SHORT COMMUNICATION

STUDY OF ALLELOCHEMICALS AND ALLELOPATHY EFFECT OF WEED AND RICE EXTRACTS ON RICE GENOTYPES

Nirmala Panda and Anup Kumar Paul

Indira Gandhi Krishi Vishwavidalaya Raipur (C.G)
Email: anupfmkvk@redifmail.com, anup_niru@redifmail.com

Abstract: The present investigation was carried out during kharif 2006-07 at instructional farm of indira Gandhi krishi vishwavidalaya,Raipur .The experiment was conducted in split plot design in field and CRD in laboratory condition replication in twice. The stem extract was of *Echinochloa colona* was most effective and root extract in least effective on germination and seedling growth of rice genotype. Maximum reduction in seedlings growth was observed in R-1060-1674-1-1 ,Danteshwari and R-1037-649-1-1.While minimum impact was observed on R-548-89-6,Safri-17 and Dubraj.The minimum chlorophyll content in *Echinochloa colona* was observed in Dubraj.In Ischaemum rugosum maximum chlorophyll was observed in Danteshwari. Overall more phenol content was estimated in vasumati ,dubraj and Safri 17 .Minimum phenol content was observed in R-1182-167-2-157-1 and danteshwari.Minimum adverse effect on ∝ amylase activity was observed in *Echinochloa colona* was due to shoot extract of rice genotypes Vasumati followed by R-548-89-6 and Safri-17 and maximum adverse effect was due to indira sugandhit dhan .

Keywords: Allelopathy, ∝ amylase,Phenol content, Rice extract, Weed extract

REFERENCES

Ahn, J.K., Hans, S.J. Kim, J.T., Khanh, T.D. and Chung, I.M. (2005). Evaluation of allelopathic potential among rice (Oryza sativa L.) germplasm for control of *Echinochloa crussgall* Beauv in field .Crop protection 24(5):413-419.

Archana,Y., Chauhan,S.V.S and Yadav,A., (1998). Studies on allelopathic L.effect of some weed .*Journal of Phytological Research* 11: 15-18.

Asghari ,J.and Mousavi. S.Y. (2002). Allelopathic effect of rice varieties on barnyardgrass and umbrella sedge.*Iranian Journal of Plant Pathology*.38 (1/2):133-143

Birkett M.A., Chamberlain,K., Hooper A.M.and Pickett J.A., (2001). Does allelopathy offer real promise for practical weed management and for explaining rhizosphere interaction involving higher plant ,*Plant and soil* 232:31-39

Chung, Xuan IM., T.D. Hann, S.J., Khanh, T.D. and Ahn, J.K. (2004). Method to screen allelopathic rice varieties against *Weeds.Research method in plant science allelopathy*.Vol (2):207-228.

Dilday, R.H.J. Lin, and W. Yan., Identification of allelopathy in the USDARAS rice germplasm collection .*Aust.J.Exp.Agric*.34:901-910.

Fujii. Y., Araya, H., Hiradate, S and Ebana, K. (2005). Screening of allelopathic activity from rice cultivars by bioassay and field test. *Rice Research Conference in Tsukuba,Japani*,4-7 Nov.2004-2005:484-487.

Guffar, M.A., Reza, M.S. and Rahman, M.M. (1998). Allelopathic effect of several plant species in controlling weed in direct seeded .Aus rice. Bangladesh *Journal of Scientific and Industrial Research* .33 (1): 69-73.

Oudhira, P. and Tripathi, R.S., (2000). Allelopathic research on rice seeds in Chhattisgarh (India)region .*Advances in Agricultural Research in India*.14:69-80.

Zhu, H. Kong, C., Ling, and Zu, X (2003). Evaluation methods the allelopathic potential of rice germplasm.*Scientia Agricultural Science*.36 (7)788-792.