

Title Assessing yield losses caused by the harvester ant *Messor barbarus* (L.) in winter cereals
Author Bàrbara Baraibar, Raquel Ledesma, Aritz Royo-Esnal **and** Paula R. Westerman
Citation Crop Protection, Volume 30, Issue 9, September 2011, Pages 1144-1148
Keywords Yield loss at sowing; Yield loss at harvest; Damage; Nest density; Colony size; No-till

Abstract

Harvester ants from the species *Messor barbarus* (L.) are important seed predators in semi-arid cereal fields of NE Spain, and can contribute substantially to weed control. However, occasionally they harvest newly sown crop seeds at sowing in autumn, or ripe cereal grains close to harvest in summer, causing yield losses. A preliminary study was conducted in 34 commercial winter cereal fields to measure yield loss, and to identify factors that influence it. The area affected by ants was measured ten days prior to the anticipated harvest date. Ant colony size, nest density, crop height, weed densities and temperatures at sowing were assessed. At sowing, harvester ants did not cause yield losses (0.2% of potential yield on average). At harvest, yield losses were generally low as well (0.6%) although occasionally higher losses were recorded (max. 9.2%). Yield losses significantly increased with increasing nest density, nest size and with number of years of no-till. The results of this study show that in 2009 yield losses caused by *M. barbarus* were insignificant and more than offset by the benefits provided by the destruction of weed seeds.