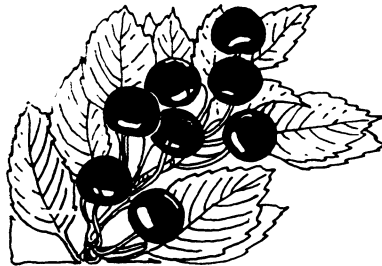
Now You Can Give Hot Seat—Literally

➤ GOT ANY candidates for the hot seat? Your mother-in-law? Politicians of the "other" party? Now you can literally offer them one. The hot seat has been invented and Glenn F. Butler, Detroit, has received patent number 2,583,816 for it.

A fuel tank, with a burner provided with wicks, gives off the heat in the "seat chamber." This heats the seat and the back of the chair, and the occupant. Canned heat, if desired, can be used.

If no one is sitting in the chair, the asbestos covers can be thrown back and the chair used as a stove, the inventor says. He believes it would be fine in duck blinds.

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"Farmer George"

➤ GEORGE WASHINGTON is honored as soldier, statesman, engineer, city planner. Washington thought of himself primarily as a farmer.

When he was at Mount Vernon he was happy; during all the many years he had to be away from that beautiful riverside estate, his chief longing was to get back home and busy himself with management of the land and improvement of its production.

"Farmer George" was a nickname his enemies tossed at him, but for Washington there was no sting in the epithet; farmer he was, and proud of it. His very name, George, is the Greek word that means a farmer.

PSYCHOLOGY

Action Is Antidote to Fear

➤ IF EVERYONE in the family is tense and irritable and short-tempered these days, it may be because everyone, even the children, are living in fear. The international situation, the draft, taxes and high prices give plenty of cause for fear. Even very small children, too young to know or understand these causes of fear, can catch the feeling of it and be upset.

Facts and planned action to meet them are good antidotes to fear. First fact to know is that fear is natural and normal. It becomes dangerous when it gets out of control. It is normal to be afraid of fire. But if you get up half a dozen times at night to see whether all the cigarette stubs are dead and the furnace properly banked, your normal fear has gotten out of control. One careful bedtime check of your home should be enough.

Next step in handling fear is to bring it out in the open. Recognize your fears and talk freely about them with your family, friends and neighbors. Then the fear will

Yet most of us, if we were to be asked what Washington did on his farm, or for American farming in general, would be stumped. We know one unauthentic legend about a destructive adventure in an orchard at an early period of his life. But few of us ever get to hear of the many trees he had a hand in setting out, or of the fields whose fertility he strove to improve by crop rotation and better cultivation methods.

To anyone who goes there with land use uppermost in his mind, a visit to Mount Vernon is a revelation. It is a gentleman's house, but Washington was by no means what we think of when we use the somewhat derogatory phrase "gentleman farmer." Farming is a business, a business that Washington knew.

He made money at it, as his carefully-kept account books still show. He aimed to improve himself in it: the bookcases still contain agricultural reference books and bound volumes of such farm journals as were available in his day. He was constantly improving the home ground; it is not unlikely that some of the old box bushes and at least two Lebanon cedars at Mount Vernon were planted by his farmhands under his personal direction.

There is one anecdote that shows well how Washington was able to do a real public service and at the same time make the project pay for itself. Finding that the town of Alexandria — metropolis of the Potomac shore in his day—was ill supplied with fresh vegetables, he devoted a few acres at Mount Vernon to raising garden vegetables and once a week sent to town a cart loaded with the produce. Farmer George was a practical soul.

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not be so terrible. This will help the family, too. It is better for children to know mother is worried about high prices than to live in fear because she is always cross.

If you are afraid because you have heard that atom bombs could be dropped on our large cities any time or germs in our water supplies, go to your local civil defense authorities and get the facts. You will find that while such things are possible, they are not very likely to happen. And you will learn what is being done and what you can do to defend yourself and your family.

Then go into action. Do the things you can do, learn to do some of the unfamiliar first aid or other civil defense activities. If your fears are over money matters, set up a family budget and start living accordingly. You will be happier and healthier when you get the habit of applying facts and action to problems instead of letting them frighten and worry you.

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