To evaluate the nutritive value & biochemical quality of wheat, Corn , Rice & Sorghum Crops

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Abstract:

A ready to eat the flour which is rich in nutrition to prepare the product which is rich in legumes and millets with sugar ,other ingredients. The nutrient composition, functional properties, sensory quality and storage characteristics of the product.

Key words: variety, quality ,evaluation, nutritive & biochemical properties etc.

Wheat (*Triticum aestivum* L.) is a major cereal crop in the world which acts as a source to make difficult products such as bread, biscuits, cookies & chapatti etc. in the Indian diet. It is a staple food of human nutrition & its also used in the straw form as a food for the cattle. Wheat has richer nutritive value than the other cereals such as rice,maize,jowar & bajara. China is the largest producer of wheat followed by India. The contribution of this crop is about 20% of the total calories of the world people who depends upon the chapatti so that it is known as ‘’king of cereals’’. Last ten years , an increase the demand of rice & wheat nearly about fifty million tones. At major scale wheat share approximately 30% of daily protein requirement & more calories to world diet. On the basis of nutrition , wheat consists of protein 12.60-14.00% ,fat 1.50-1.90%,68-71 g carbohydrate, dietary fibre,12.20% , 360 Kcal energy & 39 mg calcium,2.39 mg magnesium,842 mg phosphorous,6.26mg of iron . Wheat is the only crop which contain higher amount of carbohydrate in the form of wheat flour and present as a starch . The minor component which is present in the wheat flour is Pentasans. In the wheat flour, arabinoxylans has a unique quality to immobilize water & form viscous solutions or gels by covalent cross linking . Another most important factor of wheat is protein , which is very helpful to prepare good chapatti by improving the quality of wheat flour. In the grain of wheat 80-85% of total protein is gluten which consists of prolamin & gluten . Its quality & quantity helps & analyse the baking quality of the flour.

Rice:

Rice (*Oryza Sativa*) is the most demanding staple foods and the most important cereals crops which is very popular in Asian people, but its intake was highest from outside of Asia (Orthoefer,2005). It acts as a bulk energy source of calories for animals & humans consumption (Ryan,2011). About the rice consumption , people have a idea about the glycemic index. Its intake is also connected with the people who are suffering from diabetes disease.(Mckeon et al,2002). On the bases of research , rice has the greatest variability of the glycemic index which depends upon on type, cooking method & the taste which helps to prove that it has better taste & nutritive value.

The health effects of rice & its products, the pigment of rice can reduce or affect the formation of atherosclerotic plaque because it has anti oxidative or anti-inflammatory effects. To consume the rice , which provide us arsenic exposure, the arsenic content of rice consumption & urinary arsenic excreation (Gilbert –Dianond et al,2011).

On the bases of nutrition rice is a good source of thiamine (Vitamin-B1),riboflavin (Vitamin-B2),& niacin(Vitamin B3) (Depa et al ,2008) has reported that the level of vitamin is dehusked rice of variety such as Njawara, jyothi & IR-64 Njawara contained 27-32% higher as compared to other variety of rice. Rice is a rich source of nutrients & it can not alone supply all the nutrients which are necessary for adequate nutrition . It helps to complete with the other sources of food . Animal products & fish are useful to the diet which helps to supply all the essential amino acids & micronutrients. In vegetarian people pulse, beans , groundnuts & lentils are also nutritional complements to the rice based diet & help to provide who amino acid profile. (FAO,2004).

Corn :It is commonly known as maize (Zea mays L.) which is originated in America. Corn is one of the major food sources in the world. It contains significant amounts of bioactive compounds providing desirable health benefits beyond its role as a major source of food. Besides corn grain sweet corn is considered as one of the most popular vegetables in north America & china.

Sweet corn is the top six vegetables consumed in the U.S. canned & frozen sweet corn is ranked the third in among vegetables consumed in the U.S. only behind the canned tomatoes & frozen potatoes. The consumption of corn & other whole grain products has been linked to the reduced risk of chronic disease including cardiovascular diseases, diabetes ,obesity some types of cancers & with the improvement of digestive tract health.

Health promoting effects of phytochemicals of fruit & vegetables including anti oxidants activities & antiproliferative activities.

The health promoting compounds such as amylase in corn endosperm , a wide range of phytochemicals such as total phenolics & phenolics acids are found in corn bran & germ fractions of high concentrations. All corn rich in dietary fiber, vitamins , minerals, phenolic acids & flavoinds,plant sterols.

Maize is known as a grass which approximately 7000 years ago in Mexico. Maize was spread across the world shortly. At present U.S. ,Brazil, Mexico ,argentina, India,France,Indonesia,South Africa & Italy produce 79 of the world's maize production. The total maize production increased from 482.0 to 832.5 mmt. World wide , 60-70% of the production of this crop is used as livestock feed and rest 30-40% is used for production of items for human consumption.

It is recently used as a biofuel has generated great concern about rises in the market price of corn for consumption , and the rise in cultivable areas as well as water quality & other ecological damages.

Sorghum: It is one of the cereal crop which constitute a major source of proteins, calories, minerals for millions of people who lived in Africa &Asia. This cereal is mostly considered as subsistence crop because of its unique tolerance to drought & adaptation to dry tropical & subtropical ecosystems throughout the world. This crop is nutrient rich with minerals but with iron to greater than 90% for sodium & potassium the essential amino acids such as lysine ,therionine ,trypsin & amylase inhibitors ,phytic acid & tannins. So, the compounds which are interfere with protein, carbohydrates,minerals metabolism. Most of the fermented food is popular with the combination of sorghum. The process of fermentation makes the foods easier to digest & the nutrients easier to assimilate and also it retains enzymes, vitamins, & other nutrients that are usually destroyed by food processing.

The multigrain or mixture of grain provide the adequate amount of nutrition which are very helpful to the human system. They are also helpful to cure the disease. Human body is not only need to eat only wheat ,

rice but the body structure of human started consuming typical diets which are tasty and easy to cultivate. The need is to change the diet structure and move closer towards nature.

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