

Test Results	Suggested Management Practices		NRCS Practice
	Short Term	Long Term	
Physical Concerns			
Low Aggregate stability	<ul style="list-style-type: none"> • Incorporate fresh organic materials • Use shallow-rooted cover/rotation crops • Add manure, green manure, mulch 	<ul style="list-style-type: none"> • Reduce tillage • Use a surface mulch • Rotate with sod crops 	(328) Conservation Crop Rotation (329) No-Till/Strip-Till (340) Cover Crop (484) Mulching (512) Forage & Biomass Planting (528) Prescribed Grazing
Low Available Water Capacity	<ul style="list-style-type: none"> • Add stable organic materials, mulch • Add compost or biochar • Incorporate high biomass cover crop 	<ul style="list-style-type: none"> • Reduce tillage • Rotate with sod crops • Incorporate high biomass cover crop 	(317) Compost Facility (328) Conservation Crop Rotation (329) Residue Mgmt No-Till/Strip-Till (340) Cover Crop (512) Forage & Biomass Planting (528) Prescribed Grazing
High Surface Hardness	<ul style="list-style-type: none"> • Perform some mechanical soil loosening (strip till, aerators, broadfork, spader) • Use shallow-rooted cover crops • Use a living mulch or interseed cover crop 	<ul style="list-style-type: none"> • Shallow-rooted cover/rotation crops • Avoid traffic on wet soils, monitor • Avoid excessive traffic/tillage/loads • Use controlled traffic patterns/lanes 	(328) Conservation Crop Rotation (345) Residue Mgmt, Mulch Till (340) Cover Crop (484) Mulching (528) Prescribed Grazing (512) Forage & Biomass Planting
High Subsurface Hardness	<ul style="list-style-type: none"> • Use targeted deep tillage (subsoiler, yeomans plow, chisel plow, spader.) • Plant deep rooted cover crops/radish 	<ul style="list-style-type: none"> • Avoid plows/disks that create pans • Avoid heavy loads • Reduce traffic when subsoil is wet 	(324) Deep Tillage (329) Residue Mgmt, No-Till/Strip-Till (345) Residue Mgmt, Mulch Till (340)Cover Crop (606) Subsurface Drain
Biological Concerns			
Low Organic Matter	<ul style="list-style-type: none"> • Add stable organic materials, mulch • Add compost or biochar • Incorporate high biomass cover crop 	<ul style="list-style-type: none"> • Reduce tillage/mechanical cultivation • Rotate with sod crop • Incorporate high biomass cover crop 	(328) Conservation Crop Rotation (340) Cover Crop (329) Residue Mgmt No-Till/Strip-Till (317) Compost Facility (528) Prescribed Grazing (512) Forage & Biomass Planting

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Biological Concerns - continued...			
Low Active Carbon	<ul style="list-style-type: none"> • Add fresh organic materials • Use shallow-rooted cover/rotation crops • Add manure, green manure, mulch 	<ul style="list-style-type: none"> • Reduce tillage/mechanical cultivation • Rotate with sod crop • Cover crop whenever possible 	(328) Conservation Crop Rotation (329) Residue Mgmt, No-Till (340) Cover Crop (345) Residue Mgmt, Mulch Till (528) Prescribed Grazing (512) Forage & Biomass Planting
Low Mineralizable Nitrogen	<ul style="list-style-type: none"> • Add N-rich organic matter (low C:N source like manure or well-finished compost) • Incorporate legume or young, green cover crop (inoculate legume seed) • Adjust pH to 6.2-6.5 (helps molybdenum) 	<ul style="list-style-type: none"> • Reduce tillage • Rotate with forage legume sod crop • Cover crop and add fresh manure • Keep pH at 6.2-6.5 (helps molybdenum) • Monitor C:N ratio of inputs 	(328) Conservation Crop Rotation (329) Residue Mgmt No-Till/Strip-Till (317) Compost Facility (340) Cover Crop (512) Forage & Biomass Planting (528) Prescribed Grazing (590) Nutrient Mgmt
High Root Rot Rating	<ul style="list-style-type: none"> • Use disease-suppressive cover crops • Biofumigate • Plant on ridges/raised beds • Monitor irrigation 	<ul style="list-style-type: none"> • Use disease-suppressive cover crops • Increase diversity of crop rotation • Sterilize seed and equipment • Improve drainage/monitor irrigation 	(328) Conservation Crop Rotation (340) Cover Crop (606) Subsurface Drain (449) Irrigation Water Mgmt (595) Integrated Pest Mgmt
Chemical Concerns			
Low pH	<ul style="list-style-type: none"> • Add lime or wood ash to soil test recs • Add calcium sulfate (gypsum) in addition to lime if aluminum is high • Use less ammonium or urea 	<ul style="list-style-type: none"> • Test soil annually & add "maintenance" lime to soil test recs to keep pH in range • Raise organic matter to improve buffering capacity 	(340) Cover Crop (512) Forage & Biomass Planting (590) Nutrient Mgmt
High pH	<ul style="list-style-type: none"> • Stop adding lime or wood ash • Add elemental sulfur to soil test recs 	<ul style="list-style-type: none"> • Test soil annually • Use higher % ammonium or urea 	(590) Nutrient Mgmt
Low Phosphorus	<ul style="list-style-type: none"> • Add nutrient amendments to soil test recs • Use cover crops to recycle fixed P • Adjust pH to 6.2-6.5 to free up fixed P 	<ul style="list-style-type: none"> • Promote mycorrhizae populations • Maintain a pH of 6.2-6.5 • Use cover crops to recycle fixed P 	(340) Cover Crop (590) Nutrient Mgmt

