Click www.researchjournal.co.in/online/subdetail.html to purchase.

RESEARCH PAPER

ADVANCE RESEARCH JOURNAL OF
C R P
IMPROVEMENT
Volume 7 | Issue 1 | June, 2016 | 161-170
e ISSN-2231-640X

DOI :
10.15740/HAS/ARJCI/7.1/161-170
Visit us: *www.researchjournal.co.in*

Competitive ability of intercrops and herbicides for controlling weeds in maize (*Zea mays* L.)

M. HAQUE[1], S.S. ACHARYA, A. ROY CHOWDHURY[1], S.K. GUPTA[1] AND M. GHOSH[1]

AUTHORS' INFO

Associated Co-author :
[1]Department of Agronomy, Bihar Agriculture College, Sabour, BHAGALPUR (BIHAR) INDIA
Email: arnabuas@gmail.com; sanjeevgupta1979@rediffmail.com; mainakghosh999@gmail.com

Author for correspondence:
S.S. ACHARYA
Department of Agronomy, Bihar Agriculture College, Sabour, BHAGALPUR (BIHAR) INDIA
Email: acharya.ss@rediffmail.com

ABSTRACT : A field experiment was conducted in the sandy loam soil of Kanke, Ranchi during *Kharif* seasons of 2004 and 2005, to find out most effective combinations of intercrops and herbicides for controlling weeds in *Kharif* maize. The experiment was laid out in Split Plot Design comprising five cropping systems, *i.e.*, sole maize, sole soybean, sole groundnut, intercropping of maize+soybean (1:2) and intercropping of maize+groundnut (1:2) as main plots and five weed management practices, *i.e.*, weedy check, weeding thrice at 15, 30 and 45 days after sowing, oxyfluorfen @ 0.2 kg a.i. ha^{-1} as pre-emergence, alachlor @ 2.0 kg a.i. ha^{-1} as pre-emergence and butachlor @ 1.5 kg a.i. ha^{-1} as pre-emergence + quizalofop-ethyl @ 100 ml ha^{-1} as post emergence, as sub plot treatments, replicated thrice. The result showed that maize intercropped with soybean and hand weeded thrice has lowest weed density and weed dry weight, which were statistically at par with that of maize intercropped with soybean and sprayed with oxyfluorfen @ 0.2 kg a.i. ha^{-1} as pre-emergence. The highest maize equivalent yield of 8039 kg ha^{-1} was recorded with maize+groundnut and hand weeded thrice, which was found to be statistically at par with maize+groundnut, treated with oxyfluorfen @ 0.2 kg a.i. ha^{-1} as pre-emergence and maize+soybean, treated with oxyfluorfen @ 0.2 kg a.i. ha^{-1} as pre-emergence, having maize equivalent yields of 7595 kg ha^{-1} and 7189 kg ha^{-1}, respectively. The highest net return was recorded from the intercropping of maize+groundnut, treated with oxyfluorfen @ 0.2 kg a.i. ha^{-1} as pre-emergence, which can be used as the most effective and profitable combination in controlling weeds in *Kharif* maize.

KEY WORDS : Maize, Soybean, Groundnut, Intercropping, Weed, Oxyfluorfen, Alachlor

How to cite this paper : Haque, M., Acharya, S.S., Chowdhury, A. Roy, Gupta, S. K. and Ghosh, M. (2016). Competitive ability of intercrops and herbicides for controlling weeds in maize (*Zea mays* L.). *Adv. Res. J. Crop Improv.*, **7** (1) : 161-170, **DOI : 10.15740/HAS/ARJCI/7.1/161-170**.

Paper History : Received : 06.02.2016; **Revised :** 30.04.2016; **Accepted :** 26.05.2016