There are many different soil types across Australia and all of these soils, no matter how similar, have unique performance characteristics. Injekta Field Systems has created a new method for assessing soil structural condition that provides the manager of the soil with an accurate representation of the variables and constraints that affect soil performance. This assessment includes accessible nutrient levels, soil structural stability and the drivers of soil and plant productivity.

**The Soil Productivity Assessment**

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**Nutrient Availability & Structural Stability**

The Soil Productivity Assessment provides detailed insight into the prevailing limitations for plant performance for each soil sample (soil horizon) assessed.

The analysis conducted in the SPA will determine the levels of essential nutrients that are ‘plant available’ in the soil sample and also the levels of nutrients that will be available in the soil solution.

The comparison of the level of exchangeable cations in the soil against the level of cations in soil solution provide guidance to the source of plant nutrient deficiencies, as well as identifying the causes of instability in soil structure.

These two factors - the inability of the plant to access nutrients that are present in the soil, and the lack of stability of soil structure across wet and dry cycles over a season - are the major sources of poor soil performance in most instances.

The Soil Productivity Assessment provides the analysis of these key determinants of soil and plant performance.

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- Provides land managers with the measurement of the macro & micro nutrients present in the soil and how available each nutrient is to the plant.

- Includes analysis that establishes how efficiently a soil supplies nutrients and water to the plant and air circulates through the soil.

- Provides land managers with the ability to build soil management programs that will sustainably increase yield and farm profitability.

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Soil Sampling Instructions:

1. Make sure your sampling equipment is clean. If using a bucket and shovel make sure both items are free of any contaminants. Soil core sampling tools are very good for sampling but care is to be taken that samples are taken to required depths and horizons. **Separate samples must be taken of each horizon: do not mix horizons.**

2. For the complete assessment, samples of both the A (or A1) and B (or A2) horizons should be taken from a location that is representative of the soil type. This will generally require digging to a depth of approx. 0 - 15cm or 10 - 45cm depending on horizons. The surface material (stubble, grasses, weeds etc.) should be carefully removed and then the sample taken from within the required horizon. Mark the samples clearly showing which horizon the sample has been collected from for reporting purposes.

3. The best way to identify the sample location is with a GPS co-ordinate but a visual marker can also be used to allow further testing from the same point. The samples must be representative of the soil type across a landscape by horizon.

4. The required volume of soil is approx. 0.5 kg per horizon. This is to be packaged in a sealable container or bag then posted to the sample delivery address provided below. The soil must be well packaged to prevent leakage.

5. To obtain representative samples, do not sample from unusual sites such as:
   - Walkways
   - Gravelled areas
   - Gateways/Fencelines
   - Around Dams or Water Reservoirs
   - Old Fertiliser/Lime/Gypsum stockpiles

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**SAMPLE DELIVERY ADDRESS:**

APAL Soil and Plant Laboratory  
P.O. Box 327, Magill  
South Australia, 5072