

DR SOIL FIELD DAY

Dr. M. Abdul Kader



Background

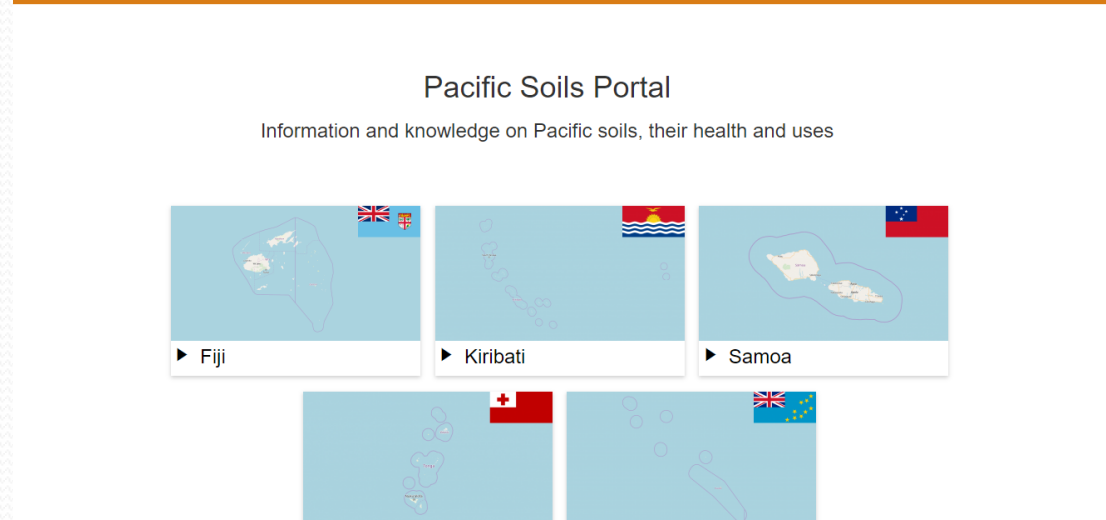
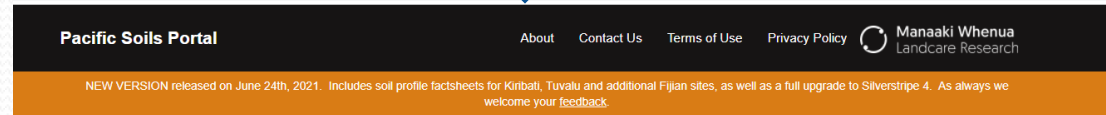
Natural resources

1. Soil → **Pacific soil**
2. Water
3. Air

- Soil Fertility declines
- Soil information is not updated
- Soil information is not accessible

