

## SOIL HEALTH CARD

TEST	POOR 1 -2 - 3	FAIR 4 - 5 - 6	GOOD 7 - 8 - 9	COMMENTS
<b>1. DIVERSITY OF SOIL LIFE</b>	Fewer than two types of soil animals	Two of five types of soil animals	More than five types of soil animals	
<b>2. GROUND COVER</b> Living ground cover	Less than 50% living ground cover	50%-70% living ground cover	Greater than 75% living ground cover (90% on steep slopes)	
<b>3. PENETROMETER</b> * From surface *From 20cm depth (from bottom of hole - after #5)	Penetrates to less than 5cm	Penetrates more than 5 but less than 20cm	Penetrates to 20cm or more	
<b>4. INFILTRATION</b> *Surface *20cm depth	More than 7 minutes	3 to 7 minutes	Less than 3 minutes	
<b>5. ROOT DEVELOPMENT</b>	Few fine roots or black roots	Some fine roots mostly near surface	Many fine roots throughout	
<b>6. DEPTH 'A-1' HORIZON</b>	0 - 1.9cm	2cm - 4.9cm	5cm or over	
<b>7. SOIL STRUCTURE</b>	Mostly in clods or with a surface crust, few crumbs	Some clods but also many 10mm crumbs	Friable, readily breaks into 10mm crumbs	
<b>8. EARTHWORMS</b>	0 to 3	4 to 6	more than 6	



### LOW TEST SCORES: SOME POSSIBLE CAUSES



TEST RESULT	SITUATION INDICATED	POSSIBLE CAUSES
<b>1) Low variety of soil fauna</b>	lack of habitat or food for fauna poor soil structure presence of harmful chemicals	sparse litter, low soil organic matter (OM), lack of soil spaces and channels frequency or intensity of machinery has been excessive mortality from recent use of insecticides or regular use of cumulative chemical(s) such as copper
<b>2) Low ground cover</b>	ground plants absent or growth is poor	unsuitable plant type(s), soil compaction, erosion, shading, herbicide use
<b>3) Low probe penetrability</b>	soil is generally hard hard at the surface only hard layer at greater depth	compacted by over-working, low soil organic matter compacted by traffic, especially if soil is wet at the time compacted by heavy vehicles or 'hard pan' formed by soil inverting cultivators
<b>4) Slow water infiltration</b>	high proportion of clay particles lack of spaces, channels or burrows in soil	naturally high clay content of soil type, possible loss of topsoil soil compaction, poor soil structure, lack of earthworms, surface crusting
<b>5) Poor root development</b>	hard soil lacking spaces poor plant nutrition root disease or attack	loss of topsoil, poor soil structure, soil compaction soil pH not suitable for crop, lack of major or minor nutrients presence of soil-borne pathogen, root-feeding nematodes or root-feeding insects
<b>6) Lack of depth of A1 (AO) horizon</b>	low organic matter low population soil organisms	loss of topsoil, sparse ground cover (see 2), copper toxicity low variety of soil fauna (see 1), few earthworms (see 8)
<b>7) Poor soil structure</b>	powdery soil, few crumbs excessive clods	lack of soil-binding substances and processes, low soil organic matter (sparse ground cover), few worms topsoil loss, soil compaction, low soil organic matter
<b>8) Low earthworm count</b> 	pH unfavourable poor food supply lack of soil spaces predators or parasites present presence of harmful chemical	soil pH naturally low, pH reduced by use of acidifying fertilisers sparse litter and/or ground cover (and roots), low organic content, low populations of fungi and bacteria loss of topsoil, soil compaction, poor structure predators (e.g. flatworms) and parasites (e.g. parasitic fly) may occur in 'plague' numbers mortality from recent use of insecticides or regular use of cumulative chemical(s) such as copper