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### EFFECT OF SALT SOLUTION SPRAY ON PADDY GRAIN MATURITY AND YIELD

In Kerala summer rice (Puncha crop) being sown in *kayal* lands after dewatering by February and harvesting during April/May, any attempt to reduce the maturity period of the crop will assure a reasonably good yield to the farmers. If the monsoon starts early the *kayal* lands will be flooded, often forcing the farmers to harvest the crop prematurely resulting in considerable yield reduction. Experiments conducted elsewhere by spraying with 10% and 15% salt solutions on the earheads accelerated maturation in the case of rice (Ramiah *et al.* 1974, Govindaswamy *et al.* 1976). Therefore a trial was conducted in the *kayal* lands of the Instructional farm, College of Agriculture, Vellayani to study the effect of different concentrations of salt solutions on hastening maturity and yield of rice variety Triveni having 95–100 days duration. The treatments consisted of no spray (control), water spray, 10%, 15% and 20% salt sprays fitted in a Randomised Block Design having four replications. Uniform agronomic practices were followed for all the treatments. The salt solutions and water spray were applied 76 days after sowing, i. e., about 8 days after complete flowering. On noticing visual symptoms of maturity, the stage at which more than 75% of the grains have become straw coloured, all salt sprayed plots were harvested on 26-5-1976 and the control and water sprayed plots on 7-6-76 after attaining physiological maturity.

**Table 1 Effect of salt solution spray on the grain yield, straw yield, panicle weight and 1000 grain weight in rice (Triveni).**

	Grain yield in kg/ha.	Yield of straw in kg/ha.	Panicle weight in g.	1000 grain weight in g.
Control	4300	6300	33.63	23.48
Water spray	3300	5500	30.0	21.55
10% salt spray	3600	6100	29.84	23.10
15% salt spray	3100	6100	29.37	22.13
20% salt spray	2800	5500	29.38	22.75
F test	Sig	NS	NS	NS
C D 5%	B00	—	—	—

The results presented in Table. I show that the different treatments could not exert any significant influence on the straw yield, panicle weight and 1000 grain weight. But spraying 15% and 20% salt solutions significantly reduced the grain yield by 29% and 36.2% respectively over the control. Even though application of 10% salt spray also had given reduced yield its effect was not significant. However the result show that 10% spray solution has given the highest grain yield over 15% and 20% spray solutions. The advancement of maturity of rice crop by about 12 days in situations like kayal lands during third crop season when the fields are likely to be flooded if monsoon sets in early, is an important observation of practical significance. Since 10% spray solution has given the highest grain yield among the various salt concentrations applied about three weeks before harvest, it can be safely recommended to be applied to the rice crop to accelerate the maturity of grain without much reduction in yield. Similar results were reported with 15% salt solution in the case of Co. 33 (Ramiah *et al* 1974) and with 10% salt solution in Pankaj (Govindaswamy *et al* 1976).

#### സംഗ്രഹം

10 മുതൽ 20 ശതമാനംവരെ വീര്യമുള്ള ഉപ്പുലായനി വിതച്ചു 76 ദിവസം കഴിഞ്ഞു ശ്രീവേണി എന്ന ഇനം നെല്ലിൽ തളിച്ചപ്പോൾ വിളവു മുപ്പത്തൊന്നുള്ള സമയം പന്ത്രണ്ടു ദിവസം കുറഞ്ഞുകിട്ടി പത്തു ശതമാനം വീര്യമുള്ളലായനിയിൽ നിന്നാണ് ഏറ്റവും കൂടുതൽ വിളവു കിട്ടിയതു്.

#### REFERENCES

- Ramiah, S., Kasiviswalingam, P., Thenammai, P., Dakshinamoorthy, A., Janardhanan, R. and Gowder, K.R.K. 1974. Effect of salt solution spray on paddy grain maturity. *Madras Agr. J.* B, 281—284.
- Govindaswamy, S., Ghosh, A. K., Nanda, B. B and Dash, A. B, 1976. Drying of wet paddy by salt spray. *Bull. Grain, Tech.* 2, 111—117.

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