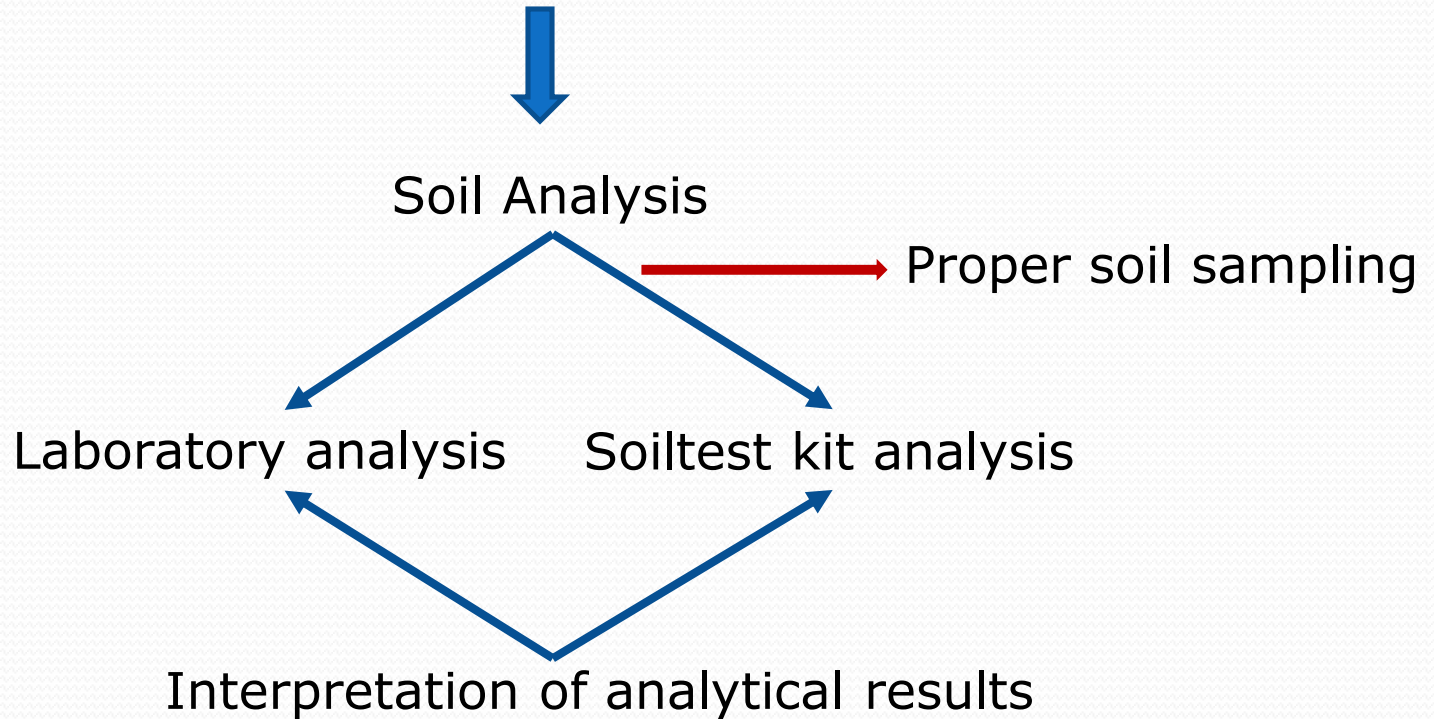


Franklin D Roosevelt, 1937 says **“The nation that destroys its soil destroys itself”**

