

## Technological Gap in Sugarcane Cultivation

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### Abstract

*The major constraints responsible for technological gap in sugarcane cultivation are scarcity of laborers, unawareness of different soil activities, high cost of implements, lack of knowledge and scarcity of improved variety, knowledge in seeds treatments, seed rate, spacing, method of planting, unawareness for use of balance manures and fertilizers and their management, lack of proper irrigation facilities, water management, high cost involved in chemicals equipments, plant protection measures, unsuitable policy for cane supply at harvesting time, ratoon management were the most constraints.*

**Key words:** Sugarcane growers, technology and constraints

### Introduction

The average yield of sugarcane obtained at the farmers field is distressingly low and totally incommensurate with the additional money they spent in growing it. This means, it is worthwhile to try, understand and investigate the basic factor responsible for the gap in yields between research station and farmer's fields<sup>[1,3]</sup>. Unless the causes are known, planning for an effective strategy for higher production is not possible. In this study therefore, the causes responsible for gap in the adoption of sugarcane practices have been computed on the basis of information obtained from the respondents. The sugarcane growers in mid plain of U.P. in general have moderate economy resources for sugarcane

cultivation than E.V. it has resulted into low productivity on farmer's fields. Therefore, there is necessity to know the major causes responsible for technological gap of sugarcane production technology.

### Methodology

For these study two districts namely Shahjahanpur & Bareilly were selected purposively. From each district two blocks were selected randomly. Thus total four blocks were considered for the investigation and Thirty respondents from each village were selected purposively the total sample size was of 240 respondents for the investigation. The data were analyzed, tabulated and find out the mean value and rank order.

### Results and Discussion

**Table-1 Constraints responsible for selection of soil and land preparation.**

S. No	Constraints	Mean	Rank order
1.	Lack of knowledge	2.29	IV
2.	Lack of technical helps (Soil testing).	2.31	III
3.	Complicatedness for practice.	2.10	V
4.	Non-availability of implements in timely.	2.31	III
5.	High cost involved in land preparation.	1.97	VII
6.	Scarcity of labour.	2.36	I
7.	Lack of irrigation.	2.05	VI
8.	Small size of land holding.	2.33	II

It is evident from the table 1 that the top most constraints of adoption of the recommended technology of sugarcane as felt by the farmers was unawareness of different soil activities and scarcity of labour. This was followed by the constraints such a small size of the land holding. Lack of technical help, non availability of implements, lack of knowledge, complicated production practice, lack of irrigation and high cost involved in land preparation was the least

constraints as felt by the sugarcane growers related to the adoption of selection of soil and land preparation practices. Thus, it is clear from the above table that scarcity of 2.36 labour and unawareness of different soil activities was the biggest constraint and high cost involved in land (1.97) preparation was the least constraints as felt by the sugarcane growers for adoption of selection of soil land preparation practice.

**Table 2 Constraints responsible for selection of improved implement.**

S. No.	Constraints	Means	Rank Order
1.	High cost of implements.	2.59	I
2.	Lack of knowledge.	2.50	III
3.	Lack of technological help	2.42	IV
4.	Lack of money	2.55	II
5.	Lack of awareness of implements	2.23	V

Table-2 shows that the topmost constraints of adoption of the recommended technology of sugarcane as felt by the farmers were 'high cost implements' involved in use of improved implements. This was followed by lack of money, lack of knowledge, lack of technological help and lack of awareness of implements was the least constraints as

the felt by the sugarcane growers related to the adoption of use of improved implements. Thus, it is clear from the above table that the high cost (2.59) of implements was the top most constraints and lack of awareness of implements (2.23) were the least constraints as felt by the sugarcane growers for adoption of use of improved implements.

**Table 3 Constraints responsible for selection of improved varieties**

S. No.	Constraints	Means	Rank Order
1.	Lack of knowledge.	2.72	I
2.	Lack of technical help.	2.36	V
3.	Not aware about source of improved variety.	2.47	III
4.	High cost of improved variety.	2.41	IV
5.	Scarcity of improved variety.	2.55	II

It is clear from the table-3, that the top most constraints of adoption of the recommended technology of sugarcane as felt by the farmers was 'lack of knowledge'. This was followed by the sugarcane growers for scarcity of improved varieties, not aware of improved

variety, high cost of improved variety and lack of technical help was the least constraints as felt by the sugarcane growers related to the adoption, for selection of improved variety. Thus, it is clear from the above table that lack of (2.72) knowledge and scarcity of improved

variety involved in selection of improved variety were the most constraints and lack of technical help (2.36) was the least

constraint as felt by the sugarcane growers for adoption of selection of improved variety practices.

