

NUTRITION

More Spice Than Ever

Except for pepper, more spice is being imported today than before the war. Mustard, sage and chili peppers are produced domestically in substantial quantities.

By **MARTHA G. MORROW**

► **THE WORLD** will still be as spicy as ever even if the present wars get hotter. Food here in the United States can still be seasoned tastefully despite hostilities.

There will be plenty of mustard, sage and ginger. Nutmeg, cloves and allspice will probably be in plentiful supply. America's spice industry, in fact, is most optimistic about the spice outlook.

Allspice is the only major spice grown exclusively in the Western Hemisphere, but increasing quantities of other spices are coming from the Americas. Cardamom is native to India, but a large proportion of our supply now comes from Guatemala. Much of our oregano, native to the Mediterranean area, is imported from Mexico and Chile. Some cloves are now coming from the Leeward and Windward Islands in the Caribbean Sea.

Yearly Production Increasing

More spices are being grown domestically than in past years. Almost enough mustard, the second most popular spice, can be produced in the West to meet our needs. Sage and chili pepper are grown domestically in increasing quantities. Coriander, dill, fennel, anise, paprika and rosemary are also grown in the United States, and could be produced in commercial quantities should prices rise high enough to justify their production.

But spices, which include most of the important flavoring materials used in army rations, processed foods and home cooking, are still largely imported by the United States. With the exception of pepper, more spice is being imported today than before the war.

Fortunately few spices are grown in Communist-dominated areas. Even where large supplies come from countries friendly to the U.S.S.R., other sources can be counted on to furnish them. The only such spice in short supply today is cassia, commonly called cinnamon in this country and preferred to true cinnamon because of its stronger flavor.

Third most popular spice, cassia is the dried bark of an evergreen tree of the laurel family. Much of our cassia comes from China, so this source of supply is drying up due to our limited war with that country. But cassia also is imported from Indo-China and Indonesia, and true cinnamon comes from Ceylon, so there is little danger of a real shortage.

Cassia is also now being grown in small quantities in the Western Hemisphere, particularly in Guatemala, Nicaragua and Ecuador. Higher prices, however, will probably have to be paid to stimulate additional production.

Pepper, which accounts for more than a fourth of the total tonnage of spices imported into the United States, has been scarce since World War II. During the Japanese occupation of the Indonesian islands—Sumatra produces more pepper than any other island in the world—the vines which bear the grape-like clusters of these small, spicy berries were devastated. Unsettled conditions on the islands have postponed replanting of these vines, which take seven years to bear pepper berries good for market.

Total pepper production since the start of World War II has dropped 71%. Higher prices have necessarily resulted, since buyers must bid against each other for scant supplies. Indonesia, which previously produced about 80% of the world's pepper, now supplies less than a fifth. Rehabilitation of the pepper vines, however, is under way. This past year pepper production in Indonesia was 10% of the pre-war level. Spice experts are hopeful that within a few years the supply will be more nearly normal.

Pepper for the entire world today is produced within 1,000 miles of the port of Singapore. Experiments in growing pepper in other parts of the world to date have proved unsatisfactory. But scientists still hope to bring the source of pepper nearer home in an effort to make this hemisphere a little more self-sufficient in seasoning sources. The U. S. Department of Agriculture is investigating the possibilities of commercial production of pepper in the Western Hemisphere. Ecuador and Nica-



GINGER FLOWERS—Although the ginger flowers are very fragrant, the plant is valued more for its roots. Ginger is one of the few spices that grow below the ground; the plant flourishes both in the tropics and semi-tropics. Suitable conditions are simulated at the U. S. Botanic Garden in Washington, D. C.

ragua among other countries look quite promising.

Other spices on the whole are coming from their normal source. Sage is still coming to us from the Dalmatian section of Yugoslavia, and some is grown in this country. Chili peppers are coming from South America, California and the Carolinas. Paprika, red spice from a mild-flavored pod pepper, has for several years been imported from Spain and Portugal rather than Hungary. Some also is grown commercially in California, the Carolinas and South America.