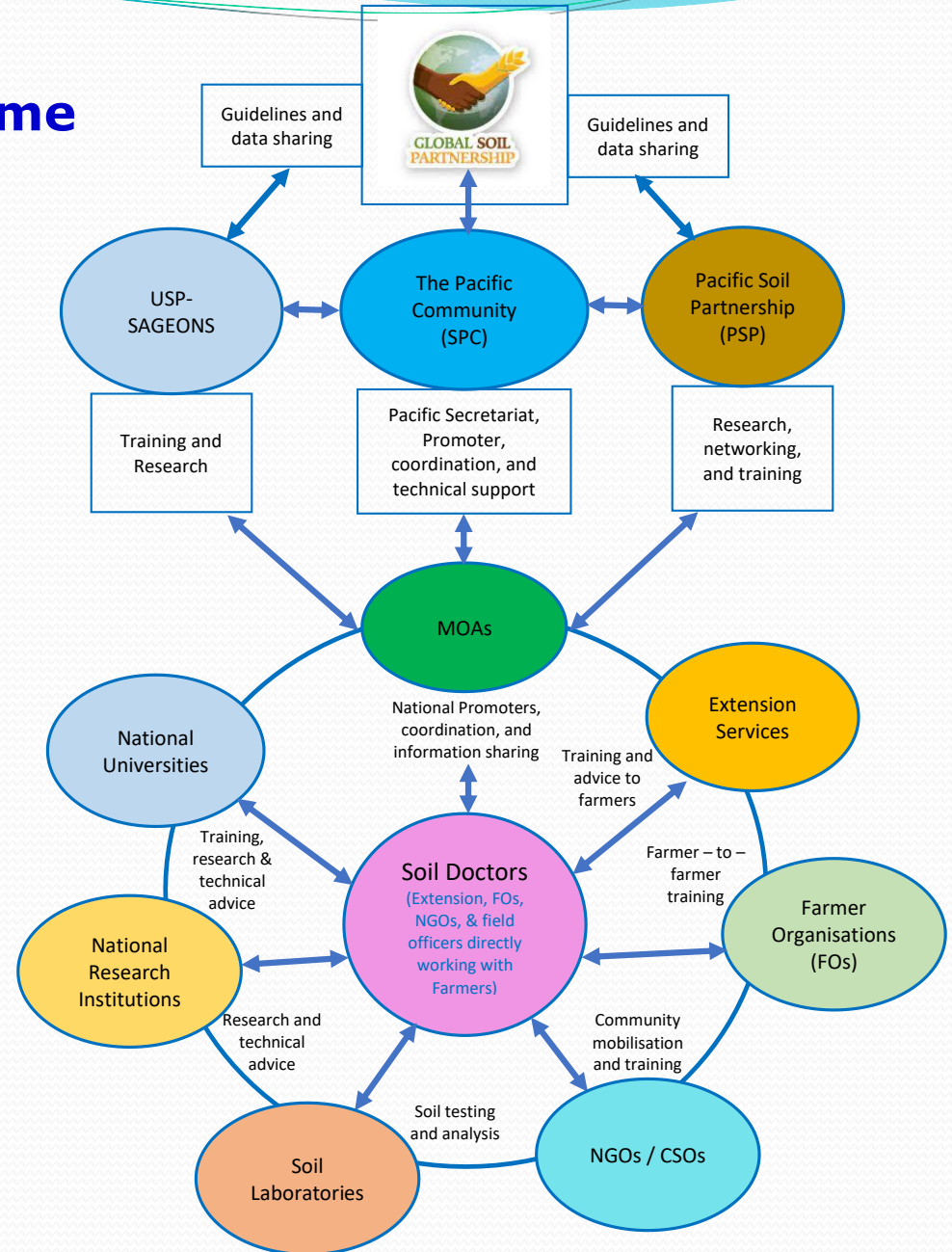


<https://psp.landcareresearch.co.nz/>

How to generate useful soil information?



Pacific Soil Doctor Programme



Dr Soil Field Day

Objective

1. To demonstrate soil sampling procedure, preparation of soil samples, bagging and tagging
2. To analyse soils by using Palintest kit and interpretation of results

Soil sampling protocol

- 1. Field area (square meter)**
- 2. Sampling depth**
- 3. When to sample**
- 4. Sampling procedure**
- 5. Handling, and**
- 6. Information form**

