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Farmer-Scientist Interface for System of Crop Intensification in Maize and Finger Millet

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A pilot project on System of Crop Intensification was initiated in two agro-climatic regions of India, *i.e.,* The Western Himalayan Region (Solan, Himachal Pradesh) and Eastern Plateau & Hills (Koraput, Odisha) during *Kharif* 2019, to develop farmers' friendly approaches for finger millet and maize production through a farmer-scientist interface.

Concerned KVKs in the selected districts were involved in undertaking the SCI trials in their research farms while at the same time farmers in selected clusters of villages were motivated and trained to apply SCI practices in their own fields. Package of Practices (PoPs) and trials for different crops were developed with the help of IARI and KVK scientists.

The crop -cutting data from the trials undertaken is presented below.

Table 1: Results of SCI Trials on Maize from KVK, Solan, Himachal Pradesh

Plot No.	Plot Area (Sq. M.)	Practice Followed	Grain Yield (T/ha)	% Incremental Grain Yield
M1	200	Conventional	2.53	-
M2	200	Grid Spacing Line to Line: 60 cm Seed to Seed: 20 cm	2.62	4
M3	200	Grid Spacing Line to Line: 60 cm Seed to Seed: 30 cm	3.02	19

Table 2: Results of SCI Trials on Finger Millet from KVK, Koraput, Odisha

Plot No.	Plot Area (Sq. M)	Practice Followed	Grain Yield (T/ha)	% Incremental Grain Yield
F1	170	Conventional	1.102	-
F2	170	Line Transplanting Line to Line: 25 cm	1.444	31
F3	170	Grid Transplanting Line to Line: 25 cm Plant to Plant: 25 cm)	1.467	33

Table 3: Results of SCI Yields for Millet and Maize from Farmers' Fields

S. No.	Crop	Location, Farmers, Area	Average Grain Yield (T/ha)		SCI Practice Followed	Incremental Yield in %
			Conventional	SCI		(Average)
1	Maize	Solan, Himachal Pradesh Farmers: 216 Area: 4.01 Ha	2.58	3.06	Grid Spacing R-R: 30 cm P-P: 20 cm	18
			2.40	2.89	Grid Sowing R-R: 45 cm P-P: 30 cm	20
2	Finger Millet	Koraput, Odisha Farmers: 125 Area: 49.15 Ha	0.78	2.04	Grid Transplanted R-R: 25 cm P-P: 25 cm	162
			0.78	1.54	Line Transplanted R-R: 25 cm	97

Significant findings include:

- Incremental crop yields under SCI ranged from 4-20 per cent in Maize (Solan, HP) and 31-162 per cent in Finger Millet (Koraput, Odisha).
- All recommended SCI practices were not followed on a timely manner in the KVK farms resulting in lower yields than obtained from farmers' fields.
- Wide range of yields were obtained because of variation in adoption of SCI practices according to farmers' situations and field conditions.
- Limited weeders and their unsuitability to soil conditions hampered regular and timely weeding
- Sowing of seeds at prescribed space was a big challenge because of lack of equipment for grid/ line sowing.
- The cross visits of KVK scientists motivated them to undertake trials in their research farms while cross visits across villages provided a learning platform to farmers