

## Evaluation of Commercial Herbicides for Weed Control and Yield under Direct Dry Seeded Rice Cultivation System in Pakistan

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**Abstract :** Direct dry seeded rice cultivation system is an emerging production technology in Pakistan. Weeds are a major constraint to the success of direct dry seeded rice (DDSR). Studies were carried out for two years during 2015 and 2016 to evaluate the performance of applications of pre-emergence herbicides (Top Max @ 2.25 lit/ha, Click @1.5 lit/ha and Pendimethaline @ 1.25 lit/ha) and post-emergence herbicides (Clover @ 200 g/ha, Pyranex Gold @ 250 g/ha, Basagran @ 2.50 lit/ha, Sunstar Gold @ 50 g/ha and Wardan @ 1.25 lit/ha) at rice research field area of National Agriculture Research Center (NARC), Islamabad. The experiments were laid out in Randomized Complete Block Design (RCBD) with three replications. All evaluated herbicides reduced weed density and biomass by a significant amount. The net plot size was 2.5 x 5 m with 10 rows. Basmati-385 was used as test variety of rice. Data indicated that Top Max and Click provided best weed control efficiency but suppressed the germination of rice seed which causes the lowest grain yield production (680.6 kg/ha and 314.5 kg/ha respectively). A weedy check plot contributed 524.7 kg/ha paddy yield with highest weed density. Pyranex Gold provided better weed control efficiency and contributed to significantly higher paddy yield 5116.6 kg/ha than that of all other herbicide applications followed by the Clover which give paddy yield 4241.7 kg/ha. The results of our study suggest that pre-emergence herbicides provided best weed control but not fit for direct dry seeded rice (DDSR) cultivation system, and therefore post-emergence herbicides (Pyranex Gold and Clover) can be suggested for weed control and higher yield.

**Keywords :** pyranex gold, clover, direct dry seeded rice (DDSR), yield

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