Soil sampling protocol

1. Field area : 0.5 (5000m²) ha/sample, max-4 ha

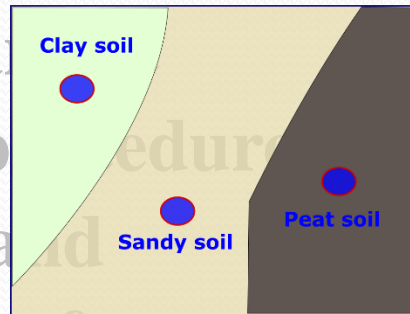
2. Sampling depth

3. When to sample

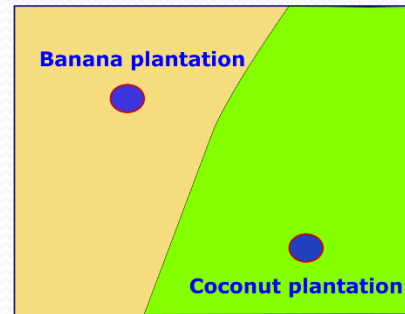
4. Sampling procedure

5. Handling, and

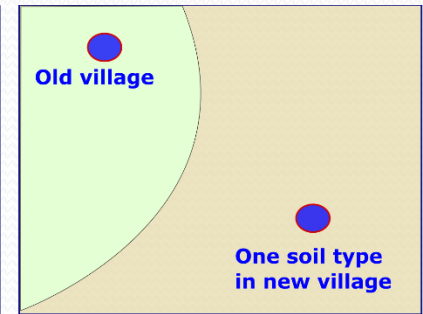
6. Information form



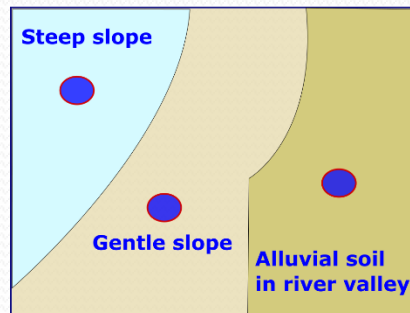
3 composite samples



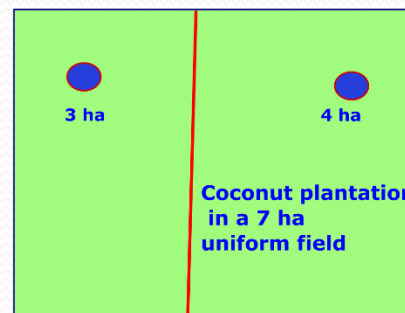
2 composite samples



2 composite samples



3 composite samples



2 composite samples



2 composite samples

Soil sampling protocol

1. Field area (square meter)
2. Sampling depth →
3. When to sample
4. Sampling procedure
5. Handling, and
6. Information form

Crops	Depth (cm)
Taro	0-30
Sweet potato	0-30
Cassava	0-30
Yam	0-30
Sugarcane	0-30
Banana	0-30
Bean	0-15
Cucumber	0-15
Okra/ladies finger	0-15
Eggplant/brinjal	0-15
Tomato	0-15
Rice	0-15
Maize	0-15
Watermelon	0-15
Peanut/groundnut	0-15
Perennial crops, plantations and orchard crops	Sampling from 3 depths 0-30, 30-60 and 60-90

- Sunny day
- Before planting/sowing
- Perennial crops-standing crops

Soil sampling equipment's



Bucket auger



Screw auger



Clay auger

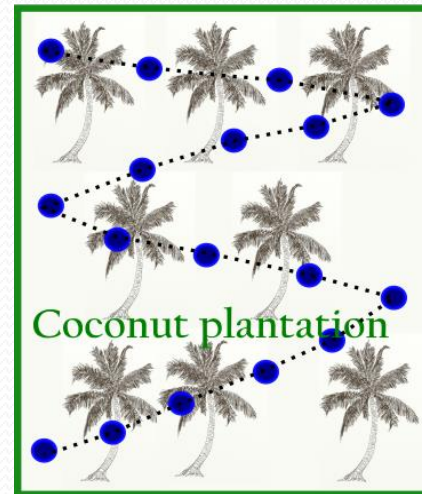
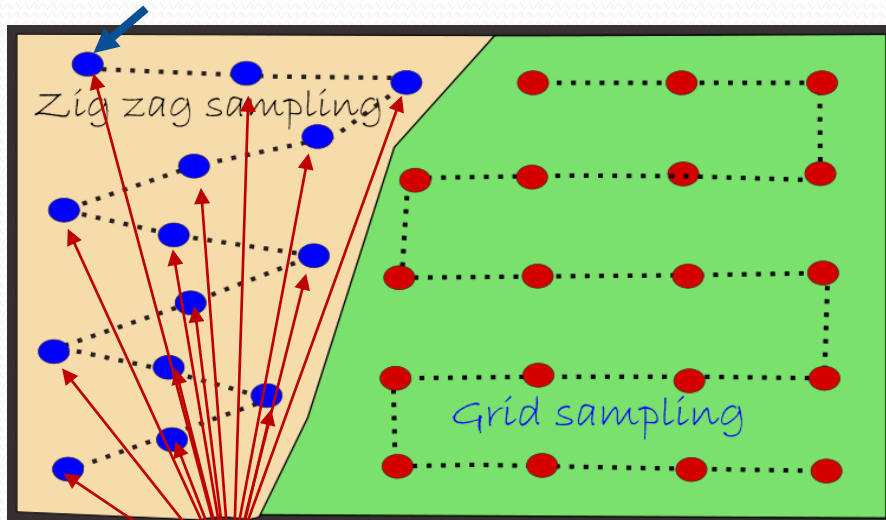


