

Agriculture Workshop

Organized by

Pakistan Society of Sugar Technologists

Keynote Address

By:

Manzoor Hussain Malik
Senior Vice President(Agri.)

Honorable Prof. Dr. Ehsanullah Sahib, Chairman Agronomy Department (UAF Faisalabad) - Chief Guest, Mr. Murad Ali Bhatti, President PSST, Distinguished Guests and my dear colleagues **Assalam-o-Alaikum**

It is a great honor and pleasure for me to address the learned and renowned agriculture scientist. Today Workshop theme is ***“Maximizing production of Sugar Cane and Sugar yield Through Modern Agricultural practices”***

Gentlemen, PSST for the last several years, is holding such Workshops at various parts of the Country and providing a platform to the Agriculture Scientists to share their latest research work and knowledge among the people directly related with the Sugar Industry, which is ultimately disseminated and delivered to the farmers, through the cane staff of the Sugar Industry.

Establishment of a Sugar Mills is a sign of prosperity for the under developed rural areas of Pakistan, as it brings a communication network in the form of roads, colonies, schools, hospitals and power houses etc. It also attracts the renowned educational institutions to open their branches in that areas and above all provides fresh opportunities of employments for every group of the society which is the need of time. In this way Sugar Mills play an important role for the uplift of the socio-economic level of the Country.

Pakistan is the 4th largest Country in the World in terms of area under sugarcane cultivation but in cane yield we are in 11th position among the major cane growers Countries & in production we are in 7th position. Detail is given in

Table-I.

Area and Yield of Sugarcane in Some Major Cane Growing Countries

TABLE-I

| Country | Area (Million Hectare) | Production (Million Tons) | Yield (Tons / Hectare) |
|--------------|------------------------|---------------------------|------------------------|
| USA | 354 | 28,674 | 81 |
| Australia | 391 | 31,280 | 80 |
| Thailand | 932 | 71,764 | 77 |
| Brazil | 8,598 | 653,448 | 76 |
| India | 4,400 | 308,000 | 70 |
| Mexico | 699 | 48,930 | 70 |
| China | 1631 | 113,746 | 70 |
| Sri Lanka | 14 | 920 | 67 |
| Indonesia | 420 | 26,500 | 63 |
| South Africa | 314 | 18,840 | 60 |
| Pakistan | 1,178 | 65,968 | 56 |

As all of us know that Sugar Industry in Pakistan is the second largest Agro-based Industry comprising 84 Sugar Mills with an annual crushing capacity of over 7 – 8 million Tons Sugarcane. Sugar manufacturing contributes a significant role to the National economy in the form of various Taxes and Levies.

During the past years, significant progress have been made by our Agriculture Scientists to provide high yielding and high sucrose content varieties but we are not very successful in improving yields, when we compare our yields and recovery with other Countries in the World we still stand far behind. Even our neighbor Country India is much better in cane and sugar yields than us. Yields are increasing over times but at very slow rates (**Indicated in Table-II to Table-V**)

Pakistan sugarcane yield in 1998 was 47.78 Tons per hectare, in Punjab it was 42.78 Tons per hectare and in KPK the yield was 45.68 Tons per hectare respectively. After a period of 15 years, the overall yield of Pakistan is 56.5 Tons per hectare, Punjab 56 Tons and KPK 44.70 Tons per hectare. In KPK yield is decreased whereas in Pakistan the yield is increased from 47.78 to 56.6 Tons per hectare which means only 0.58 Tons is increased annually. In Punjab 0.88 Tons annually and in Sindh the annual increase is nominal.

Sugarcane Plantation Area, Production and Yields - PAKISTAN

TABLE-II

| Year | Area Million Hectare | Production Million Tonnes | Yield / Hectare | Recovery %Age |
|---------|----------------------|---------------------------|-----------------|---------------|
| 1998-99 | 1,155 | 55,191 | 47.78 | 8.21 |
| 1999-00 | 1,010 | 42,000 | 41.59 | 8.33 |
| 2000-01 | 960 | 43,620 | 45.41 | 8.39 |
| 2001-02 | 1,000 | 48,041 | 48.06 | 8.71 |
| 2002-03 | 1,100 | 52,049 | 47.33 | 8.74 |
| 2003-04 | 1,075 | 53,800 | 50.00 | 9.15 |
| 2004-05 | 967 | 43,533 | 45.04 | 9.10 |
| 2005-06 | 907 | 44,292 | 48.80 | 8.60 |
| 2006-07 | 1,029 | 54,871 | 53.00 | 8.69 |

| Year | Area Million Hectare | Production Million Tonnes | Yield / Hectare | Recovery %Age |
|---------|----------------------|---------------------------|-----------------|---------------|
| 2007-08 | 1,241 | 63,920 | 51.49 | 8.98 |
| 2008-09 | 1,029 | 50,045 | 48.60 | 9.46 |
| 2009-10 | 943 | 49,373 | 52.36 | 9.05 |
| 2010-11 | 988 | 55,442 | 56.13 | 9.37 |
| 2011-12 | 1,047 | 58,038 | 55.48 | 9.64 |
| 2012-13 | 1,128 | 63,719 | 56.50 | 10.00 |

