Ent. Phyt. Appliq.
Vol. 56, No. 1 &2, Fév. 1989

EFFICACY OF HERBICIDES IN DIRECT - SEEDED FLOODED RICE[1]

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SUMMARY

During 1984 - 85 there has been conducted several experiments in rice research station of Rasht,in purpose of evaluation of the efficacy of the following herbicides, Propanil, Molinate, Thiobencarb, Butachlor, 2, 4 - D, Bentazone and 2, 4 - D+MCPA in direct - pregerminated - seeded flooded rice. The her - bicides have been applied in different rates and dates,either alone or as tank-mixed. The criteria for evaluation were A- number of the individual important weeds per square meter, B - degree of visual phytotoxicity, ranging from 1 to 9, C - number of emerged rice plant per square meter after last application, D - weighing the aerial part of the weeds per square meter just befor harvest and E - rough rice yield per plot.

The results which are extracted in three included Tables indicate that Propanil, because of the long duration of barnyard grass(*Echinochloa crus - galli*) and the difficulties faced the farmers in its application is not a suitable herbicide

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1 - Received for publication , October 17, 1987.

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and it is better to be mixed or followed by a residual soil applied herbicide like Molinate or Thiobencarb. Molinate as pre plant incorporated (ppi) or post- emergence at 2 leaf stage of barnyard grass showed good herbicidal effects and crop tolerance,of course the field must be kept flooded and the water unmoved for 3 - 4 days. 3 kg/ha Thiobencarb applied 3 - 5 days before seeding or post emergence at 2 leaf stage of barnyard grass (around 20 days after seeding) proved to be enough effective with some acceptable phytotoxicity and stand reduction. Butachlor at the rate of 2. 4 kg/ha caused severe crop injuries and prevented germination of a great part of rice seeds.

All the above mentioned herbicides showed not to be enough effective on sedges and are not generally recommended against broadleaves, therefore it is necessary to apply 2, 4 - D, Bentazone or 2, 4 - D+MCPA which showed good effects on sedges and were safe to rice plant to overcome the problem of weeds (for more details see Tables in Farsi text prepared in both Farsi and English languages).

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