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TECHNICAL NOTES

U.S. DEPARTMENT OF AGRICULTURE Portland, Oregon SOIL CONSERVATION SERVICE

Agronomy No. 45 October 1982

FEEL CHART FOR ESTIMATING SOIL MOISTURE

The attached "Feel Chart for Estimating Soil Moisture" has been developed for technicians and farmers to use in estimating soil moisture (water). It is a valuable aid for farmers to determine the affect of tillage on soil moisture intake. It can also be used to make quick estimates of irrigation requirements. Such evaluations should be made for the effective root zone of the crop.

The information on this chart was developed by field tests with the speedy moisture meter and checked against neutron meter readings. It has a high reliability for use of the ball, ribbon, and open palm tests. The chart has sufficient categories for technicians to estimate actual conditions. This information is developed for medium textured soils. Charts for coarse and fine textured soils will be developed and sent out at a later date.

Average Available Water Holding Capacities (AWC) for Soil Textural Classes, Correct For Various Amounts of Rock Fragments and Normal Range in Inches Per Inch of Soil

Textural Class	Rock Fragments* (% by volume)							Normal AWC	Conversion	
	0	10	20	30	40	50	60			
	AWC (in./ft)							in/in	in/ft	in/in
Clay	2.1	1.9	1.7	1.5	1.3	1.2	1.0	.14-.20	2.4	0.20
Silty clay	2.1	1.9	1.7	1.5	1.3	1.2	1.0	.14-.20	2.3	0.19
Sandy clay	2.1	1.9	1.7	1.5	1.3	1.2	1.0	.14-.20	2.2	0.18
Silty clay loam	2.2	2.0	1.8	1.5	1.4	1,2	1.1	.14-.20	2.1	0.18
Clay loam	2.2	2.0	1.8	1.5	1.4	1.2	1.1	.14-.20	2.0	0.17
Sandy clay loam	2.1	1.9	1.7	1.5	1.3	1.2	1.0	.13-.19	1.9	0.16
Silt loam	2.2	2.0	1.8	1.5	1.4	1.2	1.1	.14-.20	1.8	0.15
Loam	2.0	1.8	1.6	1.4	1.2	1.1	1.0	.13-.19	1.7	0.14
Very fine sandy loam	1.9	1.7	1.5	1.3	1.2	1.0	1.0	.13-.18	1.6	0.13
Fine sandy loam	1.4	1.3	1.1	1.0	0.9	0.8	0.7	.10-.14	1.5	0.13
Sandy loam	1.3	1.2	1.0	0.9	0.8	0.7	0.7	.10-.13	1.4	0.12
Loamy very fine sand	1.2	1.1	1.0	0.8	0.7	0.7	0.6	.09-.12	1.3	0.11
Loamy fine sand	1.1	1.0	0.9	0.8	0.7	0.7	0.6	.08-.11	1.2	0.10
Loamy sand	0.9	0.8	0.7	0.6	0.6	0.5	0.4	.06-.09	1.1	0.09
Fine sand	0.8	0.7	0.6	0.5	0.5	0.4	0.3	.05-.08	1.0	0.08
Sand	0.7	0.6	0.6	0.5	0.4	0.4	0.3	.04-.07	0.9	0.08
									0.8	0.07
									0.7	0.06
									0.6	0.05
									0.5	0.04
									0.4	0.03
									0.3	0.03
									0.2	0.02

* The following reductions AWC were made for rock fragments:

% Rock fragments by volume	10	20	30	40	50	60
% Reduction in AWC	10	20	30	38	45	50