Source: (PSMA)

Sugarcane Plantation Area, Production and Yields - PUNJAB

TABLE-III

| Year | Area Million Hectare | Production Million Tonnes | Yield / Hectare | Recovery %Age |
|---------|----------------------------|---------------------------------|--------------------|------------------|
| 1998-99 | 780 | 33,383 | 42.78 | 7.80 |
| 1999-00 | 672 | 25,000 | 37.20 | 7.82 |
| 2000-01 | 615 | 26,740 | 43.48 | 7.96 |
| 2001-02 | 657 | 31,803 | 48.40 | 8.52 |
| 2002-03 | 735 | 33,169 | 45.12 | 8.52 |
| 2003-04 | 709 | 34,419 | 49.00 | 9.09 |
| 2004-05 | 645 | 29,332 | 45.47 | 8.99 |
| 2005-06 | 625 | 28,949 | 46.30 | 8.10 |
| 2006-07 | 712 | 37,542 | 53.00 | 8.53 |

| Year | Area Million Hectare | Production Million Tonnes | Yield / Hectare | Recovery %Age |
|---------|----------------------------|---------------------------------|--------------------|------------------|
| 2007-08 | 872 | 40,306 | 48.73 | 8.93 |
| 2008-09 | 667 | 32,295 | 48.50 | 9.50 |
| 2009-10 | 607 | 31,324 | 51.60 | 8.86 |
| 2010-11 | 672 | 37,481 | 55.75 | 9.32 |
| 2011-12 | 761 | 42,893 | 56.34 | 9.68 |
| 2012-13 | 768 | 42,982 | 56.00 | 9.92 |

Source: (PSMA)

Sugarcane Plantation Area, Production and Yields - SINDH

TABLE-IV

| Year | Area Million Hectare | Production Million Tonnes | Yield / Hectare | Recovery %Age |
|---------|----------------------------|---------------------------------|--------------------|------------------|
| 1998-99 | 271 | 17,051 | 62.96 | 8.96 |
| 1999-00 | 231 | 12,100 | 51.27 | 9.18 |
| 2000-01 | 239 | 12,050 | 50.42 | 9.23 |
| 2001-02 | 241 | 11,416 | 47.37 | 9.26 |
| 2002-03 | 259 | 13,798 | 53.27 | 9.33 |
| 2003-04 | 260 | 14,612 | 56.00 | 9.40 |
| 2004-05 | 215 | 9,357 | 43.52 | 9.53 |
| 2005-06 | 183 | 11,243 | 61.40 | 9.83 |

| Year | Area Million Hectare | Production Million Tonnes | Yield / Hectare | Recovery %Age |
|---------|----------------------------|---------------------------------|--------------------|------------------|
| 2005-06 | 183 | 11,243 | 61.40 | 9.83 |
| 2006-07 | 215 | 12,529 | 58.00 | 9.14 |
| 2007-08 | 309 | 18,794 | 60.86 | 9.33 |
| 2008-09 | 264 | 13,304 | 50.40 | 9.62 |
| 2009-10 | 234 | 13,505 | 57.70 | 9.54 |
| 2010-11 | 227 | 13,900 | 60.43 | 9.42 |
| 2011-12 | 245 | 14,455 | 59.00 | 9.72 |
| 2012-13 | 254 | 15,966 | 63.00 | 10.50 |

Source: (PSMA)

