

FERTIL HUMUS® Soil Amendment Trial for Water Infiltration

Field Trial

Holland Agricultural Services, 2000

Objective

This project seeks to assess the benefits of moisture infiltration enhancement that may be provided by the product FERTIL HUMUS® at selected rates and timings.

Materials and Methods

The plot site selected for this trial was located in the southern portion of the Columbia Basin in Washington State. The field was pivot-irrigated with a sandy loam soil type. All treatments were replicated four times in a complete randomized-block plot design.

Trial Treatment List:

1. Apply 1 pint/acre FERTIL HUMUS® as a broadcast spray, incorporated.
2. Apply 2 pint/acre FERTIL HUMUS® as a broadcast spray, incorporated.
3. Apply 4 pint/acre FERTIL HUMUS® as a broadcast spray, incorporated.
4. Apply 2 pint/acre FERTIL HUMUS® as a broadcast spray, incorporated, followed 2 weeks later by a second 2 pint/acre.
5. Grower Standard Treatment (Untreated Check)

The time it took for a measured acre-inch of water to penetrate into the soil was recorded for each replication in each treatment. The times for each replication were averaged so that the influence of the treatments could be compared.

Results

Table 1. Time required for one-acre-inch of water to enter soil surface, in minutes and seconds.

| Treatment (Trt) | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Average |
|-----------------|-------|-------|-------|-------|---------|
| 1 | 3:02 | 3:10 | 3:36 | 3:32 | 3:20 |
| 2 | 2:10 | 2:08 | 2:17 | 2:13 | 2:12 |
| 3 | 1:53 | 1:18 | 1:42 | 1:07 | 1:30 |
| 4 | 0:55 | 0:29 | 1:28 | 0:56 | 0:57 |
| 5 | 4:26 | 3:55 | 4:25 | 4:54 | 4:25 |

The Untreated Check (Trt 5) produced the slowest infiltration rate with an average time of 4 minutes, 25 seconds. The 1-pt/ac FERTIL HUMUS® treatment (Trt 1) was faster with a time of 3 minutes, 20 seconds. Doubling the rate of FERTIL HUMUS® to 2-pt/ac (Trt 2) reduced the time required for complete infiltration below the soil surface by 51% (to 2 minutes, 12

seconds). Doubling the FERTIL HUMUS® rate again to 4-pt/ac (Trt 3) reduced the infiltration time by 66%, requiring 1 minute, 30 seconds. The fastest time for water penetration into the soil occurred with the split application of 2-pt/ac FERTIL HUMUS® (Trt 4), averaging only 57 seconds for the water to disappear from the surface. This was approximately 80% faster than the Untreated Check (Trt 5).

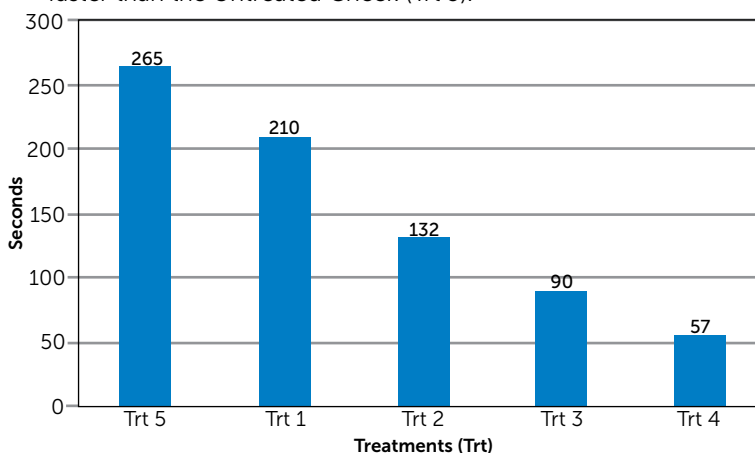


Figure 1. Average time for water infiltration, in seconds

Conclusion

Application of FERTIL HUMUS® reduces the amount of time required for water to enter the soil surface. This is very beneficial, especially in terms of reducing the risk of soil erosion, fertility movement, evaporation loss, soil aeration, and moisture uniformity within the field.

Product Summary

Huma Gro® Turf FERTIL HUMUS® is a unique formulation of nutrition and enzymes with a Micro Carbon Technology® base that stimulates an active humus-rich soil and improves overall soil condition.

Benefits of use include:

- Aids in the decomposition of organic residues in soils
- Increases recycling of nutrients tied up in organic matter
- Helps to buffer harsh chemicals and degrade toxic compounds in soil
- Increases soil water retention
- Stimulates root growth

Apply Fertil Humus® when there is (are):

- Poor or imbalanced soil biology.
- Slow breakdown of organic matter.
- Sandy soil needing stabilization by humus formation.
- Poor water penetration or retention.
- Chemical or toxic compound residues in the soil.