

RESEARCH REPORT

Relative Water Holding Capacity of Garden Mate

Trial conducted by D.E. & J.A. Gleeson, Agricultural Consultant

AIM:	To determine the effect Garden Mate has on the water holding capacity of soils.				
PROCEDURE:	The trial was designed as a 3 treatment by 5 replication pot trial under controlled watering conditions				
TREATMENTS:	<p>1. Control - CK88 2. Garden Mate CK88 plus 300 kg/ha 3. Product A** - CK88 plus 300 kg/ha</p> <p>Sandy loam soil was used. All additives were mixed through entire pot. All pots carried the same weight of medium. All pots were watered to saturation point. All pots were planted with oats and thinned to 8 plants. After planting 5mm of irrigation was applied weekly until oats were 10 cm high. Water was withheld from thereon until one of the 3 treatments wilted. 5 mm of irrigation was then applied All plants were cut at ground level 48 hours after last water and weighed.</p>				
ASSESSMENT:	<u>RAW RESULTS</u>				
	CONTROL				
	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
	2.5	3.0	2.5	3.5	2.0
	2.5	2.5	3.5	4.0	2.5
	3.0	3.0	3.5	5.0	2.5
	3.0	3.0	4.0	4.0	3.0
	3.5	3.5	2.0	4.0	3.0
	2.5	4.0	2.5	3.5	3.0
	3.5	3.5	2.5	2.5	3.0
	3.0	2.5	2.5	2.5	2.5
	GARDEN MATE - TREATMENT				
	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
	4.0	5.5	6.5	7.5	6.0
7.0	7.5	6.5	8.0	6.0	
7.0	8.0	6.5	4.5	7.0	
4.0	8.0	7.0	4.5	5.5	
9.0	9.0	7.0	5.5	7.5	
4.5	4.5	6.5	7.0	8.0	
10.0	9.0	8.0	7.0	6.5	

	9.0	8.0	9.0 9.5	4.8 6.0	7.5
ASSESSMENT: (Cont)	PRODUCT A** - TREATMENT				
	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
	5.0	3.0	4.0	5.0	5.5
	6.0	3.0	4.0	5.0	7.0
	4.0	6.0	7.0	7.5	7.0
	3.5	7.0	6.0	7.5	6.5
	6.5	7.0	4.0	8.0	6.0
	7.0	4.0	7.0	7.5	3.0
	8.0	6.5	6.0	6.5	6.0
	6.0	6.0	6.5	6.0	7.0
	<p><u>T-Test</u> Independent samples comparing Control with Garden Mate</p> <p>Counts: 40, 41 Means: 3.0500, 6.8244 Variances: 0.4205, 2.2894 Std. Devs: 0.6485, 1.5131 Pooled variance: 1.3668 $t = -14.5270$, with 79 df (for equal variances) $\text{Pr} (t < -14.5270) = -0.0000$ (one tailed) $t^* = -14.6528$ with 54.4982 df (for unequal variances)</p> <p><u>T-Test</u> Independent samples comparing Garden Mate with Product A**.</p> <p>Counts: 41, 40 Means: 6.8244, 5.8500 Variances: 2.2894, 2.0410 Std devs: 1.5131, 1.4286 Pooled variance: 2.1668 $t = 2.9785$, with 79 df (for equal variances) $\text{Pr} (t > 2.9785) = 0.0019$ (one tailed) $t^* = 2.9807$ with 78.9172 df (for unequal variances)</p>				
CONCLUSIONS:	As the analysis demonstrates, Garden Mate significantly improves the water holding capacity of soil over no treatment. Garden Mate also has significantly better water holding capacity than Product A**.				

** Commercially available soil conditioner.