Sugarcane Plantation Area, Production and Yields – KPK

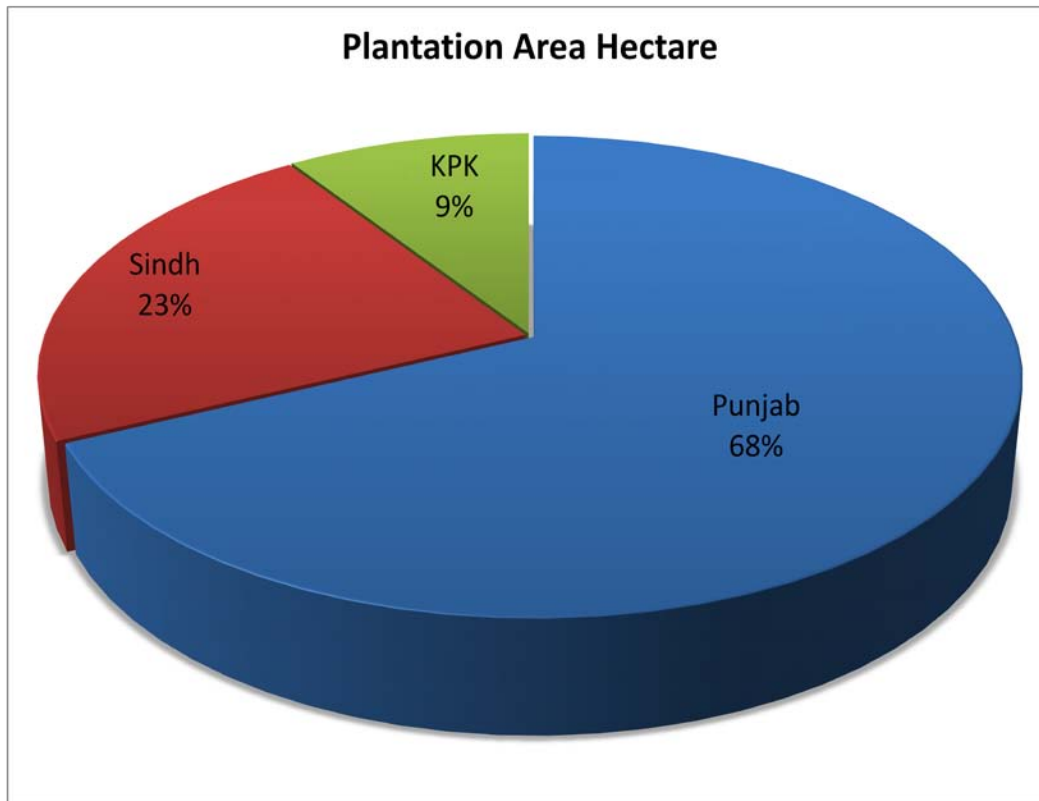
TABLE-V

| Year | Area Million Hectare | Production Million Tonnes | Yield / Hectare | Recovery %Age |
|---------|----------------------------|---------------------------------|--------------------|------------------|
| 1998-99 | 03 | 4,720 | 45.68 | 7.95 |
| 1999-00 | 06 | 4,900 | 46.10 | 7.93 |
| 2000-01 | 06 | 4,800 | 45.28 | 7.22 |
| 2001-02 | 01 | 4,787 | 47.40 | 8.09 |
| 2002-03 | 05 | 5,049 | 48.08 | 8.11 |
| 2003-04 | 05 | 4,745 | 45.00 | 8.53 |
| 2004-05 | 06 | 4,816 | 45.43 | 8.59 |
| 2005-06 | 99 | 4,100 | 41.60 | 7.69 |

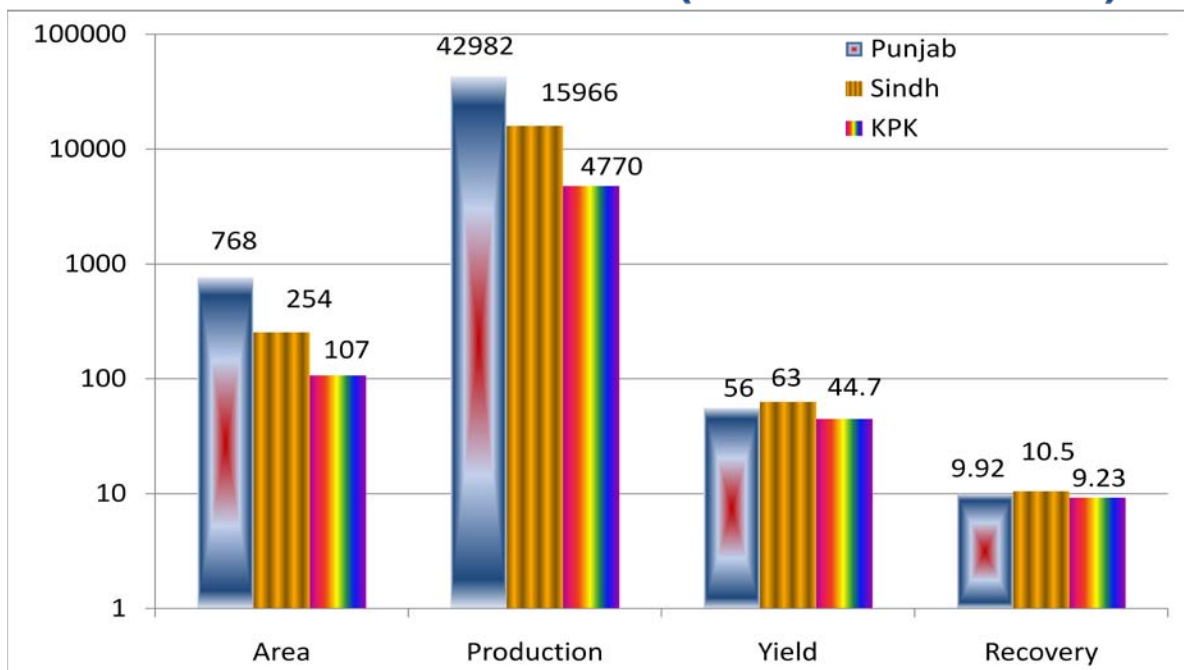
| Year | Area Million Hectare | Production Million Tonnes | Yield / Hectare | Recovery %Age |
|---------|----------------------------|---------------------------------|--------------------|------------------|
| 2006-07 | 102 | 4,800 | 47.00 | 8.23 |
| 2007-08 | 05 | 4,792 | 45.73 | 7.62 |
| 2008-09 | 98 | 4,409 | 44.09 | 8.37 |
| 2009-10 | 101 | 4,508 | 44.70 | 8.37 |
| 2010-11 | 88 | 4,030 | 45.59 | 9.08 |
| 2011-12 | 94 | 4,326 | 45.82 | 9.55 |
| 2012-13 | 107 | 4,770 | 44.70 | 9.23 |

