

and pregnancy-related problems. Iodine is not synthesized in the body, so it is always recommended to include iodine-rich foods in our diet. In developing nations, iodine deficiency is the main cause of hypothyroidism. When the body does not get enough iodine, the thyroid gland has trouble in synthesizing its hormones. The result is often a goiter, an enlargement of the thyroid. Human iodine intake is closely dependent on the iodine concentration of water, soil, iodine-rich salts and different foods. There are parts of the world where iodine is so scarce that the sight of a neck without a goiter is rare. According to a World Health Organization report, the number of people affected by an iodine deficiency is about 740 million. Normal adults and children need 150 micrograms and 200 micrograms of iodine per day, respectively. Without it, the thyroid gland cannot do its job. Table salt is one of the major sources of iodine in the body. In some parts of the world, the soil contains little or no iodine. In developing countries, where iodized salt may not be available, thyroid problems are very common and as a result many children suffer from mental and psychomotor retardation. Cabbage is a natural source of iodine. (Key et al. 1992; Appleby et al. 1999) and thus aids the proper function of the brain and nervous system.

1.1.2 RESEARCH AND DEVELOPMENT WORK

Defence Institute of Bio Energy Research, one of the establishments of Defence Research & Development Organization, is actively engaged in the development and production of cabbage hybrids and varieties. A large number of hybrids and varieties have been evaluated (Figure 1.2) and assessed for their nutraceuticals.

1.1.3 ASSESSMENT OF ANTIOXIDANT PHYTOCHEMICALS IN THE LEAVES OF GREEN CABBAGE VARIETIES

The main objective of the study was to assess the phytochemicals viz. ascorbic acid, β -carotene and the total chlorophyll and antioxidant activity in the leaves of the cabbages, so the cultivars with the maximum number of phytochemical antioxidants could be identified. Due to variation in the nutraceuticals in the leaves from outermost side to innermost side, the cultivars could guide the appropriate utilization of cabbage leaves in various food preparation techniques in order to maximize the nutritional benefits.



FIGURE 1.2 Variability in cabbage grown in the field.