HABIB SUGAR MILLS LIMITED, NAWABSHAH

Cane Yield Maximization Programme Through Modern Mechanized cultivation system in encatchment area of Habib Sugar Mills Limited, Nawabshah

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Outlines;

- Land Development
- Innovate Mechanized Cultivation Technology
- Irrigation Use Efficiency
- Intercropping
- Proper Ratoon Management

Objectives

- To improve per acre Sugarcane yield in HSM Gate area.
- To improve Sugar recovery in HSM Gate area.
- To save water resources for future generation.

Development

- Laser Levelling
- Filter Cake
- Deep Ploughing.

Innovate Mechanized Cultivation Technology of Sugarcane

Mechanization;

It is the process of using modern agricultural machinery to mechanize agricultural work to increase workers efficiency and enhance crop production. There is a positive correlation between application of improved mechanized technologies and the land productivity.

HSM. Future Planning; Sugar Cane Harvester

Introduction of Sugar Cane Whole Stalk Planter

Introduction;

- The planting of sugarcane require huge labor involvement, which indeed makes sugarcane production highly unproductive leading to escalated costs and delays profits for growers.

Mechanized sugarcane planting enables:

- Better germination
- Fast operations
- Improved efficiency (1 acre/ 02 hours)
- Less dependence on labour
- Minimized costs

Demonstration of Sugar Cane Whole Stalk Planter at HSM Gate area

- **The process of Mechanized Sugarcane Planting**

- Ridging
- Seed cutting
- Uniform Seed laying
- Fertilizer application
- Soil covering

Dual Row Ridger

- **Planting Geometry;**

➢ 1.25-3.25-1.25 feet

➢ In paired row planting of sugarcane, 4.5 feet spacing is left between the centre of two adjacent beds.

➢ Distance between two lines of planting in paired row is 1.25 feet.

Demonstration of Dual Row Ridger at HSM Gate area

Planting Geometry & Proper Seed Rate

Water Use Efficiency

Traditional Plantation

Mechanized Dual Row Plantation

- In a dual row plantation method irrigate only 50 % surface area which ultimately save 30-40 % water.
- Due to dual row planting system also increase irrigation use efficiency due to trench formation in cane fields.

Intercropping (Sugarcane + Wheat) at HSM Gate Area (Pic; 2020-21)

Comparison of Sugarcane as a intercrop (Wheat Broadcasted Vs Drilled) at HSM Gate Area (Pic; 2020-21)

Wheat Broadcasted

Drilled Wheat

Intercropping (Sugarcane + Canola) at HSM Gate Area (Pic: 2020-21)

Intercultural operation

Mechanized

- Time Saving
- Efficient working
- Economical

Manual

- Time Consuming
- Laborious
- Costly

Intercultural operation at HSM Gate Area

Comparison of Traditional Vs Dual Row Planted Sugarcane Crop at HSM Gate Area Progressive Grower Naveed Abbasi (Pic May-2021)

