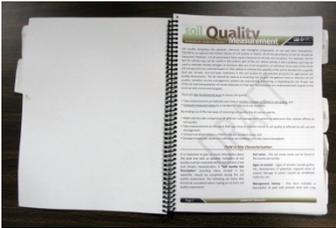


Individual Soil Quality Bucket Test Kit Contents and Details (*= volume discount provided)

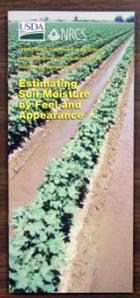
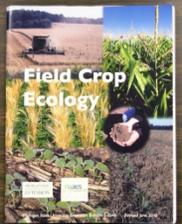
Photo	Item	Quantity	Specs	Use	Approximate Cost, Provider Info & Notes
	<p>Binder of Soil Quality Kit Guides for Educators and Associated Materials</p>	<p>1 each</p>	<p>NRCS led development based on original soil quality test kit guide expanded to include interps, management, and other details about interpreting and education on individual tests</p>	<p>Provide Guidance for soil quality sampling and eight field soil quality tests (respiration, soil organic matter, pH, EC, infiltration, BD, N, & P)</p>	<p>Edited and developed by Nebraska Soils Education Team & NRCS (Printing). Materials are posted on the following websites: http://liferaydemo.unl.edu/web/crop-watch-youth/soils or http://soils.usda.gov/sqi/assessment/educators.html</p>
	<p>Bucket Kit 'fishing' Bucket and Seat – 6 gal. – padded top</p>	<p>1each</p>	<p>Model # 02933300118</p>	<p>Container for all kit contents</p>	<p>\$14.00* Scheels Company</p>
	<p>Willow creek fishing vest Cabela's comes in sizes L, XL & 2XL</p>	<p>1per Vest</p>	<p>Model # 940239</p>	<p>Holds field soil health quick test equipment and materials shown in this document.</p>	<p>Cabela's \$15.21* recommend labeling pockets where contents are placed for commonly used field tests</p>
	<p>Soil Organic Matter Color Chart</p>	<p>1 per Vest</p>	<p>Pocket guide University of Illinois (other methods of estimating organic matter may also be used)</p>	<p>Estimate Soil organic matter in dark colored surface soils</p>	<p>\$75 for pack of 100 from Illinois Extension Service # AG-1941 University of Illinois PubsPlus Website: https://pubsplus.illinois.edu/AG1941-PK.html</p>
	<p>Pen and Field Notebook</p>	<p>1 per Vest</p>	<p>Small pocket size notebook and ink pen</p>	<p>Field & soil quality notes</p>	<p>\$1.50 CVS Pharmacy</p>

	Calculator	1 per Vest	Small pocket sized calculator	Basic calculations	Dollar General \$1
	Sharpie + 4 zip lock bags	1 set per Vest	Quart size zip lock bags and permanent marker	Label and mark zip lock bags and hold soil samples	\$1.00 sharpie + \$0.40 for 4 bags = \$1.40 total (Dollar general)
	Four 1.5 volt batteries	1 set per Vest	#675 hearing aid battery	Extra batteries for EC meter probe	\$4.00* Battery Patrol or other supplier
	Soil Electrical Conductivity (EC) Probe & Thermometer & adjustment screwdriver	1 per Vest	Standardize w 1.41 dS/m (0.01M KCl), includes adjustment screwdriver, instructions and calibration solution. Calibration solution will also need to be purchased.	Measure Electrical Conductivity of soil, water and compost, also measures air and soil temperature. Case bought separately and fitted with resistor so the meter does not need to be calibrated every time (calibration measurements are written on the meter).	Hanna Instruments HI134489 \$80.00 (reg. \$110) Hanna Instruments 270 George Washington Highway Smithfield, RI 02917 1-800-426-6287 500 ml of OAKTON standard (1413 microSiemens/cm -1.41 dS/m) costs about \$12.50.
	Case for EC Meter with resistor fitted with velcro to attach to holder	1 per Vest	Bucket Boss utility knife sheath (case) fitted with Velcro to attach Resistor	Case for holding EC Probe, Velcro to hold resistor, and resistor to do quick field calibration of EC meter	(Radio Shack 470 ohm, 1/2 watt resistor, 271-1115); (Case for EC Probe) Bucket Boss Company (#54042) All-Spec Industries P.O. Box 63249 Charlotte, NC 28401