Spade

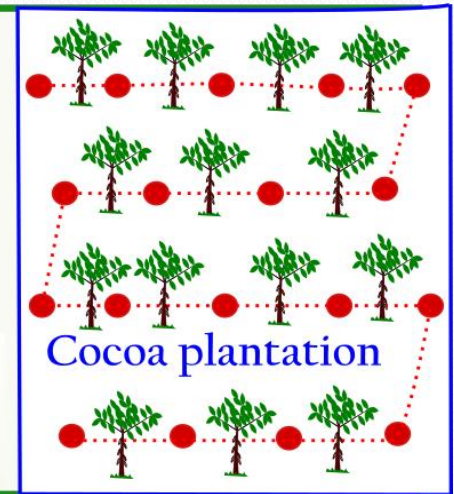


Trowel

Unit sample



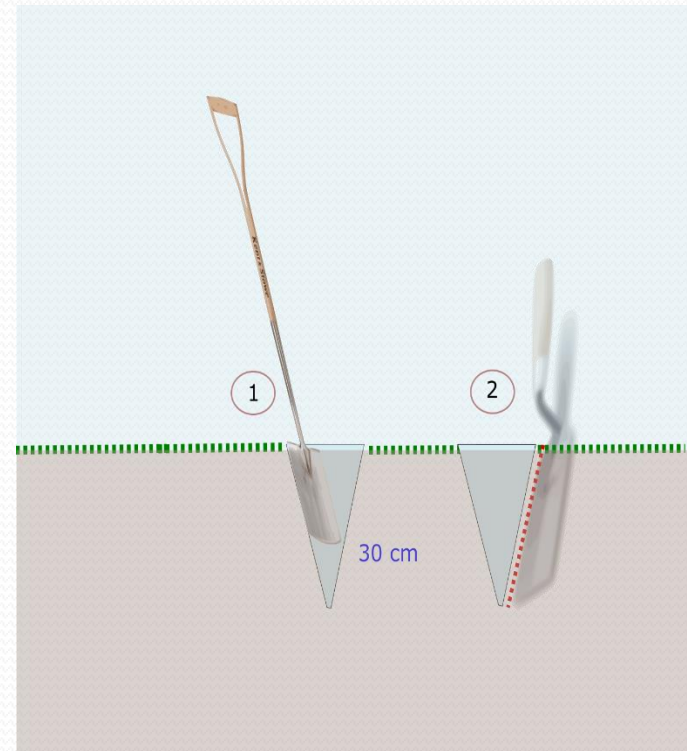
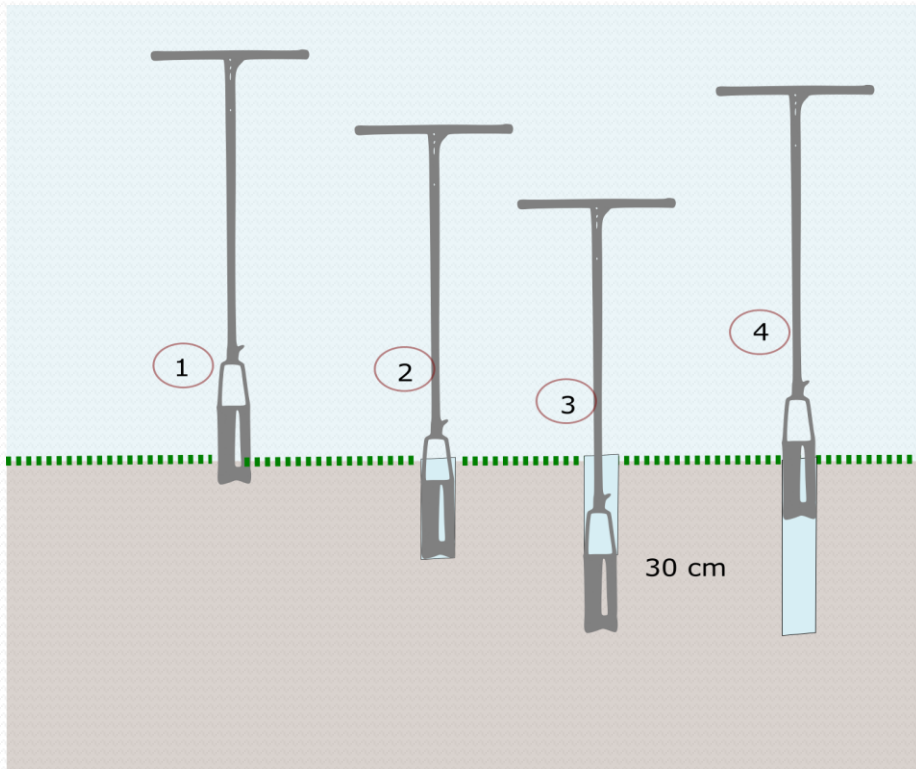
Coconut plantation



