

RESEARCH REPORT

Relative Water Holding Capacity of ELM PLUS

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

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|--------------------|---|-------|-------|-------|-------|
| AIM: | To determine the effect ELM PLUS 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. ELM PLUS - 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 |
| | ELM PLUS - 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 | 4.8 | 7.5 | |

| | | 9.5 | 6.0 | | |
|------------------------------|--|-------|-------|-------|-------|
| 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 ELM PLUS</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) 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 ELM PLUS 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) Pr (t > 2.9785) = 0.0019 (one tailed) t* = 2.9807 with 78.9172 df (for unequal variances)</p> | | | | |
| CONCLUSIONS: | As the analysis demonstrates, ELM PLUS significantly improves the water holding capacity of soil over no treatment. ELM PLUS also has significantly better water holding capacity than Product A**. | | | | |

** Commercially available soil conditioner.