October 1982

Soil Conservation Service
Portland, Oregon

TABLE FOR ESTIMATING AVAILABLE WATER HOLDING CAPACITY

	TEXTURE AND AVAILABLE WATER HOLDING CAPACITY													
	sil, sicl,cl	loam	sic,sc vfsl	c,scl	fsl	sl	lvfs	lfs	gsl	ls	fs,vgl	gs	vgs,gs	Depth in ins.
	.19-.21	.16-.18	.15-.17	.14-.16	.13-.15	.11-.13	.10-.12	.09-.11	.07-.09	.06-.08	.05-.07	.04-.06	.03-.05	
1	.2	.2	.1-.2	.1-.2	.1	.1	.1	.1	.1	.1	.0-.1	.0-.1	.0-.1	1
2	.4	.3-.4	.3	.3	.3	.2-.3	.2	.2	.1-.2	.1-.2	.1	.1	.1	2
3	.6	.5	.4-.5	.4-.5	.4	.3-.4	.3-.4	.3	.2-.3	.2	.1-.2	.1-.2	.1	3
4	.8	.6-.7	.6-.7	.6	.5-.6	.4-.5	.4-.5	.4	.3-.4	.2-.3	.2-.3	.2	.1-.2	4
5	.9-1.5	.8-.9	.7-.8	.7-.8	.6-.7	.5-.6	.5-.6	.4-.5	.3-.4	.3-.4	.2-.3	.2-.3	.1-.2	5
6	1.1-1.3	1.0-1.1	.9-1.0	.8-1.0	.8-.9	.7-.8	.6-.7	.5-.7	.4-.5	.4-.5	.3-.4	.2-.4	.2-.3	6
7	1.3-1.5	1.1-1.3	1.0-1.2	1.0-1.1	.9-1.0	.8-.9	.7-.8	.6-.8	.5-.6	.4-.5	.3-.5	.3-.4	.2-.3	7
8	1.5-1.7	1.3-1.4	1.2-1.4	1.1-1.3	1.0-1.2	.9-1.0	.8-1.0	.7-.9	.6-.7	.5-.6	.4-.6	.3-.5	.2-.4	8
9	1.7-1.9	1.4-1.6	1.3-1.5	1.2-1.4	1.2-1.3	1.0-1.2	.9-1.1	.8-1.0	.6-.8	.5-.7	.4-.6	.4-.5	.3-.4	9
10	1.9-2.1	1.6-1.8	1.5-1.7	1.4-1.6	1.3-1.5	1.1-1.3	1.0-1.2	.9-1.1	.7-.9	.6-.8	.5-.7	.4-.6	.3-.5	10
11	2.1-2.3	1.8-2.0	1.6-1.9	1.5-1.8	1.4-1.6	1.2-1.4	1.1-1.3	1.0-1.2	.8-1.0	.7-.9	.5-.8	.4-.7	.3-.5	11
12	2.3-2.5	1.9-2.2	1.8-2.0	1.7-1.9	1.6-1.8	1.3-1.6	1.2-1.4	1.1-1.3	.8-1.1	.7-1.0	.6-.8	.5-.7	.4-.6	12
13	2.5-2.7	2.1-2.3	1.9-2.2	1.8-2.1	1.7-1.9	1.4-1.7	1.3-1.6	1.2-1.4	.9-1.2	.8-1.0	.6-.9	.5-.8	.4-.6	13
14	2.7-2.9	2.2-2.5	2.1-2.4	2.0-2.2	1.8-2.1	1.5-1.8	1.4-1.7	1.3-1.5	1.0-1.3	.8-1.1	.7-1.0	.6-.8	.4-.7	14
15	2.8-3.1	2.4-2.7	2.2-2.5	2.1-2.4	1.9-2.2	1.6-1.9	1.5-1.8	1.3-1.6	1.0-1.3	.9-1.2	.7-1.0	.6-.9	.4-.7	15
