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Agricultural Impacts, Importance and Botanical Role of Different Crops

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Abstract

Crop plants are cultivated because of their commercial values and for trading. On the other hand, the crop plants are cultivated and harvested on a large scales for profit purposes. The rice is cultivated in vast range of areas under different climatic conditions, grown in both wet and dry regions. Wheat is the most important and ancient crop which is cultivated at larger scale in many regions of the world. Cotton has hundreds applications in many things such as blue jeans to strings of our shoe, in clothing It has hundreds of uses, from blue jeans to shoe strings. The production of organic cotton promotes the biological cycles and the biodiversity. It is also used as fodder, feed for the cattle's and in silage making. It is utilized widely as the main source of calories in the animal's fermentation process. As the demand of crop increasing day by day due to large population entire the world, food with combinations of nutrients and minerals required to increase the production rate off different crops.

Keywords: Crops, agricultural aspects, climate changes, cotton, biological significance.

INTRODUCTION

The plants and animals are main source of food for the human beings. To fulfill their nutritional diet the humans have always hunted the animals and collected plants for their food and as a nutrition [1, 2]. Hence the crops classification has done for the proper utilization of resources from the crops. A crop or plants which are cultivated on big scales due to their use in daily life and for animals. Generally the crop plants are cultivated because of their commercial values and for trading [3, 4]. On the other hand, the crop plants are cultivated and harvested on a large scales for profit purposes. Some biofuels are generated by using the sugar having plants, such as ethanol which is obtained from the fermentation process of sugar containing plants. Corn grain and the sugar cane are the two major sources of sugars. The other sources are barley, grain, wheat, rice, sugar beets and sweet sorghum [5-7].

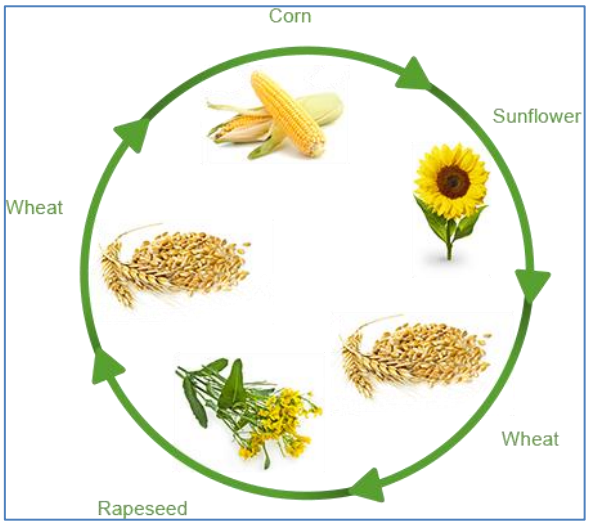

Fig-1: Shows the different types of crops via cyclic rotation

The commonly grown rice plant grows up to 4 feet in height and it is an annual grass. The hollow stems contains the flattened leaves and have the broad fibrous root system[8]. The varieties of rice greatly differ from each other shape, weight and length of panicle and also yielded differently [9]. The rice is cultivated in vast range of areas under different climatic conditions, grown in both wet and dry regions. On the coastal plains the rice is grown at the sea level and in delta areas all over Asia and on the slope of Nepal mountains at the height of 2600 m. Mostly it is cultivated in fertile Punjab and Sindh areas where the rice is main source of income for the farmers [10, 11].

The most important character in the rice is its yield. It is regulated by the quantitative trait loci and triggered by the environmental factors [12]. The yield in rice is calculated by the indirect characters like growth period, panicle length, seed setting rate, tillering ability, plant height and the grains on one panicle. Under drought stress chlorosis occurred on the young leaf mostly after 3 weeks of planting, due to this mostly plant die or fails to grow[13,14].

Oryza sativa the Asian rice is most common and about its 2 main subspecies and 40000 varieties are cultivated. Also some varieties of Oryza glaberrima the African rice and genus Zizania the wild rice are well-known [15,16]. The common rice especially the low land rice is highly sensitive to shortage of water. Water management is necessary in lowland for better yield and to minimize the effect of chlorosis. The normal harvesting timing ranges from 30 to 35 days after the flowering when the 85 to 95% panicles become straw colored. Before the threshing keep the crop for drying for 2 to 3 days. After the threshing seed should be put in to the bags, labeled the bags and stored in proper way [17-19].

Wheat

Wheat is the most important and ancient crop which is cultivated at larger scale in many regions of the world. There are many thousands wheat varieties, the most common variety is wheat the scientific name Triticum aestivum, it is grown at large scale over the globe and it is used in many products used in daily life[20]. The uses of wheat making bread; durum wheat, used in pasta making such as macaroni and spaghetti; and club wheat, a softer kind, used to make crackers, cake and cookies. In this modern era, the advancement in the technology which is used in the preparation of soil, placement and planting the seeds, the crop rotation and the use of fertilizers increases the yield of wheat and make it viable crop [21]. The cultivation of novel varieties and their management is the major factor which helps in improvement of wheat production. The information about the factors like variety choice, nutrition, crop rotation and the weed control are the main things which improve the production and helps to earn more profit [22].