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Chemical Concerns - continued...			
High Phosphorus	<ul style="list-style-type: none"> • Stop adding manure and compost; or • Choose low or no-P fertilizer blend; or • Apply only 20-30 lbs/ac starter P₂O₅; or • Apply P at crop removal rates 	<ul style="list-style-type: none"> • Use cover crops that accumulate P and export to low P fields or offsite • Consider low P rations for livestock • Consider phytase for non-ruminants 	(340) Cover Crop (590) Nutrient Mgmt
Low Potassium	<ul style="list-style-type: none"> • Add wood ash, fertilizer, manure, or compost to soil test recs • Use cover crops to recycle K • Choose a high K fertilizer blend 	<ul style="list-style-type: none"> • Use cover crops to recycle K • Add “maintenance” K to soil recs each year to keep K consistently available 	(340) Cover Crop (590) Nutrient Mgmt
High Potassium	<ul style="list-style-type: none"> • Stop adding high K fertilizer or manure • Grow high K removing crops 	<ul style="list-style-type: none"> • Use cover crops to accumulate K and export to low K fields or offsite 	(340) Cover Crop (590) Nutrient Mgmt
Low Micronutrients	<ul style="list-style-type: none"> • Add chelated micros to soil test recs • Use cover crops to recycle micronutrients • Do not exceed pH 6.5 for most crops 	<ul style="list-style-type: none"> • Promote mycorrhizal populations • Improve organic matter • Decrease soil P (binds micros) 	(340) Cover Crop (590) Nutrient Mgmt
High Micronutrients	<ul style="list-style-type: none"> • Raise pH to 6.2-6.5 (for all high micros except Molybdenum) • Do not use fertilizers with micronutrients 	<ul style="list-style-type: none"> • Maintain a pH of 6.2-6.5 • Monitor irrigation/improve drainage • Improve soil calcium levels 	(449) Irrigation Water Mgmt (512) Forage & Biomass Planting (590) Nutrient Mgmt (606) Subsurface Drain
High Salinity¹	<ul style="list-style-type: none"> • Leach soils • Use fertilizers with a low salt index (avoid chlorine and ammonium/urea fertilizers) • Do not use Chilean nitrate 	<ul style="list-style-type: none"> • Test compost for soluble salts • Use electroconductivity meter to monitor salts in the soil and irrigation water • Improve drainage 	(449) Irrigation Water Mgmt (512) Forage & Biomass Planting (590) Nutrient Mgmt (606) Subsurface Drain

¹Some Cornell Soil Health results may not report salinity (soluble salts). Salinity is primarily an issue for soils in high tunnels. Consider testing soluble salts through UNH using the High Tunnel test. Table adapted from the Cornell Soil Health Manual <http://soilhealth.cals.cornell.edu/extension/manual.htm> by Brandon Smith, NH NRCS State Agronomist (brandon.smith@nh.usda.gov or 603-868-9931).

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