IOSR Journal of Pharmacy and Biological Sciences (IOSR-JPBS)
e-ISSN:2278-3008, p-ISSN:2319-7676. Volume 12, Issue 2 Ver. I (Mar. - Apr.2017), PP 72-73
www.iosrjournals.org

"A Review: Study of Faba Bean Grain Legume Crop of India"

Manju Meena
Lecturer, Dept. of Botany,
Raj Rishi Govt. College, Alwar (Raj.)

Abstract-*Faba bean (Vicia faba L.) is an important legume crop, which has high protein content and efficient atmospheric nitrogen-fixing ability. Faba bean is a valued crop and provides nutritious food for an expanding world population and will become increasingly important with climate change. The nutritional value of faba bean in terms of nutrition and body health has been recently emphasized frequently by a nutritionist in health and food area in many countries around the world. Faba bean is comprised of two types such as major and minor variety. The desi type is known as Bakla characterized by leathery with smaller seed sizes that are smoother and generally light colored. Dal and vegetable is a major use of faba bean. This study was focused on assessing the importance of the faba bean in India, specifically reviewing the status, trend, economic and nutritional values, consumption patterns, environmental importance.*
Keywords- *Legumes, nutritious, economic, importance and nitrogen fixation.*

I. Introduction

Legumes play an important nutritional role in the diet of people in developing countries.In India faba bean is still grown on small scale. It grows in Uttar Pradesh, Bihar, Punjab, Rajasthan, Manipur and Jammu-Kashmir and Madhya Pradesh, (Thamburaj and Singh, 2005). Legumes are the main sources of protein, calcium, iron, phosphorus, and other minerals, they form a significant part of the diet of vegetarians (Nene *et al*., 1988). Legumes are valuable crops and are consumed either directly as food or in various processed forms (Abusin *et al.*,2009). Leguminous crops such as faba bean (*Vicia faba* L., Fabaceae) and field pea (*Pisum sativum* L., Fabaceae) have substantial nutritional and environmental advantages therefore grown as rotation crops with cereals because of their role in nitrogen fixation (Neugschwandtne *et al*., 2015). Due to the diverse roles played by the faba bean in farming systems and nutritional security, the research on faba bean crops will have significant impacts on nutritional security and soil fertility.

Faba bean is a good source of energy, protein, minerals, vitamins, and fiber and also contains potentially health-beneficial phytochemicals. Faba bean is playing a leading role in food safety in the world by covering the deficit in proteins in the daily food ration of Indian populations. The designed faba bean-based infant follow-on formula meets the WHO/FAO requirements on complementary foods. Moreover, the grain faba bean legume crop has potential health benefits, which include reducing cardiovascular, diabetic, and cancer risks. Faba bean is a rich source of proteins, carbohydrates, lecithin, dietary fiber, choline, and secondary metabolites. This study focuses on reconsidering the nutritional, ecological, and economical values of the Faba bean (*Vicia faba*), crop. In many developed and developing countries, this legume has become the main component of farming systems as the food of producers and consumers.

Faba bean consumption- The research studies revealed that faba bean can be used as human food and animal feed for horses (horse bean) in many countries all over the world (Singh & Bhatt, 2012).The nutritional value of faba bean-Faba bean plays an important role in the human diet and is consumed in various forms due to its high protein content (Crépon *et al*., 2010). In India, green immature beans are eaten as a vegetable after boiling. The bean is also eaten roasted and used as a coffee extender.

The medicinal value of faba bean-Faba bean contains a huge amount of *L*-Dopa after velvet beans in its different parts (Genge*t al*., 2012). *L*-Dopa is a precursor of dopamine which is used in the treatment of Parkinson's disease and hormonal imbalance (Surwase *et al*., 2012).

The Ecological value of the faba bean- Faba bean is the highest nitrogen-fixing annual legume making it an excellent rotational crop. Faba beans can fix upwards of 90% of their nitrogen requirements, which means less nitrogen fertilizer needs to be applied in the spring (Daur *et al*., 2010).Ecological importance of faba bean include the ability to fix atmospheric Nitrogen, subsequent +ve pre-crop effects, crop rotations, and an increase of soil phosphorus appooach to subsequent crops (Jensen *et al*., 2010).

The Economic value of faba bean- It uses Faba bean as a common source of protein hence making it more economical and affordable for developing countries without compromising the nutrition quality. Among pulses, faba bean is preferred to food legumes in some regions because of its multiple uses. faba bean is considered to be unique because of its high level of protein content which accounts for almost 40% of its weight (Etemadi *et al.,* 2015).

II. Conclusion

Faba bean is important as it is a protein source for smallholder farmers and consumers around the world. Faba bean is a valuable multi-purpose crop that can be grown for its ecological and nutritional values. Faba bean seeds and pods contain a high amount of protein in almost all elements required for human diets. The Nitrogen fixation by faba bean is considered high among the other grain legumes. Integrating Into various cropping systems such as crop rotations and intercropping faba bean improves soil fertility and reduces the consumption of artificial Nitrogen fertilizer. Therefore, faba bean is important for developed and developing countries to realize the huge potential of grain legumes in increasing soil fertility and nutrition and take steps in increasing productivity.

References

[1]. Abusin, S. A., Hassan, A. B., & Babiker, E. E. (2009). Nutritional evaluation of cooked faba bean (Vicia faba L.) and white bean (Phaseolus vulgaris L.) cultivars. Australian Journal of Basic and Applied Sciences, 3(3), 2484–12.
[2]. Crépon, K., Marget, P., Peyronnet, C., Carrouee, B., Arese, P.,& Duc, G. (2010). Nutritional value of faba bean (Vicia faba L.) seeds for feed and food. Field Crops Research, 115(3), 329–339.
[3]. Daur, I., Sepetoglu, H., Marwat, K. B., & Geverek, M. N. (2010). Nutrient removal, performance of growth and yield of faba bean (Vicia faba L.). Pakistan Journal of Botany, 42(5), 3477–3484.
[4]. Etemadi, F., Hashemi, M., Mangan F., Weis, S., (2015). Faba beans; Growers guide in New England.
[5]. Geng X., Cheng J., Gangadharan A. Mackey D. The Coronatine toxin of Pseudomonas syringae is a multifunctional suppressor of Arabidopsis defense. The Plant Cell, (2012): 24: 4763–4774.
[6]. Nene, Y. L. Multiple disease resistance in grain legumes, Annu. Rev.Phytopathology (1988): 26: 203.
[7]. Neugschwandtner, R., Ziegler, K., Kriegner, S., Wagentristl, H.,& Kaul, H.P. (2015). Nitrogen yield and nitrogen fixation of winter faba beans. Acta Agriculturae Scandinavica, Section B—Soil & Plant Science, 65(7), 658–666.
[8]. Singh, A. K., & Bhatt, B. P. (2012). Faba bean: Unique germplasm explored and identified. HortFlora Research Spectrum, 1(3), 267–269.
[9]. Surwase, S.N., Patil, S.A., Jadhav,S.B.,(2012). Optimazation of L- Dopa production by Breundimonas sp. SGJ using response surface methodology. Microbiology biotechnology 5:731-737.
[10]. Thamburaj, S. and Singh, N. (2005). Text book of vegetables, Tubers and Spices. ICAR, New Delhi. pp 219.