Two Spices from Same Fruit

Jamaica ginger, and Grenada nutmeg and mace have long been famous for their excellent quality. Vanilla is a native of Mexico, which remains an important source of this spice flavoring.

Spices are the roots, bark, stems, leaves, buds, seed and fruit of aromatic plants which grow in the tropics. Nutmeg and mace are the only two different spices harvested from the same fruit—nutmeg is the seed of a peach-like fruit while mace forms a sort of lacy pattern around its shell. Cloves, easily recognized by their characteristic nail-like shape, are the dried, unopened buds of an evergreen tree.

Ginger is one of the few spices that grow below ground. Dutch poppy seed is the only spice that is naturally blue. What we know as caraway seeds are actually fruits, the seed being very small and tightly enclosed in the fruit substance. Cardamom is one of the most expensive spices as it is much in demand and the yield is small, only about 250 pounds being harvested per acre.

Few people differentiate between spices, seeds and herbs, all used to make food taste better. Herbs are the aromatic leaves of plants which grow only in the temperate zone. Seeds refer to the seed, and sometimes the small fruit, of plants which grow in both the tropical and temperate zones—seeds like cardamom, celery and anise are also spices.

Spices Costly in Middle Ages

Although the price of some spices may rise within the next decade or so—and hoarding won't help as some spices soon lose their fresh flavor in prolonged storage—they will probably never again be as high as during the Middle Ages. In Medieval England a pound of ginger was worth more than a sheep.

The high cost of spices in the Middle Ages was largely due to the difficulties of transportation. Two years often elapsed from the time the spices were gathered until they reached their final destination. Duty or tribute had often been paid ten times on the same spice.

As a result, the spice trade stimulated exploration and colonization. The first rounding of the Cape of Good Hope, col-

onization of the East Indies and discovery of America all began with the search for spices.

The history of spice begins almost with the birth of civilization. A Chinese herbal dating back to 2,700 B.C. mentions cinnamon, and cinnamon is known to have been imported to Egypt as early as the 17th century B.C. Early Sanskrit writings and a papyrus dating from about 1,500 B.C. refer to coriander.

Nutmeg is reported to have been used as a fumigant to kill evil smells in the streets of ancient Rome. Pliny recommended fennel juice as an eyewash. And Alaric the Goth in 408 A.D. demanded not only gold and silver, but 3,000 pounds of pepper as part of the ransom of Rome.

The spice trade is the world's oldest continuous business, with spices, seeds and herbs having been used as medicines and perfumes as well as food adjuncts and preservatives. For centuries man has taken spices for granted; only recently has he begun to study them.

Spices Contain Vitamins

Research within the last decade or so has shown that spices, always used in very small quantities, do contain vitamins. Ounce for ounce, and gram for gram, paprika has been found richer in vitamin C than citrus fruits. Hot chili, a pod pepper, contains both vitamin A and vitamin C, and when used generously as in Mexican-type foods may be a good source of these essential vitamins.

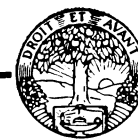
Spices are recommended for patients on salt-free diets. Physicians who previously prescribed "bland" diets to patients suffering from ulcers now advise such sweet spices as cinnamon, nutmeg and mace because they pep-up the food. Spices will also help older people with flagging appetites to eat more.

You will continue to be able to pep-up your food, promise spice experts. With more spices than ever before coming from Latin America and a few being grown here in the United States, the future looks promising.

A number of interesting spices have been collected for you by SCIENCE SERVICE. Poppy seed, ginger, nutmeg, cloves, cardamon and several other types of spices are included in the kit which you can secure for the nominal fee of 50 cents. Several spice recipes are listed as well as experiments you can perform with the spices included in the kit. Write SCIENCE SERVICE, 1719 N St., N. W., Washington 6, D. C., and ask for the seasoning kit.

Science News Letter, May 19, 1951

Deep wells drilled near Larderello, Italy, give a constant discharge of natural overheated steam that is used to operate electrical generators and to obtain chemicals including boric acid, borax and boron carbide.



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