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Popular Article

Gluten free wheat -A good diet for Celiac patients

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Wheat is the mostly consumed crop all over the world. Wheat crop constitutes 70 -80% gluten, 10-12% protein and 70% starch in it. Gluten present in the wheat can be divided into two groups: glutenin's and gliadins. Presently modern wheat varieties have high gluten content. Gluten has immunoreactive proteins in it and consumption of wheat having this gluten causes allergic reactions to some people. These allergic reactions lead to celiac disease. It is strictly recommended for people to consume gluten free wheat varieties to protect or reduce the symptoms of the celiac disease.

Introduction

In recent years, many people are affected by celiac disease, wheat sensitivity or allergy which is due to consumption high gluten containing wheat. Due to more demand for this crop the wheat breeding was carried out effectively and many varieties were released in 20 and 21st century. This wheat breeding there was no proportionate increase in the other protein content along with the increase in the gluten content. Now a days a main challenge before plant breeders is to develop the gluten free wheat varieties which will be helpful for celiac disease patients to consume all wheat products without craving for it or substituting the diet with other crop.

What is gluten protein and how celiac disease developing?

Gluten is a protein present in the cereals such as wheat, rye and barley. In 100 g of wheat 8 g of gluten is present. This gluten act as gumming agent and it responsible for wheat flour properties suitable for bread making. Celiac disease is an autoimmune disorder it develops in people susceptible or allergic to gluten in the food.

Symptoms of celiac disease

The various symptoms of the celiac disease are Chronic diarrhoea, failure to gain weight and height, generalised weakness, anaemia, delayed puberty, infertility and irritability. If person eating food containing gluten may cause damage to lining of the small intestine and possibly hinder absorption of nutrients.

Celiac disease treatment

The only available option to celiac disease is the maintain healthy lifestyle with gluten free foods. So, it is necessary for people to have idea about which foods to consume for reducing the celiac disease.

Gluten free grains to be included in diet

The crops like rice, buckwheat, oats, amaranth and millets are free of gluten. The consumption of this foods will reduce celiac disease. People who are fond of rotis can eat rotis made from these grains.



Ancient wheat varieties less in gluten

Ancient wheat varieties were less in gluten content. Emmer wheat has less gluten content in it which is ancestor of modern wheat.

New wheat varieties may be solution for celiac disease:

Scientists are working on wheat varieties to develop the gluten free wheat varieties. Research is going to identify first wheat variety which has less sensitivity in gluten intolerant individuals. This identified variety could be starting one for developing gluten free wheat by using gene editing like CRISPR Cas technology. This technology offers the prospect of producing hypoimmunogenic wheat. RNAi has been used to make low-gliadin lines.

Conclusion



The research is going on to develop gluten free wheat in the future for providing completely safe wheat for celiac. Till then people need to understand what is gluten and how it causes allergies in gluten intolerant people, to understand about gluten free foods and consume it.