16	3.0-3.4	2.6-2.9	2.4-2.7	2.2-2.6	2.1-2.4	1.8-2.1	1.6-1.9	1.4-1.8	1.1-1.4	1.0-1.3	.8-1.1	.6-1.0	.5-.8	16
17	3.2-3.6	2.7-3.1	2.5-2.9	2.4-2.8	2.2-2.5	1.9-2.2	1.7-2.0	1.5-1.9	1.2-1.5	1.0-1.4	.8-1.2	.7-1.0	.5-.8	17
18	3.4-3.8	2.9-3.2	2.7-3.1	2.5-2.9	2.3-2.7	2.0-2.3	1.8-2.2	1.6-2.0	1.3-1.6	1.1-1.4	.9-1.3	.7-1.1	.5-.9	18
19	3.6-4.0	3.0-3.4	2.8-3.2	2.7-3.0	2.5-2.8	2.1-2.5	1.9-2.3	1.7-2.1	1.3-1.7	1.1-1.5	.9-1.3	.8-1.1	.6-.9	19
20	3.8-4.2	3.2-3.6	3.0-3.4	2.8-3.2	2.6-3.0	2.2-2.6	2.0-2.4	1.8-2.2	1.4-1.8	1.2-1.6	1.0-1.4	.8-1.2	.6-1.0	20
21	4.0-4.4	3.4-3.8	3.1-3.6	2.9-3.4	2.7-3.1	2.3-2.7	2.1-2.5	1.9-2.3	1.5-1.9	1.3-1.7	1.0-1.5	.8-1.3	.6-1.0	21
22	4.2-4.6	3.5-4.0	3.3-3.7	3.1-3.5	2.9-3.3	2.4-2.9	2.2-2.6	2.0-2.4	1.5-2.0	1.3-1.8	1.1-1.5	.9-1.3	.7-1.1	22
23	4.4-4.8	3.7-4.1	3.4-3.9	3.2-3.7	3.0-3.4	2.5-3.0	2.3-2.8	2.1-2.5	1.6-2.1	1.4-1.8	1.1-1.6	.9-1.4	.7-1.1	23
24	4.6-5.0	3.8-4.3	3.6-4.1	3.4-3.8	3.1-3.6	2.6-3.1	2.4-2.9	2.2-2.6	1.7-2.2	1.4-1.9	1.2-1.7	1.0-1.4	.7-1.2	24
25	4.7-5.2	4.0-4.5	3.7-4.2	3.5-4.0	3.2-3.7	2.7-3.2	2.5-3.0	2.2-2.7	1.7-2.2	1.5-2.0	1.2-1.7	1.0-1.5	.7-1.2	25
26	4.9-5.5	4.2-4.7	3.9-4.4	3.6-4.2	3.4-3.9	2.9-3.4	2.6-3.1	2.3-2.9	1.8-2.3	1.6-2.1	1.3-1.8	1.0-1.6	.8-1.3	26
27	5.1-5.7	4.3-4.9	4.0-4.6	3.8-4.3	3.5-4.0	3.0-3.5	2.7-3.2	2.4-3.0	1.9-2.4	1.6-2.2	1.3-1.9	1.1-1.6	.8-1.3	27
28	5.3-5.9	4.5-5.0	4.2-4.8	3.9-4.5	3.6-4.2	3.1-3.6	2.8-3.4	2.5-3.1	2.0-2.5	1.7-2.2	1.4-2.0	1.1-1.7	.8-1.4	28
29	5.5-6.1	4.6-5.2	4.3-4.9	4.1-4.6	3.8-4.3	3.2-3.8	2.9-3.5	2.6-3.2	2.0-2.6	1.7-2.3	1.4-2.0	1.2-1.7	.9-1.4	29
30	5.7-6.3	4.8-5.4	4.5-5.1	4.2-4.8	3.9-4.5	3.3-3.9	3.0-3.6	2.7-3.3	2.1-2.7	1.8-2.4	1.5-2.1	1.2-1.8	.9-1.5	30
