There is an important decrease in biodiversity in European landscapes since a few decades, as a result of both intensification of agricultural practices and decrease of natural and semi-natural elements. As part of a European Union (EU) research project ‘GREENVEINS’, we investigated the links between species diversity and the structure and management of agricultural landscapes. The study was conducted in 25 ‘landscape test sites’ of 16 km$^2$ located in seven countries. Data were recorded on several taxa, and we will present results on insects with some focus on bees and carabid beetles. Factors at the landscape scale dominated over local habitat factors. Land-use intensity explained most of the variability in species data, whereas landscape characteristics (especially connectivity) accounted for most of the variability in body size and trophic guilds. Bees are sensitive to diversity of entomophilous plant species, and carabids react to changes in landscape patterns and to farming systems.