Fig-2: Shows the wheat crop as potentil source of fibers

The farmers face the many serious challenges which are addressed by the research in area specific research laboratories and the varieties of plant amended to indigenous challenges [23]. Without the researches, challenges due to diseases and pests will go of pests and plant diseases will go unimpeded and objective of improving production of wheat before the 2030, to feed swiftly rising population, will go unmet. From a many decades the wheat breeders have constantly focusing on the factors which affect the wheat yield [24].

Cotton

Cotton is the main crop of Pakistan and it used in every important thing which is used in our daily life from a towel which we use to dry our face in the morning and the cotton sheets which we used at night on our bed [25]. Cotton has hundreds applications in many things such as blue jeans to strings of our shoe, in clothing It has hundreds of uses, from blue jeans to shoe strings. Clothing and in many of the household items and also in many of the industries [26].

Now a day's organic cotton is used in many items which is obtained from plants that are not genetically modified and is certified that they are cultivated without synthetic agriculture chemicals like the pesticides and fertilizers [27]. The production of organic cotton promotes the biological cycles and the biodiversity. Rotor spinning is the fastest production technique. The cotton is an annual woody perennial shrub and is cultivated in warm season. After the plantation when the grains begin to grow the seedling are protected from the weeds, disease and the pests attack [28].

Maize

In many world regions the maize has grown as a staple food crop, with total maize production beating that of rice and wheat [29]. Additionally to being used up directly by the humans, maize is also utilized for corn-ethanol, animal feeding and in many other products, like corn-syrup and corn-starch. The 6

main maize types are popcorn, sweet-corn, dent-corn, pod-corn, flour-corn, and flint-corn. It is also utilized in the formation of biofuels and ethanol [30].

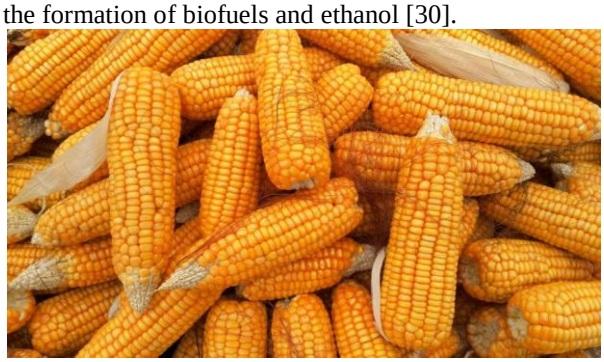

Fig-3: Shows the maize after passing through cultivation and processing

Ethanol formed from the maize can be used as bio-mass fuel. The female corn flower stigmas which are called corn silk are used as herbal supplement. It is also used as fodder, feed for the cattle's and in silage making. It is utilized widely as the main source of calories in the animal's fermentation process [31].

Factors affecting crops production and cultivations

Hybrid variety selection

It is becoming gradually tougher to find out the independent data. The main seed dealers are working to have to increase willingness to make sure supplies are inherently diverse and actually in the top interest of farmers [32]. This may at times clash with advertising and sales purposes. In this modern era the breeder are working on the varieties which are more profitable for the farmers and gives more output as compared to the old one. The diseases, pests and insects effects are also increasing day by day but the breeders are also highly concerned with it to eliminate the effects of the diseases and insects pests attack on the crops. The breeders are producing the genetically modified crops which have resistance against attacks of diseases and some environmental factors and also produced more yield. Therefore, the farmers are also focusing on those varieties which have ability to cope with these factors and gives more output to the farmers [33, 34].

Temperature

Temperature is a measure of intensity of the heat energy. The optimum temperature for better growth of the crops is 15ºC to 40 ºC. In this temperature the crops grows normally and give better performance [35]. The germination, development and growth of crop plants is influenced by the temperature. The rise in temperature causes the heat stress in crops, due to the heat stress the crops growth inhabited, majorly the seedlings are highly effected by the higher temperatures. Heat stress is also the major cause of lower yield of different crops. On the other hand, the low temperature causes the frost stress in plants, which is highly harmful for the crops. Due to the lower temperature the crops also gives lower output [36].

Many of the cultural practices are now available which helps the crop plants to grow normally in the heat and the frost stresses in plants [37]. The farmers are using these practices to overcome different crops lower yield issues and are earning more profit. There are some agricultural practices which highly used are: row covers us, plastic tunnels and plastic mulches and some others. These methods enable the farmers to get favorable income from the crops under less than the optimal conditions [38]. The breeders are also focusing on these issues to make those varieties which are resistive to different stresses. The dealers should spread the awareness among the farmers to cultivate the hybrid and more resistive varieties which benefits to the farmers [39, 40].

CONCLUSION

Different crops have applications in different fields such as agricultural, natural product chemistry, green synthesis of plant based compounds. This review helpful to understand the nature of crop, factors affecting its cultivating, seasonal conditions. As the demand of crop increasing day by day due to large population entire the world, food with combinations of nutrients and minerals required to increase the production rate off different crops.

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