FERMENTED VEGETABLES & FRUITS

It may seem strange to us that, in earlier times, people knew how to preserve vegetables for long periods without the use of freezers or canning machines. This was done through the process of lacto-fermentation. Lactic acid is a natural preservative that inhibits putrefying bacteria. Starches and sugars in vegetables and fruits are converted into lactic acid by the many species of lactic-acid-producing bacteria. These *lactobacilli* are ubiquitous, present on the surface of all living things and especially numerous on leaves and roots of plants growing in or near the ground. Man needs only to learn the techniques for controlling and encouraging their proliferation to put them to his own use, just as he has learned to put certain yeasts to use in converting the sugars in grape juice to alcohol in wine.

The ancient Greeks understood that important chemical changes took place during this type of fermentation. Their name for this change was "alchemy." Like the fermentation of dairy products, preservation of vegetables and fruits by the process of lacto-fermentation has numerous advantages beyond those of simple preservation. The proliferation of *lactobacilli* in fermented vegetables enhances their digestibility and increases vitamin levels. These beneficial organisms produce numerous helpful enzymes as well as antibiotic and anticarcinogenic substances. Their main by-product, lactic acid, not only keeps vegetables and fruits in a state of perfect preservation but also promotes the growth of healthy flora throughout the intestine. Other alchemical by-products include hydrogen peroxide and small amounts of benzoic acid.

A partial list of lacto-fermented vegetables from around the world is sufficient to prove the universality of this practice. In Europe the principle lacto-fermented food is sauerkraut. Described in Roman texts, it was prized for both for its delicious taste as well as its medicinal properties. Cucumbers, beets and turnips are also traditional foods for lacto-fermentation. Less well known are ancient recipes for pickled herbs, sorrel leaves and grape leaves. In Russia and Poland one finds pickled green tomatoes, peppers and lettuces. Lacto-fermented foods form part of Asian cuisines as well. The peoples of Japan, China and Korea make pickled preparations of cabbage, turnip, eggplant, cucumber, onion, squash and carrot. Korean *kimchi,* for example, is a lacto-fermented condiment of cabbage with other vegetables and seasonings that is eaten on a daily basis and no Japanese meal is complete without a portion of pickled vegetable. American tradition includes many