31	5.9-6.5	5.0-5.6	4.6-5.3	4.3-5.0	4.0-4.6	3.4-4.0	3.1-3.7	2.8-3.4	2.2-2.8	1.9-2.5	1.5-2.2	1.2-1.9	.9-1.5	31
32	6.1-6.7	5.1-5.8	4.8-5.4	4.5-5.1	4.2-4.8	3.5-4.2	3.2-3.8	2.9-3.5	2.2-2.9	1.9-2.6	1.6-2.2	1.3-1.9	1.0-1.6	32
33	6.3-6.9	5.3-5.9	4.9-5.6	4.6-5.3	4.3-4.9	3.6-4.3	3.3-4.0	3.0-3.6	2.3-3.0	2.0-2.6	1.6-2.3	1.3-2.0	1.0-1.6	33
34	6.5-7.1	5.4-6.1	5.1-5.8	4.8-5.4	4.4-5.1	3.7-4.4	3.4-4.1	3.1-3.7	2.4-3.1	2.0-2.7	1.7-2.4	1.4-2.0	1.0-1.7	34
35	6.6-7.3	5.6-6.3	5.2-5.9	4.9-5.6	4.5-5.2	3.8-4.5	3.5-4.2	3.1-3.8	2.4-3.1	2.1-2.8	1.7-2.4	1.4-2.1	1.0-1.7	35
36	6.8-7.6	5.8-6.5	5.4-6.1	5.0-5.8	4.7-5.4	4.0-4.7	3.6-4.3	3.2-4.0	2.5-3.2	2.2-2.9	1.8-2.5	1.4-2.2	1.1-1.8	36
37	7.0-7.8	5.9-6.7	5.5-6.3	5.2-5.9	4.8-5.5	4.1-4.8	3.7-4.4	3.3-4.1	2.6-3.3	2.2-3.0	1.8-2.6	1.5-2.2	1.1-1.8	37
38	7.2-7.9	6.1-6.8	5.7-6.5	5.3-6.1	4.9-5.7	4.2-4.9	3.8-4.6	3.4-4.2	2.7-3.4	2.3-3.0	1.9-2.7	1.5-2.3	1.1-1.9	38
39	7.4-8.2	6.2-7.0	5.8-6.6	5.5-6.2	5.1-5.8	4.3-5.1	3.9-4.7	3.5-4.3	2.7-3.5	2.3-3.1	1.9-2.7	1.6-2.3	1.2-1.9	39
40	7.6-8.4	6.4-7.2	6.0-6.8	5.6-6.4	5.2-6.0	4.4-5.2	4.0-4.8	3.6-4.4	2.8-3.6	2.4-3.2	2.0-2.8	1.6-2.4	1.2-2.0	40
41	7.8-8.6	6.6-7.4	6.1-7.0	5.7-6.6	5.3-6.1	4.5-5.3	4.1-4.9	3.7-4.5	2.9-3.7	2.5-3.3	2.0-2.9	1.6-2.5	1.2-2.0	41
42	8.0-8.8	6.7-7.6	6.3-7.1	5.9-6.7	5.5-6.3	4.6-5.5	4.2-5.0	3.8-4.6	2.9-3.8	2.5-3.4	2.1-2.9	1.7-2.5	1.3-2.1	42
43	8.2-9.0	6.9-7.7	6.4-7.3	6.0-6.9	5.6-6.4	4.7-5.6	4.3-5.2	3.9-4.7	3.0-3.9	2.6-3.4	2.1-3.0	1.7-2.6	1.3-2.1	43
44	8.4-9.2	7.0-7.9	6.6-7.5	6.2-7.0	5.7-6.6	4.8-5.7	4.4-5.3	4.0-4.8	3.1-4.0	2.6-3.5	2.2-3.1	1.8-2.6	1.3-2.2	44
45	8.5-9.4	7.2-8.1	6.7-7.6	6.3-7.2	5.8-6.7	4.9-5.8	4.5-5.4	4.0-4.9	3.1-4.0	2.7-3.6	2.2-3.1	1.8-2.7	1.3-2.2	45
