

Sprinkler Irrigation System in Hamirpur District of Bundelkhand Region

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Situation analysis/problem statements: - Pulses are main crop in Hamirpur district of Bundelkhand region, which is known as bowl of pulses. The irrigation facilities in Hamirpur district are very limited due rainfall deficit recorded in region continuously. Only 27.7% lands are irrigated, remaining 72.3 % lands come under rainfed situation. Canals are main source of irrigation, which causes physiological wilt in pulse crop. These situations have a great scope of water saving irrigation methods viz. sprinkler and drip irrigation system. Keeping theses points in mind we have demonstrated these irrigation systems in Hamirpur district of Uttar Pradesh to maximize the irrigation water use efficiency and to avoid the losses of pulse production due to physiological wilt.

Plan, Implementation and Support: - The team of Krishi Vigyan Kendra, Kurara, Hamirpur (Uttar Pradesh) has analyze the situations as the farmers engaged in pulse production gave flood irrigation, while pulse crops require light irrigation at critical stages of crops to produce greater yield as per varietal potential. Keeping above mentioned view in mind our KVK team has decided for light and uniform irrigation, water saving irrigation method, sprinkler irrigation system, may become successful in pulse production.

Sowing: - Line sowing with row spacing of 30cm apart and plant to plant spacing was about 10cm. Sowing was completed in month of October with seed drill.

Irrigation: - Two irrigation at seedling and just before flowering stage of the crop with sprinkler irrigation

system.

Output: -

- Grain yield was higher by 6.04 q /ha (34.8%) in sprinkler irrigation system (17.31 q/ha)
- Cost of cultivation was less by Rs. 2500 (11.0%) in sprinkler irrigation system i.e. Rs 22700/ha
- Gross income was higher by Rs. 27905/ha (34.8%) in sprinkler irrigation system i.e. Rs 79972/ha
- Net income was higher by Rs. 30405/ha (53.0%) in sprinkler irrigation system i.e. Rs 57272/ha
- Benefit: cost ratio was higher by 1.32:1 (52.3%) in sprinkler irrigation system i.e. 2.52:1

Outcome: - A group of farmers and team of Krishi Vigyan Kendra, Hamirpur (Uttar Pradesh) were analyzed the output of technology demonstrated at farmers field. The performances in terms yield and its attributes as well as benefit: cost ratio was recorded higher from 34 % to 52 %. The technology is disseminated by the state department of Horticulture not only in Hamirpur district but also in all districts of Bundelkhand region.

Impact: -

Water saving: As per requisition of pulse crops for their potential performance, light and uniform irrigation with sprinkler system was given at critical crop growth stages and about 40 - 45 % of water can be saved compared to flood irrigation method.

Labor saving:- Comparatively 68 % lesser labor is required to facilitate sprinkler irrigation to the crop.

