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Multipurpose and multifunction intercropping drill

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Intercropping drill is a multipurpose and multifunction tractor drawn drill which can cultivate, break clods, level soil, apply fertilizer as deep band placement and drill seed of small size as well as large. All these operations are done by this drill in a single pass. It is especially used for sugarcane sowing and intercropping in it but can be used for general crop sowing also. It can be drawn by ordinary tractor available at farmer's farms. The first portion of this drill is used for cultivation, second consists of rollers, which break clods, level soil, rotate axis of drill units and uphold the weight of drill to facilitate drill movement in the field. The third portion consists of drill chutes by which fertilizer is drilled first deep into the soil and is covered by a layer of soil, than seed is placed on that layer of soil covering fertilizer and again seed is covered by soil layer. It prevents the effect of fertilizer while germination and maximum germination percentage is achieved. After germination, fertilizer becomes available throughout growing season of main crop and weeds cannot enjoy fertilizer. The fourth portion of the drill consists of ridger, which are used for making ridges for sugarcane sowing. Top portion of the drill consists of different boxes used for fertilizer storage, small seed storage and large seed storage. Its geometry is 90 cm apart triple row sowing method of sugarcane. Using this sowing method for sugarcane, we can make 110 numbers of furrows for sowing of sugarcane, which is optimum number of rows per acre for getting maximum yield. In planted sugarcane 50% area is available for major, minor, fodders and special crops. Using this technology, 0.5 million hectare can be increased for general crops from the existing area under sugarcane crop (1.12 million ha) in Pakistan. It is much cheaper as compared to purchase different implements for different operations, which can perform it alone. It is a unique type of drill in its geometry and is first drill of its kind in the world.

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The impact of Farmer Field School approach on small-scale farmers' sense of agency of the study group participation on home gardening in the Alice of the Eastern Cape

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This paper investigates the impact of the Farmer Field School approach on famers' sense of agency and experiential aspects of study group participation on home gardening. Farmer Field Schools were devised in the 1980s by the Food and Agriculture Organization as a form of adult education in agriculture. It is a group-based approach in which a facilitator meets with farmers on a regular basis and sets in motion a process by which farmers learn how to learn, both from themselves or from one another. It remains an open question whether the Farmer Field School approach could be a solution to South Africa's abiding problem of weak agricultural extension. In early 2015, the University of Fort Hare and the Nkonkobe Farmers' Association initiated a number of study groups in the Alice area, based largely on Farmer Field School principles. These study groups consisted mainly of home gardeners. The results present the findings from initial research into the impact of these study groups after they had been running for about two years. The research consisted of a survey of all the study group participants involved with home gardens, including some who joined the groups in 2015 but quit from them in or by 2016. The focus of the research is on the impact of study group participation on members' perceived knowledge and production levels.

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