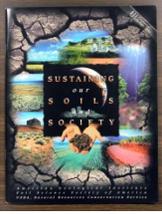
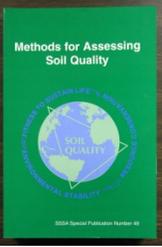
	Calibrated coffee measuring scoop	1 per Vest	29.5 ml (1/8 cup)	Use for measuring soil & Water for 1:1	\$1.50 (Ecko), any grocery store
	Two 40 dram vials	1 per Vest & Bucket	Specimen bottles that are at least 3”(7.6 cm) tall and 107 to 140 ml (marked at 107 ml for 1” of water for infiltration test)	Water container for 1:1 tests (soil:water mix) nutrient tests and 1” of water measurement for infiltration test	Specimen bottles of any type will work that are at least 3” (7.6 cm) tall and 107 to 140 ml capacity. Amount of water needed to provide 1” depth for infiltration test varies depending on size of ring.
	Hach Nitrate/nitrite test strips	1 per Vest	25 strips/bottle w color chart for nitrate/nitrite	Nitrate/nitrite in hand or 1:1 tests (soil:water mix) or water testing for nitrate/nitrite	\$18.35 (Hach Co. 2745425) Hach Co. Purchase Orders PO Box 608 Loveland, CO 80539-0608
	Hach Ortho-Phosphate test strips	1 per Vest	50 strips/bottle w color chart for phosphate	P test in hand or 1:1 tests	\$ 20.53 (Hach Co.2757150) Hach Co. Purchase Orders PO Box 608 Loveland, CO 80539-0608
	Hydrion pH paper dispenser	1 roll per Vest	Dispenser roll of pH test paper Length 15', Range 1 - 12.0 pH	pH test for soil or water in field or 1:1 tests.	Gemplers Company SKU = PH50 order on line at: http://octopart.com/50+hydrion+dispner-gempler-s-27042355 \$5.70 each pH strips can be ordered from various supply sources, and can be ordered in a narrower pH range if desired.

	<p>Aluminum cylinder + Driving Caps (picture shown with driving cap and bevel)</p>	<p>2 sets per Bucket</p>	<p>Item description : 3" outside diameter aluminum pipe (AL 3004 alloy, welded); .065 (65 thousandths) wall diameter CUT in sections 5" long. Will need to bevel the bottom, and mark/ring 3" up from bottom. Important that this ring has narrow walls and is beveled correctly at the bottom.</p>	<p>Measure soil BD, infiltration, soil water content, porosity, & soil respiration</p>	<p>Cost = \$7.60 per 5" section (no bevel, 3" mark or driving cap). KROY Industries Inc. 522 W. 26th St York, NE 68467 Ph. 402 362-6651 Fax. 402 362-6566 Contact Dan: Dan@kroyind.com or: \$14+\$3(cap) = \$17 Geis Manufacturing at Seward Nebraska includes bevel, 3" mark and hard plastic driving cap with groove to fit on top. Contact at: geissteel@windstream.net</p>
	<p>2 lb dumbbell</p>	<p>1 per Bucket</p>	<p>"Cap Strength" Neoprene 2 lb dumbbell</p>	<p>Driving cylinder into ground with driving cap</p>	<p>\$3.00 + tax, (Wal-Mart #0255613042)</p>
	<p>U-Dig-It folding Hand Shovel & Trowel</p>	<p>1 per Vest</p>	<p>(Amazon 381440)</p>	<p>To dig, excavate, and mix soil</p>	<p>\$7 to \$15 U-Dig-It folding Hand Shovel & Trowel order on Amazon #381440 or; Gear for Adventure 1 Buffalo Street Hamburg, NY 14075 (Call 716-646-4327) various on-line suppliers can also be found</p>
	<p>Small Tape Measure 6-10' long</p>	<p>1 per Vest</p>	<p>Locking button with (English/Metric Units)</p>	<p>Measure for soil sampling depth/row space/cylinder dimension or other uses</p>	<p>\$2.50 Various hardware stores</p>

