



FIGURE 1.1 Three categories of cabbage.

vegetables. Antioxidants are also called ‘lifesaving’ elements, which protect us from degenerative diseases such as cancer, aging and cardiovascular diseases (Hashimoto et al. 2002; Gosslau and Chen 2004; Kavanaugh et al. 2006; Lee et al. 2008).

Cabbage (*Brassica oleracea* L. var. *capitata*), as one of the most important vegetable crops, belongs to the Cruciferae or mustard family. Its edible portion is called the head. The growing point or terminal bud increases in size and becomes a storage area for essential nutrients (Dickson and Wallace 1996). During the early growth and development of the cabbage plants, the leaves expand, remain unfolded and form a frame around the plant. Next, the newly expanded leaves partially unfold, thus forming the shell of the head. Then the growing point increases in size and is filled with a number of thick, overlapping, smooth sessile leaves that form a compact head. Nieuwhof (1969) categorized three forms of cabbage viz. red cabbage, green cabbage and Savoy cabbage (Figure 1.1).

Nutritionally, it is a rich source of minerals and vitamins. Cabbage is one of the most popular vegetables for cancer prevention. This vegetable is nutrient packed and low in calories. It contains high content levels of calcium, iron, iodine, potassium, sulphur and phosphorus. It is loaded with vitamin A, B1, B2, B6, C, E, K and folic acid. Each layer of cabbage is packed with an abundance of natural antioxidants that help fight cancer. Cabbages possess both antioxidant and anticarcinogenic properties (Cohen et al. 2000; Chu et al. 2002).

The criteria for good quality cabbage are compactness, brightly colored outer leaves, freshness and crispiness. In the head, older leaves are arranged in the outermost and outer middle layers, and the newer leaves are arranged in the innermost and inner middle layers.

1.1.1 HEALTH BENEFITS

Cabbage is well-known for its medicinal properties. In Ayurvedic medicine, cabbage leaves are prescribed for coughs, fevers, skin diseases, peptic ulcers, etc. Cabbage leaves are a good source of chlorophyll and cure anaemia by blood building. Fresh cabbage juice is reported to contain an antiseptic ulcer component, called vitamin U. Cabbage is one of the largest sources of sulphur-containing amino acids and is also reported to have significant anticancer activity. The benefits of cabbage have been proven by animal studies and epidemiological data found in humans. The antioxidant properties in cabbage make it a powerful healing food in combating cancer.

Iodine is one of the most important trace elements in the body, and iodine deficiency causes a number of dreaded diseases, like goiters, mental retardation, hypothyroidism