

lycopene and the risks of various cancers. Among 72 studies identified, 57 of them reported an inverse relation between tomato intake or blood lycopene level and the risk of cancer at defined anatomical sites and 35 of those inverse relations were statistically significant. No study indicated that higher tomato consumption or blood lycopene level augmented the risk of cancer at any of the sites investigated. Evidence for a benefit was greatest for the lung, stomach and prostate gland cancers. Data were also suggestive of a benefit towards the oral cavity, esophagus, breast, cervix, pancreas, colon and rectum cancers.

Tomatoes and tomato-based products are the main contributors for lycopene in the diet of many countries and lycopene has been considered the primary phytochemical responsible for the reduction in the risk of prostate cancer. Tomatoes, however, is also a rich source of nutrients like folate, vitamins C and E and other potentially beneficial phytochemicals including phytosterols, phenolic acids and flavonoids (Beecher 1998). Hence, it is more probable that the combination of these compounds is responsible for the effect on prostate carcinogenesis (Hadley et al. 2002; Campbell et al. 2004; Stacewicz-Sapuntzakis and Bowen 2005).

### 2.3.5 SOYBEANS

Soybeans have been grown and consumed as food in Asia for over 5000 years. But this ancient bean was cultivated in abundance throughout the world only during the 20<sup>th</sup> century and scientific interest on its health benefits started even much later. Soybeans are known as a source of high quality proteins is also a source of phytosterols, isoflavones, phenolic acids, saponins and phytic acid (Messina and Barnes 1991).

Soybeans have been known to have a protective role in women's health, in particular in the alleviation of menopausal symptoms and promotion of bone health. In a clinical study of 66 postmenopausal women, it was reported that a daily intake of 40 g isolated soy protein (ISP), containing 90 mg total isoflavones, significantly improved both bone mineral content and density in the lumbar spine after a consumption for six months (Erdman and Potter 1997). This finding proposed that soybeans may have a protective role in osteoporosis. Asian women were found to have significantly lower levels of hot flashes and night sweats compared to Western women. A clinical study showed that the daily intake of 60 g ISP for three months decreased the hot flashes by 45% in 104 postmenopausal women (Albertazzi et al. 1998). Human ecological observations support a cancer-protective effect of soybeans. Vegetarians and population groups (e.g. Japanese women) who relatively consume greater amounts of soy products, have a lower risk of certain cancers, including breast cancer (WRCF 1997). Various classes of anticarcinogenic phytochemicals have been identified in soybeans, among which the isoflavones, genistein and daidzein are noteworthy because soybeans are the only significant dietary sources for these compounds. The epidemiological data on soy intake and cancer risk are not consistent (Kris-Etherton et al. 2002). Though, a number of experimental studies have indicated a protective role of soybeans and their components in cancer.

Population studies indicate that countries where the diets contain a high amount of soy products have the lowest rates of CVD. An inverse relation between soy food