46	8.7-9.7	7.4-8.3	6.9-7.8	6.4-7.4	6.0-6.9	5.1-6.0	4.6-5.5	4.1-5.1	3.2-4.1	2.8-3.7	2.3-3.2	1.8-2.8	1.4-2.3	46
47	8.9-9.9	7.5-8.5	7.0-8.0	6.6-7.5	6.1-7.0	5.2-6.1	4.7-5.6	4.2-5.2	3.3-4.2	2.8-3.8	2.3-3.3	1.9-2.8	1.4-2.3	47
48	9.1-10.1	7.7-8.6	7.2-8.2	6.7-7.7	6.2-7.2	5.3-6.2	4.8-5.8	4.3-5.3	3.4-4.3	2.9-3.8	2.4-3.4	1.9-2.9	1.4-2.4	48
49	9.3-10.2	7.8-8.8	7.3-8.3	6.9-7.8	6.4-7.3	5.4-6.4	4.9-5.9	4.4-5.4	3.4-4.4	2.9-3.9	2.4-3.4	2.0-2.9	1.5-2.4	49
50	9.5-10.5	8.0-9.0	7.5-8.5	7.0-8.0	6.5-7.5	5.5-6.5	5.0-6.0	4.5-5.5	3.5-4.5	3.0-4.0	2.5-3.5	2.0-3.0	1.5-2.5	50
51	9.7-10.7	8.2-9.2	7.6-8.7	7.1-8.2	6.6-7.6	5.6-6.6	5.1 6.1	4.6-5.6	3.6-4.6	3.1-4.1	2.5-3.6	2.0-3.1	1.5-2.5	51
52	9.9-10.9	8.3-9.4	7.8-8.8	7.3-8.3	6.8-7.8	5.7-6.8	5.2-6.2	4.7-5.7	3.6-4.7	3.1-4.2	2.6-3.6	2.1-3.1	1.6-2.6	52
53	10.1-11.1	8.5-9.5	7.9-9.0	7.4-8.5	6.9-7.9	5.8-6.9	5.3-6.4	4.8-5.8	3.7-4.8	3.2-4.2	2.6-3.7	2.1-3.2	1.6-2.6	53
54	10.3-11.3	8.6-9.7	8.1-9.2	7.6-8.6	7.0-8.1	5.9-7.0	5.4-6.5	4.9-5.9	3.8-4.9	3.2-4.3	2.7-3.8	2.2-3.2	1.6-2.7	54
55	10.4-11.5	8.8-9.9	8.2-9.3	7.7-8.8	7.1-8.2	6.0-7.1	5.5-6.6	4.9-6.0	3.8-4.9	3.3-4.4	2.7-3.8	2.2-3.3	1.6-2.7	55
56	10.6-11.8	9.0-10.1	8.4-9.5	7.8-9.0	7.3-8.4	6.2-7.3	5.6-6.7	5.0-6.2	3.9-5.0	3.4-4.5	2.8-3.9	2.2-3.4	1.7-2.8	56
57	10.8-12.0	9.1-10.3	8.5-9.7	8.0-9.1	7.4-8.5	6.3-7.4	5.7-6.8	5.1-6.3	4.0-5.1	3.4-4.6	2.8-4.0	2.3-3.4	1.7-2.8	57
58	11.0-12.2	9.3-10.4	8.7-9.9	8.1-9.3	7.5-8.7	6.4-7.5	5.8-7.0	5.2-6.4	4.1-5.2	3.5-4.6	2.9-4.1	2.3-3.5	1.7-2.9	58
59	11.2-12.4	9.4-10.6	8.8-10.0	8.3-9.4	7.7-8.8	6.5-7.7	5.9-7.1	5.3-6.5	4.1-5.3	3.5-4.7	2.9-4.1	2.4-3.5	1.8-2.9	59
60	11.4-12.6	9.6-10.8	9.0-10.2	8.4-9.6	7.8-9.0	6.6-7.8	6.0-7.2	5.4-6.6	4.2-5.4	3.6-4.8	3.0-4.2	2.4-3.6	1.8-3.0	60

