

# Planning for better yield of Wheat

Courtesy Daily Dawn, 10 December 2001

The wheat is sown the world over on an area touching 220 million hectares producing 600 million tons with an average of 2700 kg. of grain per hectare.

The Main land China brings 30 million hectares the largest are in the world followed by Russian Federation, India, USA, Australia, Canada, Turkey and Pakistan.



As far as the highest yield is concerned, France produces 7200 kg per hectare. Who leads other countries because it has much longer growing season of winter wheat? It is rather more appropriate to compare our wheat grain yields with countries of similar climatic and eco-zones, like Mexico and Egypt. Their yields are much higher owing both genetic constitution of cultivars and environment provided to them to express their biological potential.

Since Mexico and Pakistan are located in analogous ecological zones therefore, introduction of Mexican varieties in the country in sixties ushered an era of green revolution. But unfortunately the pace of development could not be maintained for long and we now lag much behind the Mexican yields, who have gone for ahead of us producing 3900 Kg. of wheat grain per hectare as compared to 2491 K. for us in the year 1999, the best season. According to FAO statistics for 1995, among spring wheat growing countries Egypt has fantastic yield by producing 5422 kg of grain per hectare where as Indian Punjab producing 4090 kg. And even India leads us in average yield by producing 2559 kg. Not with standing three times largest area as compared to ours.

In our country wheat is cultivated largely (80 per cent), in irrigated areas whereas, rest in rain-fed. The yield and production in latter part of the country is predominantly controlled by rains during growing season, which usually are erratic. Hence yields are much lower during season of low precipitation.

There are of course three kinds of wheat cultivars, the long duration, the medium and short duration varieties. The wheat yields usually start declining after 20th Nov sowing at the rate of 20 kg per day.

Hence efforts must be made to plant it at optimum time. In cotton areas the sticks are by and large used as fuel in domestic house hold. Big heaps of cotton sticks can be seen along the roadside and in villages.

There is a great need to educate growers as to how much yield is lost due to burning of sticks. So as to restore the soil fertility at least 80 per cent sticks may be buried in soil. In order to enhance the decomposition half a bag of urea per acre may be incorporated in the soil after the stick burial.

In view of numerous benefits through the addition of organic matter from cotton sticks, may be made mandatory for each farmer. In case wheat sowing is delayed owing to late maturity of cotton, wheat may be sown in standing crop, if there is low or no incidence of weeds. However in rice tract wheat should be sown on proper time immediately after crop harvest. In rice zone a sizable area must be brought under this season legumes, the chickpeas and lentils. It is of course not so difficult to reap their yields up to 1000 kg per acre, which will bring more finances to the growers as compared to raising wheat.

Adequate quantity of nitrogen, phosphorus and potash may be applied to harvest maximum grain. If phosphorus is added adequately it will not only help to realize good harvest, the following crop of cotton shall utilize the remaining residual phosphorus, without adding more of this element to cotton.

In my opinion there are three main factors, which largely contribute towards low wheat yields, the optimum time of sowing, prevalence of high intensity of weeds, imbalance use of fertilizer. The low level of organic matter is also important for holding the yield. In irrigated areas the crop is generally sown either after the harvest of cotton or paddy.

In most of the cases it is customary that farmers neither add organic matter nor farmyard manure to maintain fertility, thus resulting in low yields. In order to sow wheat at optimum time the cotton breeders in collaboration with cotton agronomists must try to reduce the life span of cotton crop without hampering the yield and deteriorating the quality of lint. In this way not only have substantial saving on the management of cotton but also timely sowing of wheat to realize maximum yields. As far as weeds are concerned it is estimated that decline in wheat yield ranges from 15 to 40 per cent or even more in some cases, which is indeed a great loss towards food self-sufficiency.

As my experience goes it is much worst in certain localities where it appears as if wheat is an obnoxious plant. It is in fact a glaring negligence on the part of extension workers and the grower himself.

The extension workers with the help of farmers may try to delineate the areas of high infestation of "Dumbi Sitti" and wild oats.

The farmers in such areas may be advised to control them through agronomic practices or herbicide treatment or removing the weed plants just after earing because at that stage it is easy to differentiate between both the weed and wheat plants.

If these weeds are not controlled now they will spread like a wild fire in coming years in whole of wheat areas. These weeds have capability to produce large quantities of seed, which is always shed before wheat harvest. Henceforth infestation increases at an alarming pace. These two weeds along with "It Sit" can be used as biological warfare in agriculture. On the other hand in barani areas "Pohalli" is quite a common weed, which can be easily seen while travelling by air, road or rail after the harvest of wheat.

The abundance of this weed undoubtedly is a main factor for low yield in the area. The Pohalli remain green much after harvest of crop. At that time it is an appropriate time to launch a campaign to eradicate it by uprooting and burning. Two or three exercise will help to whip out the weed in barani areas. Henceforth this year may be declared a Pohalli eradication year. The road sides and sides of rail tracks may also be cleared of it.

The pace of yield increase per hectare during past twenty years has been awfully poor rather frustrating since 1980 to 01. The population growth however, over whelmed the increase in yield per unit area therefore; the enlarged demand of wheat consumption was met by bringing more area under crop.

This certainly is not a good omen but for how long increase in area under crop shall come to our rescue. This problem has to be tackled through serious and wise planning and execution.

First of all we shall have to get rid of non-technocrats from lowest level to highest in the ministry of food, agriculture and livestock and induct able selfless agricultural scientists but not the pseudo ones. More funds have to be infused for research and transfer of technology. At the same time we must motivate the general public to diversify the so-called dietary pattern, is greatly imbalanced, which required to be substituted by balanced through intake of nutritive food, so as to reduce unnecessary burden on wheat. Besides this we must substantially boost yield per unit area. Thus placing this area under oil seeds, vegetables, fruits, pulses, and flowers. Also considerable area may be brought under fodder to raise ore animals for milk and meat production. Last but not the least we ought to arrest population growth.

With the improvement in agronomic practices we must try to equate with Egyptian or across the Punjab wheat yields in less than three or at the most five years.

Storage facilities: There are many stored grain pests, which destroy a considerable quantity of produce while in store in villages. Efforts may be made to eliminate the losses. If these losses are controlled it is possible that we may not have to import food grains any longer.