Traditional Plantation

Mechanized Dual row Plantation

Autumn Demo Plot at Gate Area Habib Sugar Mills (2020-21) Pic- June 1, 2021

Introduction of Trash Spreader

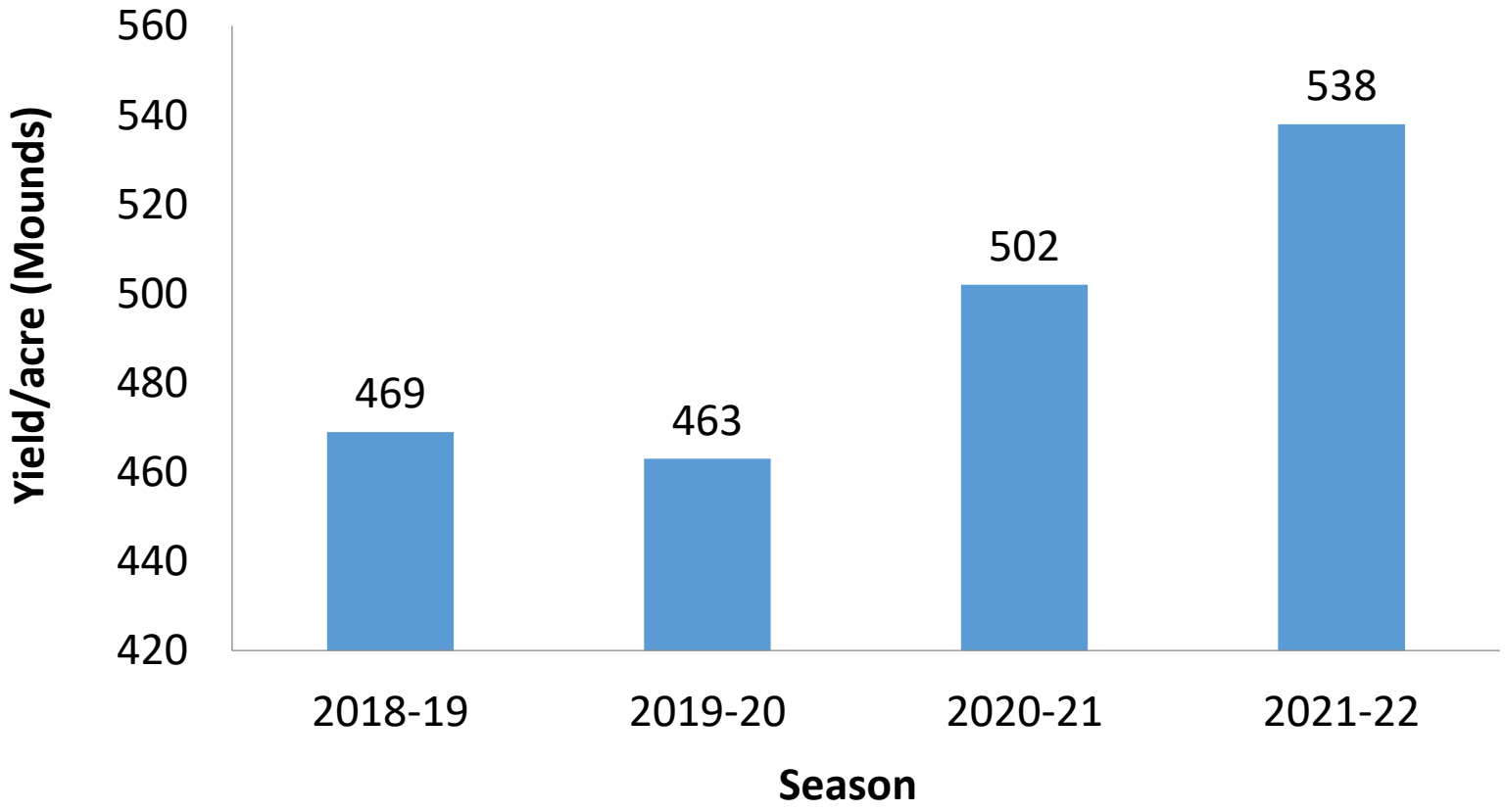
Benefits

- About 7-12 tons of Trash obtained from one hectare sugarcane crop
- Every Ton of trash contain more than 5 Kg N, More than 1 Kg Phosphorus and more than 3 Kg Potash.
- Sugarcane trash excellent source of Organic mulch which suppress the weeds growth and conserve soil moisture
- Trash mulch also enhance soil organic matter.

Demonstration of Trash Shredder on 2000 acres at HSM Gate Area (March, 2022)

Demonstration of Stubble Shaver at HSM Gate Area

Yield Comparison of HSM Gate area from Season 2018-19 to Season 2021-22



Yield comparison of Dual Row Vs Traditional Plantation System (Season 2021-22)

Traditional Plantation					Mechanized Dual Row Plantation			
Crop Detail	No. of acres	Wheat Yield/acre (Monds)	Sarsoon Yield/acre (Monds)	S. cane Yield/acre (Monds)	Wheat Yield/acre (Monds)	Sarsoon Yield/acre (Monds)	S. cane Yield/acre (Monds)	Increase %Age over Traditional
Sole S. cane Crop	100	-	-	964	-	-	1270	31.74
Intercrop With Canola	50	-	20	847	-	17.5	1043	23.14
Intercrop With Wheat	50	40		615	26		940	52.84

Recovery Analysis Traditional Vs Dual Row Plantation (Season 2021-22)

Traditional Plantation (2.5 Feet)			Dual Row Plantation (4.5 Feet)
Variety	**No. of Sample**	**Recovery**	**Recovery**
CSSG-676	30	10.55	10.94
CPF-246	30	10.34	10.73
CPF-253	30	10.20	10.58
HS-12	30	10.29	10.50
Average		**10.34**	**10.69**

Conclusions & Recommendation;

- The present study revealed that Modern mechanized cultivation significantly increased Yield per acre, Sugarcane recovery, and increase WUE.

- This technology has becoming very popular among HSM growers through field visits, trainings, demonstration, group discussion and field days and now sugarcane dual row mechanized plantation is about 2,000 acres in HSM gate area.

Conclusions & Recommendation;

- It’s also found that due to all field operations done mechanically, Harri of the area growers are looks very happy due to timely field operations and take keen interest to adopt such plantation system.

- Cool message for all Sugar mills to facilitate (Modern implements provision) his area growers to adopt such mechanized technology.


Thank
you