Basic assumption: <1% organic matter, mixed and montmorillonite clays predominate; bulk density 1.5, 1/3 coarse fragments reduce AWC by 1/4.

FEEL CHART FOR ESTIMATING SOIL MOISTURE

Percent Available Moisture	Medium Soil Texture
Saturated Soil	Free water is easily seen on the soil surface. The soil is shiny, very sticky, clings to hand. When shaken in an open hand, moisture will flow to the soil surface and the soil will flatten out. Muddy water may flow between the fingers after the soil is shaken. Ribbon test: Will not ribbon or roll into pencil shapes.
Field Capacity 100	Ball test: Wet, sticky, doughy and slick. A very plastic ball is formed, handles like stiff bread dough or modeling clay; not muddy. Leaves water on hand. Just barely squeeze moisture out of soil, but not muddy. Ball will change shape and cracks will appear before breaking. Ribbon test: Ribbons readily with slight pressure to 1 inch before breaking. Open palm test: Forms a tight ball. Will work into a long, round pencil-like shape..
85-95	Ball test: Moist and somewhat slick. Wet outline left in hand. No free water on soil surface. It is somewhat plastic and holds together when tossed 15-18" and caught in open hand. Ribbon test: With slight pressure, ribbons out to 3/4 inch before breaking. Open palm test: Forms a firm ball with slight pressure. When made into a pencil shape then rolled, it cracks and breaks apart.
70-80	Ball test: Damp and heavy; slightly sticky when moderately squeezed. Forms tight plastic ball. Shatters with a burst into large particles when broken. Hand is moist. Ribbon test: Pressure--ribbons easily to 3/4"; soil slick with definite moisture imprint on finger. Slight pressure--ribbons 1/2 inch. Moist soil particles left on thumb. Open palm test: Sample can be molded into a round ball; somewhat plastic, will not shatter readily.
60-65	Ball test: Form firm ball; main line of finger joints will be imprinted on ball. Irregularities can be brushed off. No moisture on hand, just damp feeling. Soil doesn't stick to hand. Ball is pliable, not easily broken. When broken under sudden pressure, ball shatters or falls into medium-size fragments. Ball tossed 18" and caught in open hand breaks on impact.
50-55	Ball test: Forms a ball readily, holds its shape. No moist feeling is left on hand; a few soil fragments cling to palm. Ball is very brittle and breaks readily. Soil falls or crumbles into small granules when broken. Ribbon test: With pressure will ribbon 1/4" to 3/8". Open palm test: Sample very crumbly; readily dissolves into individual particles. Soil tossed 18" and caught in open palm breaks into several pieces. Soil is lighter colored.
35-45	Dry, almost powdery. Ball test: A ball can be formed under pressure, but some soil will fall or flake away when hand is opened. The ball is very crumbly and hardly holds its shape.
25-30	Dry, somewhat powdery. Ball test: Will form a weak ball under pressure. Breaks easily when hand is open with only 1/3 of ball holding shape; the rest crumbles. Soil is light colored and, except for hard lumps, it is single grain.
Below 20	Powdery, dry, will not form a ball. If soil is crusted, it is easily broken into a powdery condition.

DEFINITION OF TESTS

1. Ball test: Ball formed when a handful of soil is squeezed hard in fist. Observe effect when broken between thumb and forefinger.
2. Ribbon test: Pressure - soil is squeezed out between thumb and forefinger for ribboning effect. Squeezing must be done with a ½ to ¼" sliding motion of the thumb
   Slight pressure - same as above except thumb and finger are kept 1/8 inch apart.
3. Open palm test: Ball of soil rolled gently between open palms to note effect.

NOTE: Silt loam soils high in lime with weak cementing will feel 5-10 percent dryer than the actual condition.

Soils that are compacted will need to be checked by the amount of moisture left on the hand.

AVAILABLE WATER HOLDING CAPACITY

(Inches of water/inch of soil)

Table for Estimating Available Water Holding Capacity -- (Silt Loam Soil)

