

SQUARE Project



Fast Facts

What is SQUARE?

SQUARE is the Soil Quality Assessment Research Project for Ireland. Soil is a vital non-renewable resource that delivers multiple functions simultaneously including food and fibre production, nutrient retention and cycling and filtration of water. The ability of the soil to deliver soil functions simultaneously is referred to as functional soil capacity.

Within Ireland, Harvest 2020 objectives to intensify agriculture are coupled with a demand to meet greening objectives of the Common Agricultural Policy. Thus, any intensification of agriculture must be achieved in a sustainable manner. SQUARE centralises functional soil capacity to facilitate the delivery of all soil functions whether productivity or environmental.

Who is SQUARE?

SQUARE is an Irish research project, led by Teagasc Agriculture and Food Development Authority. Partners include the Department of Agriculture, Food and the Marine, University College Dublin, University of Limerick, IT Sligo. Funding is provided by the Irish Government under the National Development Plan 2007-2013. SQUARE also relies on many farmers across the country who are central to effective research for sustainable soil management.

Why SQUARE?

Any impairment of soil quality affects the delivery of soil functions. Thus, SQUARE seeks to support the delivery of co-benefits achievable from the same soil resource. However, knowledge gaps exist in relation to both the threats and benefits of soil quality. In particular, soil structural quality is one major threat within Ireland. These knowledge gaps form the basis of the SQUARE research agenda.

SQUARE Objectives

- Evaluate the status of soil structural quality in Ireland
- Assess impact of soil structural degradation on functional capacity of soil
- Develop a toolbox for farmers to assess structural quality
- Enhance understanding of functional soil capacity

SQUARE How?

- Field campaign – 160 grassland and tillage sites surveyed over three years
- Farmer surveys to assess ranges in soil management practices.

SQUARE Outputs

- A Visual Soil Assessment method designed for Irish soils and toolkit for farmers
- Impacts of management practices and scope for improved practices
- Better understanding of functional capacity of soil

Contact: Dr David Wall, Environment, Soils and Land-use Depart, Teagasc, Johnstown Castle.
Email: david.wall@teagasc.ie or Tel: 053 9171200

