

## EFFECTS OF PLASTIC FILM MULCHING CULTIVATION SYSTEM ON SOME AGRONOMIC CHARACTERS OF RICE IN RELATION WITH THE INCREASE OF PADDY ACREAGE

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### ABSTRACT

The study was conducted at the Ege University, Faculty of Agriculture, Menemen Research, Application and Production Center for two years (2003 and 2004) and in the experimental fields of Trakya Agricultural Research Institute for one year (2004). Field experiments were established in Randomized the Complete Block Design (RCBD) in a split plot arrangement with three replications. Rice cultivars Baldo, Toag92 and Osmancık, were the first factor of the experiment. Growing techniques were the second factors as plastic film mulching technique - intermittent irrigation - transplanting system (PFMT-II-TS), regular irrigation -transplanting system (RI-TS), regular irrigation-broadcast sowing system (RI-BSS) while intermittent irrigation-broadcast sowing systems (II-BSS) was used as control. Colorless plastic film with 0.02 mm thickness (200 kg<sup>-ha</sup>) was used to cover paddy surface.

Results can be summarized as followings: paddy rice yield, number of grain per plant and rate of crude protein (5830.0 kg<sup>-ha</sup> and 240 number plant<sup>-1</sup>, 10.0 % respectively) were higher and statistically different (LSD<sub>0.05</sub>) while plant height and sterility rate (80.6 cm and 5.7 % respectively) were lower and statistically different (LSD<sub>0.05</sub>) in PFMT-II-TS application. Covering paddies with plastic film caused 5 days earlier flowering period and 86.0 % reduction in the number of weed plants per square meter and to 7.4° C increase in soil level temperature. In the intermittent irrigation-transplanting system with the intervention of the Plastic film mulching an increase in the yield has been observed when compared to the RI-TS system the rate is 8 %, II-BSS system it is 11 %, RI-BSS system 17 %.

**Key words:** Rice paddy, plastic film mulching, growing techniques and quality.