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► To cite this version:

Ronan Marrec, Isabelle Badenhauser, Luca Börger, Bertrand Gauffre. Effect of land-use and tillage on the dynamics of a dominant carabid beetle *Poecilus cupreus* (L.) in Western France agricultural landscapes. 16. European Carabidologists Meeting, Sep 2013, Prague, Czech Republic. 64 p. hal-02749236

HAL Id: hal-02749236

<https://hal.inrae.fr/hal-02749236>

Submitted on 3 Jun 2020

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Effect of land-use and tillage on field-occupancy by the dominant carabid beetle *Poecilus cupreus* (L.) in Western France agricultural landscapes

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In agroecosystems factors constraining species' distribution and abundance are unstable over space and time. Habitats are dynamic and suffer heavy anthropogenic pressures and, thus, to maintain species need to be able to cope with constraining agricultural practices such as tillage or with dominating crop types. Even so, some ruderal species benefit from this instability, particularly thanks to their dispersal abilities. *Poecilus cupreus* (L.) (Coleoptera, Carabidae) is one of the most abundant carabid species throughout most European agroecosystems, found in almost all land use types but in different proportions. This important species is a beneficial insect contributing to restricting pest activity. The aim of our study was to know how the field-occupancy dynamic of this species could be influenced by environmental constraints. We tested the influence of land-use dynamics (succession type and presence/absence of tillage) in sampled fields and land-use closed to these fields to know if (i) *P. cupreus* can resist to these constraints and/or if (ii) it disperses between adjacent fields to avoid them. To realize this study we conducted samplings on the LTER Zone-Atelier *Plaine et Val de Sèvre* area in Western France from 2006 to 2012. Dominant crop types (alfalfa, grassland, sunflower, oilseed rape and winter cereals) were sampled from April to June using pitfall traps. Activity-density (AD) was much higher in fields than in edges. This AD was positively influenced by the presence of oilseed rape in the succession and adjacencies and by autumn tillage, and negatively influenced by the presence of a spring crop in the succession and by spring tillage and absence of tillage. Role of oilseed rape and tillage in field-occupancy dynamic will be discussed.