1/	2/ 3/	1/	2/ 3/	1/	2/ 3/
1	.2	21	4.0 - 4.4	41	7.8 - 8.6
2	.4	22	4.2 - 4.6	42	8.0 - 8.8
3	.6	23	4.4 - 4.8	43	8.2 - 9.0
4	.8	24	4.6 - 5.0	44	8.4 - 9.2
5	.9 - 1.5	25	4.7 - 5.2	45	8.5 - 9.4
6	1.1 - 1.3	26	4.9 - 5.5	46	8.7 - 9.7
7	1.3 - 1.5	27	5.1 - 5.7	47	8.9 - 9.9
8	1.5 - 1.7	28	5.3 - 5.9	48	9.1 - 10.1
9	1.7 - 1.9	29	5.5 - 6.1	49	9.3 - 10.2
10	1.9 - 2.1	30	5.7 - 6.3	50	9.5 - 10.5
11	2.1 - 2.3	31	5.9 - 6.5	51	9.7 - 10.7
12	2.3 - 2.5	32	6.1 - 6.7	52	9.9 - 10.9
13	2.5 - 2.7	33	6.3 - 6.9	53	10.1 - 11.1
14	2.7 - 2.9	34	6.5 - 7.1	54	10.3 - 11.3
15	2.8 - 3.1	35	6.6 - 7.3	55	10.4 - 11.5
16	3.0 - 3.4	36	6.8 - 7.6	56	10.6 - 11.8
17	3.2 - 3.6	37	7.0 - 7.8	57	10.8 - 12.0
18	3.4 - 3.8	38	7.2 - 7.9	58	11.0 - 12.2
19	3.6 - 4.0	39	7.4 - 8.2	59	11.2 - 12.4
20	3.8 - 4.2	40	7.6 - 8.4	60	11.4 - 12.6

1/ Inches soil depth.

2/ Inches water, low organic matter.

3/ Inches water, high organic matter

Average Available Water Holding Capacities (AWC)

For Soil Textural Classes

Correct For Various Amounts of Salt (mmhos EC x 10^3)

Textural Class	mmhos-salt (EC x 10^3 25°C)								
	0	4	8	12	15	20	25	30	35
	AWC in/ft								
Clay	2.1	1.9	1.6	1.4	1.2	0.8	0.4	0.2	0.1
Silty clay	2.1	1.9	1.6	1.4	1.2	0.8	0.4	0.2	0.1
Sandy clay	2.1	1.9	1.6	1.4	1.2	0.8	0.4	0.2	0.1
Silty clay loam	2.2	2.0	1.8	1.6	1.3	0.9	0.5	0.2	0.1
Clay loam	2.2	2.0	1.8	1.6	1.3	0.9	0.5	0.2	0.1
Sandy clay loam	2.1	1.9	1.6	1.4	1.2	0.8	0.4	0.2	0.1
Silt loam	2.2	2.0	1.8	1.6	1.3	0.9	0.5	0.2	0.1
Loam	2.0	1.8	1.6	1.4	1.2	0.8	0.4	0.2	0.1
Very fine sandy loam	1.9	1.7	1.5	1.3	1.1	0.8	0.4	0.2	0.1
Fine sandy loam	1.4	1.3	1.1	1.0	0.8	0.6	0.3	0.1	0.0
Sandy loam	1.3	1.2	1.0	0.9	0.8	0.5	0.3	0.1	0.0
Loamy very fine sand	1.2	1.1	1.0	0.8	0.7	0.5	0.2	0.1	0.0
Loamy fine sand	1.1	1.0	0.9	0.8	0.7	0.5	0.2	0.1	0.0
Loamy sand	0.9	0.8	0.7	0.6	0.5	0.4	0.2	0.1	0.0
Fine sand	0.8	0.7	0.6	0.5	0.4	0.3	0.15	0.1	0.0
Sand	0.7	0.6	0.5	0.4	0.3	0.3	0.15	0.1	0.0

* The following reductions in AWC were made for mmhos of salt

mmhos - EC x 10^3	4	8	12	15	20	25	30	35
% reduction in AWC	10	20	30	40	60	80	90	95

Conversion	
in/ft	in/in
2.4	0.20
2.3	0.19
2.2	0.18
2.1	0.18
2.0	0.17
1.9	0.16
1.8	0.15
1.7	0.14
1.6	0.13
1.5	0.13
1.4	0.12
1.3	0.11
1.2	0.10
1.1	0.09
1.0	0.08
0.9	0.08
0.8	0.07
0.7	0.06
0.6	0.05
0.5	0.04
0.4	0.03
0.3	0.03
0.2	0.02