

A Farmers Best Friend – The Spade

Our soils are the foundation of everything we do on farm. Soils grow our grass and crops that in turn feed livestock and people. A healthy soil on farm is essential for good crop performance.

There are five main factors that impact the health of a soil, which in turn directly affect the performance of our soils. These are soil structure, soil biology, soil chemistry, organic matter content and water infiltration, retention and movement.

One of the most useful tools to hand on farm to assess your soil health is the trusty spade. When you notice an issue with performance of a field on farm, it is well worth gathering up your spade and bucket and heading out to the field to dig an inspection pit. An inspection pit doesn't have to be deep – about 1 metre squared and at least 30cm deep gives a good indication on what is going on below the grass. A spade is better than using a mechanical tool such as a digger as it is easier to identify where compacted areas are.



Inspection pit in a grassland field showing good root depth and good crumbly soil structure.

A healthy soil allows plant roots to establish well. Plant roots need both water and air to survive so it is important that soils are well aerated and do not get compacted. When digging an inspection pit it will be clear where compaction is as it becomes far more difficult to dig down. Just like plant roots – the living parts of soils also need soils to be porous. Earthworms, insects and micro-organisms are vitally important for soils. It is estimated that in one hectare of soil there is the same weight of bacteria as one cow. These microbes are vital for nutrient cycling and making nutrients available to plants. Knowing the conditions of your soils is often the first step towards making an informed management decision on farm. Although digging inspection pits may seem time consuming it can save money and time in the future.