Cocoa plantation

Composite sample: mixture of 10-20 unit sample

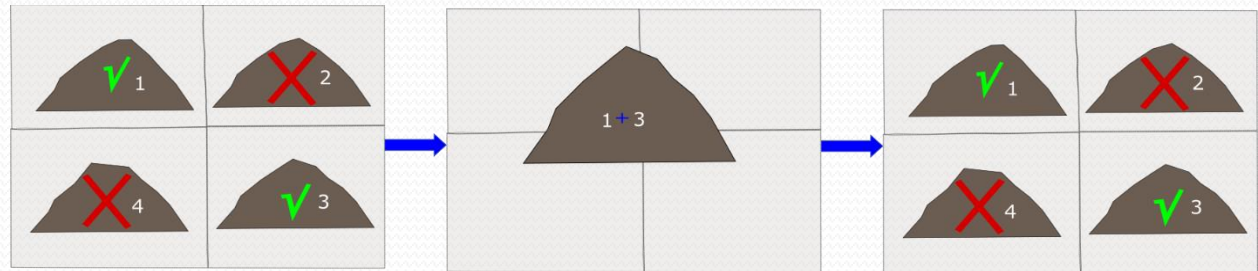
Soil sampling procedure



Mixing



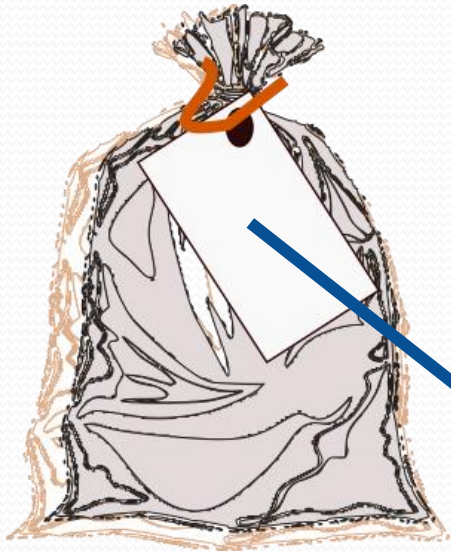
Discarding



Drying



Bagging and tagging



1. Site location (field number or plot number, village name, any specific identification mark (eg 100 m north from Robert Louis school) including farmer's name);
2. Geolocation (GPS coordinates);
3. Date of sampling;
4. Depth of sampling;
5. Previous crop and crop to be cultivated;
6. Drainage characteristics (e.g well drained, poorly drained);
7. Soil type (e.g. sandy soil, clay soil, loam soil etc.);
8. Past fertilizer use (if any);
9. Previous soil test results (if any) ,
10. Deficiency and disease symptoms (if identified);



THANK YOU