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Red Cabbage as Potential Functional Food in the Present Perspective

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ABSTRACT

The multiple uses of red cabbage has made it a popular crop among the vegetables. This mini review is a short description of the reasons of popularity of red cabbage in agriculture and why we should encourage the growers of the crop to focus on the production technology associated with the cultivation process. The crop is not only palatable but has numerous benefits.

Keywords: Vegetables, production technology, cultivation, cabbage

The problem of nutrition in food have received increased attention by many groups of scientists all over the world. Choosing a commercially important crop is another aspect for the farmers to continue the farming practices. Red cabbage [*Brassica oleracea* L.var. *capitata* L. f. *rubra* (L.) Thell] is a cool season leafy vegetable belonging to the group of cole crops (*Brassicaceae* family). This crop has been recognized as modern multitasker's dream food for its numerous benefits that it provide us (Das *et al.*, 2014). The crop can be harvested after 3 months of harvesting. It is cultivated in America, Europe, Asia (China, India etc.).

Cultivation process in India has always been focused on cereal production (esp. rice, wheat and maize) but very few attention has been paid to vegetables. The country's average foodgrain production is 252+ Mt, whereas the average vegetable production is 130+ Mt for the last three years. Although, India is the second largest producer of vegetables but the production in china is as high as 580+ Mt. Besides providing food security, vegetables will play a key role in nutritional security as well and overcome the problems of hunger and malnutrition because they contain carbohydrate, protein and are rich sources of vitamins and minerals along with some medicinal properties. With changing food habits, demand-driven exotic vegetables production is a suitable option for the farmers, which provides assured market and a good export value. Furthermore, exotic crops like red cabbage has 10 times more vitamin A and twice as much iron as green cabbage which attracts the buyers most in terms of nutritional value. Other benefits of growing red cabbage is that the cost of cultivation is inexpensive, the crop yields quickly, and harvesting and storage operations can be performed easily.

Uses

It has multiple uses as as salads, cole slaw, sauerkraut, soup, curries and other cooking purposes. Red cabbage is known for possessing different chemical compounds and medicinal properties (Podsędek *et al.*, 2014). It produces red or purple coloured heads due to the presence of anthocyanin pigment. Many of its organic compounds are taken as dietary supplements.

Nutritional benefits

The popularity of red cabbage is for its rich content of phytochemicals, antioxidants, vitamins (C,E,A,K) and minerals (calcium, manganese, magnesium, iron, and potassium), and low content of saturated fats and cholesterol. B vitamins e.g.

thiamine (B1), riboflavin (B2) and folate (B2) are also found in this crop. Besides vitamins and minerals, cabbage also contain a small amount of protein (Hasan and Solaiman, 2012).

Health benefits

It protects us from cancer, premature aging, diabetes, ulcer and Alzheimer's diseases. It helps in weight loss, boosting the immune system, improving the skin and eye and detoxification of body. Secondary plant metabolites like glucosinolates (GSs) present in red cabbage are known for the health-promoting properties (Verkerkand Dekker, 2004). These natural chemicals breakdown into compounds like indole-3-carbinol, which has anti-cancer property. Flavonoids of the crop have good therapeutic potential in inflammation and pain (Shama *et al.,* 2012).

CONCLUSION

Suitable production strategies should be adapted for enhancing the yield and quality in vegetables. Selection of suitable cultivars is an important prerequisite to obtain the desired benefits. Exotic crops like red cabbage can play many roles in the upcoming challenges of agriculture.

REFERENCES

Das, R., Thapa, U., Mandal, A.R., Lyngdoh, Y.A., Kulshreshtha, S.K. and Debnath, S. 2014. Response of red cabbage (*Brassica oleracea* var. *capitata f. rubra*) to the integrated use of chemical fertilizers, biofertilizers and boron. *Applied Biological Research*, **16**(1): 110-113.

Hasan, M.R. and Solaiman, A.H.M. 2012. Efficacy of organic and organic fertilizer on the growth of *Brassica oleracea* L. (Cabbage). *Int J Agric Crop Sci.*, **4**(3): 128-138.

Podsędek, A., Redzynia, M., Klewicka, E. and Koziołkiewicz, M. 2014. Matrix effects on the stability and antioxidant activity of red cabbage anthocyanins under simulated gastrointestinal digestion. *BioMed Res. Int.*, 2014.

Shama, S.N., Alekhya, T. and Sudhakar, K. 2012. Pharmacognostical and phytochemical evaluation of *Brassica oleracea* Linn var. *capitata f. rubra* (the red cabbage). *J. Pharm. Biol*, **2**(2): 43-46.

Verkerk, R. and Dekker, M. 2004. Glucosinolates and myrosinase activity in red cabbage (*Brassica oleracea* L. var. *Capitata f. rubra* DC.) after various microwave treatments. *J. Agricultural and Food Chemistry*, **52**(24): 7318-7323.