**Table 4 Constraints responsible for seed treatments.**

S. No	Constraints	Mean	Rank Order
1.	Lack of knowledge	2.61	I
2.	Lack of technical helps.	2.43	III
3.	Complicatedness of practice.	2.53	II
4.	High cost of Chemical/culture	2.26	V
5.	Lack of skill.	2.25	VI
6.	Now availability of inputs (chemical & implements)	2.38	IV

It is evident from the table-4, that the top most constrained of adoption of the recommended technology of sugarcane as felt by the farmers was aware, lack of knowledge of seeds treatments practice. This was followed by the sugarcane growers for complicatedness of practice, lack of technical helps, non availability of chemicals & high cost of chemical was the least constraints as felt by the sugarcane

growers related to the adoption for selection of seed treatments practice. Thus, it is clear from the above table the knowledge in seeds treatments was the top most constraints, its mean value was 2.61 and high cost of chemical was the least constraints, its mean value was 2.26 as felt by the sugarcane growers for adoption for seed treatments practice.

**Table 5 Constraints responsible for seed rate and spacing**

S. No.	Constraints	Mean	Rank Order
1.	Lack of knowledge	2.63	I
2.	High cost of seeds.	2.30	III
3.	Lack of technical help	2.50	II

It is obvious from the table-5, that the highest constraints of adoptions of the recommended technological of sugarcane as felt by the farmers were lack of knowledge of recommended seeds rate and spacing. This was followed by the lack of technical help and high cost of seed was the least constraints as felt by the sugarcane growers related to the adoption

of seed rate & spacing practice. Thus, it is clear from the above table that the lack of (2.63) knowledge involved in seed rate & spacing was the top most constraints and high cost of seed was the least constraints as felt by the sugarcane growers (2.30) for adopting of seeds rate and spacing practices.

**Table 6 Constraints responsible for method and time of planning.**

S. No	Constraints	Mean	Rank Order
1.	Lack of knowledge.	2.37	II
2.	High cost involved in Planting.	2.71	I
3.	Lack of technical help.	2.12	III
4.	Complexity of planting methods	1.96	IV

The table-6 reveals that the highest constraints of adoptions of the recommended technology of sugarcane as felt by the farmers was high cost involved in planting as well as method and time of planting activities. The other constraints were lack of knowledge, lack of technical help and complexity of planting methods. The least constraints as the felt by the sugarcane growers is related to the

adoption for method and timing of planting practices. Thus, it is clear from the above that the high cost involved method of planting (2.71) in method time of planting was the top most constraints and complexity of planting method was the least (1.26) constraints as felt by the sugarcane growers for the adoption and time of planting practice.

**Table 7 Constraints responsible for manures & fertilize management**

S. No.	Constraints	Means	Rank Order
1.	High cost of fertilizer.	2.52	III
2.	Non availability of means.	2.48	IV
3.	Scarcity of labour.	1.98	VI
4.	Not aware for use of balance fertilizers.	2.78	I
5.	Scarcity of timely supply of inputs.	2.27	V
6.	Lack of technical help.	2.55	II

It is evident from the table-7, that the top most constraints of the recommended technology of sugarcane as felt by the farmers was unawareness for the use of balance fertilizers. This was followed by the sugarcane growers for lack of technical help, high cost of fertilizers, non availability of members, scarcity of timely supply of inputs and scarcity of labour was the least constraints as felt by the sugarcane growers related to the

adoption for manures & fertilizers management practice. Thus, it is clear from the above table that unawareness for use of balance manures and fertilizers management (2.78), was the top most constraints, scarcity of labours (1.98) was the least constraints as felt by the sugarcane growers for adoption of manures and fertilizers management practice.

**Table 8 Constraints responsible for water management**

S. No.	Constraints	Mean	Rank Order
1.	Lack of proper irrigation facilities.	2.62	I
2.	Small size of folding.	1.57	V
3.	Lack of knowledge about proper time irrigation.	2.52	II
4.	High cost of resources.	2.45	III
5.	Lack of drainage facilities.	1.94	IV

The table-8, reveals that the topmost constraints of the adoption of the recommended technology of sugarcane as felt by the farmers was lack of proper irrigation facilities of the water management activities. The other constraints were lack of knowledge about proper time irrigations, high cost of resources, lack of drainage facilities and small size of holding. The least constraints

as the felt b the sugarcane growers is related to the adoption for water management practices<sup>[2]</sup>. Thus, it is clear from the above table that the lack of (2.62) proper irrigation facilities in water management was the topmost constraints and small size of holding (1.57) was the least constraints & as felt by the sugarcane growers of adoption of water management practice.

