

EVALUATION OF EFFICACY AND EFFECT OF APPLICATION TIMING OF A NEW HERBICIDE, A.I. PROPOXY-CARBAZONE + IODOSULFURON + MEFENPYR, ON *TRITICUM DURUM*

A. FANIGLIULO¹, V. FILÌ¹ and A. CRESCENZI²

¹ Bioagritest Srl, Centro Interregionale di Diagnosi Vegetale.
Zona PIP lotto E2. IT-85010 Pignola (PZ, Italy)
E-mail: info@bioagritest.it; www.bioagritest.it.

² Dipartimento di Biologia, Difesa e Biotecnologie Agro-Forestali
Università degli Studi della Basilicata
Viale dell'Ateneo Lucano Campus Macchia Romana 3A310
IT-85100 Potenza (PZ) Italy
E-mail: aniello.crescenzi@unibas.it

Triticum durum is a typical crop of the Murgia in the Bari province, Apulia region (Southern Italy). The cultivation is characterized by lower yields than the area of Foggia, given the declining fertility of land in this area. The weed present in the area is the classical flora of Apulia Region where there is a prevail of *Avena ludoviciana* and *Papaver rhoeas*. In recent years, phenomena of resistance have emerged on both these weeds against the most common herbicides used. A study was performed in the period February to May 2010 by Bioagritest test facility according to EPPO guidelines and Principles of Good Experimental Practice (GEP), in the land of Altamura (BA), in the core of Murgia, with the purpose to generate efficacy data to evaluate the effect of application timing of the herbicide SIT90 (a.i. propoxycarbazone + iodosulfuron + mefenpyr) on *Triticum durum*.

Two different dosages of the herbicide SIT90 – 0,250 and 0,333 kg/ha - were applied in a *T. durum* field at two different application timing, i.e. in early post-emergence (25th February) and late post – emergence (27th March). In early post-emergence it was also used, at the lowest dosage 0,250 kg/ha, in combination with the post emergence herbicide Dicuran (a.i. chlorotoloron) 3,2 L/ha. In late post-emergence it was applied at dosage 0,333 kg/ha, both alone and in combination with the adjuvant Biopower 1 L/ha. At a lower dosage, 0,150 kg/ha, it was also used combined with both Biopower and the commercial formulate Atlantis WG (mesosulfuron+ iodosulfuron+ mefenpyr) 0,250 kg/ha. The *T. durum* cultivar was "Iride".

The study has given sufficient results on the use of SIT90, in the conditions of use foreseen by the protocol and in consideration of the weeds present, which represented the most species present in the Murgia. Treatments with the SIT90 alone (even in combination with Chortoluron), applied in early or in late post-emergence, were very ineffective on grass weeds and dicotyledonous, highlighting the importance of the adjuvant Biopower to enhance the expression of the herbicide. By contrast, the presence of the adjuvant Biopower allowed the expression of a clear and good overall herbicide activity of SIT90, for the control of *P. rhoeas* and other dicotyledonous, but also a discrete activity against grasses (although less than that exerted by the standard Atlantis). More reliable was the treatment with SIT90 mixed with Atlantis, against the entire community of grass weeds and on *F. officinalis*. The performance of all the treatments was insufficient on *P. rhoeas*, because of the evident resistance shown by the weed. No expression of phytotoxicity, induced by the treatments being tested, was observed.

Key words: herbicide, SIT90, propoxy-carbazone, iodosulfuron, mefenpyr, *Triticum durum*, application timing

Posters

Herbology

