

Linking Soil Health Indicators to Management

LOW AGGREGATE STABILITY:

short-term: integrate shallow-rooted cover or sod-rotation crops, add manures

long-term: reduce tillage intensity

LOW AVAILABLE WATER CAPACITY:

short-term: add stable organic matter (e.g. compost)

long-term: reduce tillage intensity

HIGH SURFACE HARDNESS:

short-term: localized physical soil loosening (e.g., strip tillage); frost tillage, cover crops and organic matter additions

long-term: integrate shallow-rooted cover or rotation crops; avoid traffic on wet soils; use controlled traffic lanes

HIGH SUB-SURFACE HARDNESS:

short-term: targeted physical soil loosening at depth (e.g., zone building, ripping, strip tillage); integrate deep-rooted cover crops

long-term: avoid moldboard plows and disks that generate tillage pans; reduce equipment loads; avoid heavy equipment traffic on wet soils

LOW ORGANIC MATTER and LOW ACTIVE CARBON:

short-term: integrate cover or sod rotation crops; add manure or compost

long-term: reduce tillage

LOW POTENTIALLY MINERALIZABLE NITROGEN:

short-term: add N-rich organic matter (not excessive); use legume cover / rotation crops

long-term: reduce tillage

HIGH ROOT ROT RATING:

use proper rotations, cover crops, appropriate chemical and biological control products

LIMITING LEVELS OF pH OR NUTRIENTS: see CNAL recommendations

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