	Solvita Soil Life Respiration Kit (Garden Care Kit)	1 Kit per Bucket	2 Jars + color chart + interpretative guide + 6 paddles	Chamber for 24 hour soil respiration Min. N test/comparison	\$39.77* Solvita Soil Life Respiration Kit (Garden Care Kit) volume educational discount Woods End Laboratories, Inc. PO Box 297 290 Belgrade Road Mt. Vernon, ME 04352
	Small measuring buckets	1 per Bucket	Opaque, 5 quart with metric & english units	Soil or water collection or measurement	\$1.70* True Value Hardware
	Plastic cylinder (clear cups)	4 per Bucket	16 oz Clear Solo plastic cups	Aggregate stability comparison, slaking test & demo.	\$2.00/pack at Target Stores
	Wire Mesh	2 per Bucket	1/4" mesh cut to fit on & into top of cup (comes in 3ft rolls)	To hold soil clod for aggregate stability/slaking test demo.	\$1.00 for each bucket Menards, Home Depot or Lowes comes in 3ft rolls that must be cut to size
	Flat serrated dinner knife	1per Vest	5" handle +3.25" blade	Trim soil from bottom of aluminum cylinder and around edge for BD/WHC test	\$0.40 ea Dollar General
	Plastic squares & rubber bands	4 per Bucket	no cling wrapping paper used in floral shops (not too sticky) so it can be easily removed	To apply water uniformly for infiltration test & to cap ring for transport.	Grocery/hobby stores or floral shops Clear cellophane gift wrap (no cling used for wrapping flowers)

	<p>Estimating soil moisture and texture by feel and appearance Brochure</p>	<p>1 per Bucket</p>	<p>NRCS public Program Aide 1619 “Estimating Soil Moisture by Feel and Appearance”</p>	<p>Estimating soil moisture and texture by feel and appearance</p>	<p>Initial supply free from NRCS, available on web http://liferaydemo.unl.edu/web/crop-watch-youth/soil_lessons or contact Nebraska State NRCS Office (402)-437-5300</p>
	<p>Small water bottle 6 oz with dispenser</p>	<p>1 per Vest</p>	<p>Pint (6oz) 180 ml w dispenser</p>	<p>Distilled water supply for soil test vest</p>	<p>\$1.36* US plastics (order number 60140) (>96)</p>
	<p>AccuGrow Soil test Kit (pH, Nitrate, Phosphate, and Potassium (K))</p>	<p>1 per bucket</p>	<p>10 tests for each (pH/Nitrate, Phosphate, and Potassium) (Hach test strips for Nitrate/Nitrite and Phosphate and Hydrion pH rolls provide same tests)</p>	<p>See through test strips for working with soil slurry- excellent for use in ‘in-hand method’. Quantitative calibration conversion chart to ppm is available for A, B, C, and D qualitative readings</p>	<p>\$9.60* + tax (\$31.50 retail) Environmental test systems, Hach alternative tests using ‘clear’ reaction indicator strips. Can e-mail order to etsorders@hach.com or Environmental Test Systems PO Box 4659 Elkhart, IN 46514</p>
	<p>Ohaus CL 2000 portable electronic balance (not placed in bucket)</p>	<p>1 per bucket</p>	<p>Comes with 3-AAA batteries, AC/DC adapter is available at extra cost</p>	<p>2000g capacity for weighing soil, water or containers for bulk density and moisture calculations (not included in bucket)</p>	<p>\$37.00* (\$44.40 retail) Hogentogler & Co Inc PO Box 2219 Columbia, MD 21045-1219 (410) 381-2390</p>
	<p>Field Crop Ecology (E2646)</p>	<p>1 per bucket</p>	<p>Michigan State Extension Publication</p>	<p>Excellent soil ecology primer for teacher reference and educational training</p>	<p>\$17 a copy A & R Communications. 117 Central Services Michigan State University East Lansing, MI 48824 517-432-1555 x 228</p>

5-12-13

	Sustaining our Soils and Society, AGI, SSSA, USDA-NRCS	1 per bucket	Order from pubs@agiweb.org	Excellent background for the role of soils in sustaining society	\$9.95 per copy American Geologic Institute 4220 King Street Alexandria Va. 22302-1502 e-mail order to pubs@agiweb.org or (703) 379-2480 x 101
	Methods for Assessing Soil Quality (SSSA Spec. Publ. No. 49; 1996)	1 per bucket	Order from Soil Science Society of America	Primary reference book for soil quality testing for scientists: highlighted index of most pertinent sections was provided to educators	\$25.00 Soil Science Society of America (contains scientific information and background on most common methods of assessing soil quality)
	SOIL! Get the Inside Scoop	1 per bucket	Order from Soil Science Society of America	A great soil science primer for K thru 12 + students	\$13.00 a copy Soil Science Society of America

Contact Michael Kucera with questions about ordering contents at michael.kucera@lin.usda.gov