DETERMINATION OF SOIL MOISTURE AND BULK DENSITY (DRY) USING ELEY VOLUMETER AND SPEEDY MOISTURE TESTER

Farm _____ Location _____ SWCD _____

Crop _____ Soil Type _____ Date _____ Tested by _____

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Depths to Edges of Layer Ins.	Thick-ness of Layer Ins.	Volumeter			Percent Moisture				Bulk (Dry) Density grs/cc	Depth Moisture in Soil Layer Ins.	Depth Moisture in Soil at FC Pd = %	Soil Moisture Deficiency Ins.
		Reading Before cc	Reading After cc	Volume cc	Wet Wt. %	Dry Wt. %	Wilting %	AM %				
	d			V	Pw	Pd	p	Pd–p	d_b	D	Dfc	Fn
									Totals			

Wet weight of all samples 26 grams unless otherwise shown.

(1) $d_b = \dfrac{26}{V\left(1 + \frac{Pd}{100}\right)}$

(2) $D = \dfrac{d_b \times Pd^* \times d}{100 \times 1}$

See Instructions on Reverse Side

* Pd for total moisture; Pd–p for available moisture

Fill out headings completely. Fill in lines in columns as tests are made. Be neat, accurate, and make a complete record.

Column 1	Record depth from ground surface to top and bottom of soil strata or portion of profile sampled. (12-24.)
Column 2	Thickness of layer. Difference of two values shown in Column 1. (24-12 = 12.)
Column 3	Reading of volumeter scale before sample is extruded.
Column 4	Reading of volumeter scale after sample is extruded.
Column 5	Difference between columns 3 and 4: (column 4 - column 3.)
Column 6	Reading of dial on Speedy Moisture Tester at completion of test. Percent moisture wet weight.
Column 7	Dry weight moisture percent from table in Speedy Moisture Tester.
Column 8	Known or estimated wilting point percentage for soil being tested.
Column 9	Available moisture percentage; (column 7 - column 8.)
Column 10	Bulk Density. Compute from equation No. (1).
Column 11	Depth of Available Moisture in soil at time of testing. Use equation No. (2).
Column 12	Depth of Moisture in Soil at Field Capacity using percent moisture Pd shown in top of column minus - column 8, then equation (2).
Column 13	Moisture deficiency; (column 12 - column 11.)