**Table 9 Constraints responsible for in culture operation**

S. No.	Constraints	Mean	Rank Order
1.	Lack of knowledge.	2.54	III
2.	Scarcity of labour equipments.	2.59	II
3.	High costs of chemicals, equipments, labour charges.	2.61	I
4.	Non availability of implements.	1.80	V
5.	Lack of technical helps.	2.44	IV

It is obvious from the table-9, that the top most constraints of adoption of the recommended technology of sugarcane as felt by the farmers was high cost of chemical equipments, labours charges of inter culture operations. This was followed by the sugarcane growers for scarcity of labour, lack of knowledge, lack of technical helps and non availability of implements was the least constraints as felt

by the sugarcane growers related to the adoption for inter culture operation practices. Thus, it is clear from the above table that high cost (2.61) involved in chemicals equipments & labour charges was the biggest constraint in cultural operation and non availability of implements (1.80) was the least constraints as felt by the sugarcane growers for adoptions of inter cultural practice.

**Table 10 Constraints responsible for plant protection measure.**

S. No.	Constraints	Mean	Rank Order
1.	Lacks of knowledge.	2.50	I
2.	High cost of insecticide and pesticides.	2.33	III
3.	Lack of technical helps.	2.38	II
4.	Complexity of practice.	2.18	IV
5.	Scarcity of labour & equipments.	1.98	V

It is evident from the table-10, that the highest constraints of adoption of the recommended technology of sugarcane as felt by the farmer was lack of knowledge of plant protection measure practice. This was followed by lack of technical helps, high cost of insecticide and pesticides, complexity of practice. The scarcity of labour and equipments was the least constraints as felt by the sugarcane

growers related to the adoption for plant protection measure practice. Thus, it is clear from the above table that the lack of knowledge involved in plant protection measure was the top most constraints (2.5) and scarcity of labour and equipments was least constraints(1.98) as felt by the sugarcane growers for adoption plants protection measure practice.

**Table 11 Constraints responsible for inter cropping**

S. No.	Constraints	Mean	Rank Order
1.	Lack of knowledge.	2.55	II
2.	Non profitability.	2.28	IV
3.	Complexity of practice.	2.66	I
4.	High cost involved in inter cropping.	2.52	III
5.	Scarcity of labour.	2.02	V

It is evident from the table-11, the topmost constraints of adoption of the recommended technology of sugarcane as felt by the farmers was “Complexity of Practice” involved in inter cropping. This was followed by the sugarcane growers lack of knowledge, high cost involved in inter cropping, non profitability and scarcity of labour was the least constraints

as the felt by sugarcane growers for adoption of inter cropping practices. Thus, it is clear from the above table that the complexity (2.66) practice was the topmost constraints in inter cropping and scarcity of (2.02) labour was the least constraints as felt by the sugarcane growers for adoption of inter cropping practices.

**Table 12 Constraints responsible at harvesting time.**

S. No.	Constraints	Means	Rank Order
1.	Lack of knowledge.	2.32	III
2.	Unsuitable policy for cane supply.	2.56	I
3.	Scarcity of labour.	2.44	II
4.	Lack of transport facility.	1.80	IV

The table 12, shows that the topmost constraints of adoption of the recommended technology of sugarcane as felt by the farmers was “Unsuitable policy for sugarcane supply involved for harvesting time”. This was followed by scarcity of labour, lack of knowledge and lack of transport facility was the least constraints as the felt the sugarcane

growers related to the adoption of harvesting time of sugarcane. Thus, it is clear from the above table that the unsuitable (2.56) policy for cane supply at harvesting time was the topmost constraints and lack of transport facility (1.8) was the least constraints as felt by the sugarcane growers for adoption of harvesting time of sugarcane.

**Table-13 Constraints responsible for ratoon management.**

S. No.	Constraints	Mean	Rank Order
1.	Lack of knowledge.	2.64	I
2.	Lack of technical helps.	2.51	III
3.	Scarcity of labour.	1.99	VI
4.	Lack of skill.	2.44	IV
5.	Unawareness about ratoon management.	2.24	V
6.	High cost of resources.	2.57	II

The table-13 reveals that the topmost constraints of adoption of the recommended technology of sugarcane as felt by the farmers was lack of knowledge of ratoon Management practices. This was followed by the high cost of resources, lack of technical helps, lack of skill,

unawareness about ratoon management and scarcity of labour the least constraints felt by the sugarcane growers is related to the adoption for ratoon management practice. Thus, it is clear from the above table that the lack of (2.64) knowledge involved in ratoon management was the

most constraints and scarcity of labour (1.99) was the least constraints as felt by

the sugarcane growers for adoption of ratoon management practice<sup>[4]</sup>.

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