

# Visual Soil Assessment



A visual soil assessment is one of the most useful tools you've got — quick, low-cost, and it tells you things a lab test never will. It's about reading the soil as a living system, not just numbers.

Score each area (Good / Moderate / Poor or 1–5 scale to track change)

## What you need

- Spade or shovel
- Knife or screwdriver
- Bucket
- A good set of eyes and hands

## Where to assess

Compare:

- A good area
- A poor-performing area
- A gateway or high traffic zone

➔ This gives you real comparisons

---

## 1. SURFACE CONDITION

Before digging, look at the top:

- Good pasture cover?
- Bare soil?
- Dung breakdown?
- Runoff or erosion?

➔ The surface tells you how the system is functioning overall



# Visual Soil Assessment

## 2. DIG A SOIL BLOCK

- **20–30 cm deep**
- Keep it intact as much as possible
- Lay it on the ground as a “soil profile”

## 3. CHECK SOIL COLOUR

- **Dark brown/black** → high organic matter, good carbon
- **Pale/grey** → low carbon, poor biology
- **Rusty/Orange mottling** → waterlogging issues

## 4. LOOK AT MOISTURE

- Should be **moist but not sticky**
- If water sits or soil is greasy → poor structure
- Dry and won't hold shape → low organic matter

## 5. LOOK AT SOIL STRUCTURE (one of the most important indicators)

### Good soil:

- Crumbly (like chocolate cake)
- Breaks into **small aggregates**
- Has visible pores

### Poor soil:

- Hard, cloddy, or smeared
- Plate-like layers
- Compacted zones

➔ If it looks like a brick, it's not functioning



# Visual Soil Assessment

## 6. LOOK FOR BIOLOGY

### Good signs:

- Earthworms (especially multiple sizes)
- Fungal threads (white strands)
- Insects and life movement

### Poor signs:

- No worms
- Dead, lifeless soil

➔ Biology is your engine

## 7. CHECK ROOTS (pull apart the soil and look closely)

### Healthy roots:

- White and fibrous
- Spread evenly through the soil
- Go down deep

### Problems:

- Roots stop suddenly → **compaction layer**
- Brown or stubby roots → **stress or toxicity**

➔ Roots tell you what the plant is experiencing underground

## 8. SMELL THE SOIL

- **Healthy soil:** earthy, fresh smell
- **Unhealthy soil:** sour, rotten or no smell

➔ A bad smell = **anaerobic biology**, same issue as your effluent pond



# Visual Soil Assessment

## 9. TEST COMPACTION

Use a screwdriver or knife:

- Push into the soil at different depths
- Goes in easily → good structure
- Hard to push → compaction

➔ Confirms what roots and structure are telling you

---

### What it means

Poor soil usually shows:

- Low biology
- Compaction
- Poor carbon balance
- Anaerobic zones

➔ It's a system issue, not just nutrients

### What improvement looks like

- More earthworms
- Better structure
- Deeper roots
- Easier digging
- Fresh smell

**“If you want to know what’s really going on in your soil - dig a hole.”**