Source: (PSMA)

Sugarcane Plantation Area in PAKISTAN



Sugarcane Plantation Area, Production and Yields (Season 2012-13)



Factors affecting the Sugar Cane and Sugar Yields

- ✗ Illiteracy and less awareness of sugarcane growers about the recent management practices.
- ✗ Lack of sugarcane development programs by the Mills.
- ✗ Poor agronomic status of soils.
- ✗ Conventional production practices.
- ✗ Limited soil preparation.
- ✗ Improper sowing methods.
- ✗ Improper variety adjustment.
- ✗ Use of less seed rate.

- ✗ Improper Irrigation System.
- ✗ Lack of Long Term Planning.
- ✗ Late sowing of crop.
- ✗ Imbalance use of fertilizer.
- ✗ High cost of inputs.
- ✗ Irrigation water scarcity.
- ✗ Poor irrigation system.

- ✗ Load shedding.
- ✗ Lack of plant protection measures.
- ✗ Poor management of Ratoon Crop.
- ✗ Non availability of loan and high interest rates.
- ✗ Low rain fall (200-400mm) and high evapo-transpiration rate due to high temperature.
- ✗ Economic problems of the farmers (70 T/Hectare Breakeven)
- ✗ Cane payment on weight basis and there is no scientific cane payment system in Pakistan.

There are several factors contributing in low yields as mentioned above but according to my opinion, the main factors responsible for low sugarcane yields are:-

★ Poor Organic Condition of Soil

Organic matter plays an important role for good yields and that should be 2%. But in our conditions it is less than 1%. Therefore due consideration should be given to improve the soil health by the addition of farm yard manures, adopting rotation of crops and growing the crops that adds organic matter in soil and improve soil health like Jantar, Berseem etc.

★ **Lack of Cane Development Programme by the Mills**

Development Programme by most of the Mills has almost stopped due to de-zoning. It must be revived if we want to increase the yield and recovery.

★ **Unavailability of Farm Machineries**

Farm implements are not available for deep Ploughing, especially to small growers which are not preparing soils according to the standard depths which is necessary for good yields. It is suggested that at least soil preparation Implements must be given by the Mills on loan (interest free).

★ **Limited Resources of the Growers to purchase Agriculture Implements and other Inputs**

The present scenario of price hike in Fertilizer, Diesel and other Inputs is the serious concern. Application of proper doze of fertilizer to the crop has gone beyond the financial reach of the farmer. This situation is directly affecting the cane production. In my view the gravity of the situation can be subsidized to some extent by processing the press mud in bio-fertilizer and provide to the farmers on cheaper cost. At present thousands of tons of this precious product of the Industry is just being wasted.

★ Improper Variety Adjustment

Selection of proper variety according to climate, region and time of sowing is very important to gain good yields. Mostly farmers did not know which variety is suitable and gives good yield according to their soil status.

★ Less attention on Ratoon Crop

Ratoon Crop is 40 – 50 % in Punjab but there is no Ratoon management. 30% more nutrition is required for Ratoon Crop. Ratoon Crop is usually considered as a free crop and given no proper attention in applying Fertilizers that results 30-40% low cane yields.

★ Water Scarcity

Water stress has adversely affected the Agriculture sector of the Country in general and sugarcane cultivation in particular. Water stress has not only resulted in reduction of area under cane cultivation but the sugarcane yield per acre and recovery is also affected, due to various diseases and infestation caused by water scarcity. Load shedding and high cost of diesel forced the sugarcane growers for sowing the short duration crops like wheat, cotton, rice and maize etc.

Keeping in view the water availability condition in Punjab, we should concentrate on the evaluation of drought tolerant, high yielding sugarcane varieties for the betterment of Sugar Industry in Pakistan.

THANKS