

Establishment Comparisons Using Encap Seed

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OBJECTIVE

The purpose of this study was to determine the effects of different combinations of Encap seed, mulches, and starter fertilizer on establishment.

EXPERIMENTAL METHODS

A 2500 sq. ft. area was sprayed with Roundup on May 15th. On June 10th the area was tilled and prepared for seeding. On June 22nd the study was initiated by spraying Tupersan (Siduron) in the morning at 2lb/M. Later that afternoon the actual study was put out using a randomized complete block design, with 3 replications. Each individual plot was 5' X 8'. The treatments included 3 mulches, 2 fertilizers, and 3 seed types.

Treatment	Rate
Seed	4 #/1000 Sq. ft.
Encap Seed	12.5#/1000 Sq ft.
Encap Plus Seed	50 #/1000 Sq. ft.
Pennmulch	60 #/ 1000 Sq. ft.
Straw	45-50 #/ 1000 Sq. ft.
Starter Fertilizer (10-22-20)	1# P ₂ O ₅ /1000 Sq. ft.

Each seed type was used in combination with each of the mulches. Each treatment was then split with half receiving starter fertilizer and the other half no starter (see plot map).

Percent cover ratings were taken weekly to evaluate the rate of establishment. A uniformity rating was taken when the turf neared 100% cover in some plots. Throughout the trial no color or quality differences were seen among the treatments, only percent cover was variable. Due to excessive rainfall on 6/26/00, a "washout" rating was taken on 6/27/00. Washout was rated on a 1 to 9 scale; 1=no washout, 9=complete washout. The mulches were rated as a whole, as well as each individual plot. The trial ended on 8/21/00.

A second trial, identical to the first, was initiated on 9/6/00. The second study was initiated as a result of the Encap seed being reformulated. Again a washout rating was taken

after a storm dropped about 1" of water shortly after seeding. Percent cover ratings were collected weekly.

Turf quality ratings were collected twice near the end of the trial and a uniformity rating was collected at the end of the trial. Quality was rated on a 1 to 9 scale; 1=bare soil/dead turf, 9=ideal turf, 5=acceptable for lawn turf. Uniformity was also rated on a 1 to 9 scale; 1=non-uniform and 9=perfectly uniform and 5= acceptable for lawn turf.

RESULTS AND DISCUSSION

Summer establishment trial

The only statistically significant treatment differences in establishment (% cover) were in main (mulch type) and subplots (fertilizer). Straw mulch provided the best turf cover early during establishment while these results dissipated as the turf stand matured. Starter fertilizer increased the initial rate of turf establishment. There were no treatment differences between the Encap products and untreated seed.

None of the treatments (mulch type, fertilizer, or seed treatment) affected turf uniformity. Straw mulch prevented washout while both Penmulch and no mulch plots had statistically similar amounts of washout. Seed treatment (Encap versus untreated seed) did not affect washout ratings.

There were no interactions among mulch type, fertilizer, or seed treatments.

Autumn establishment trial

Treatments had dramatically more effect on autumn establishment than on summer establishment. Mulch type, fertilizer, and seed treatments all significantly affected establishment rate and turf quality (Table 2). Fertilizer and seed treatments influenced turf uniformity. Washout was not affected by any treatment except by mulch type (straw was still best).

Turf establishment was significantly improved by use of Encap or Encap Plus seed compared to untreated seed. There were no differences between Encap and Encap Plus. Turf quality and uniformity was also significantly improved by use of Encap or Encap Plus-treated seed.

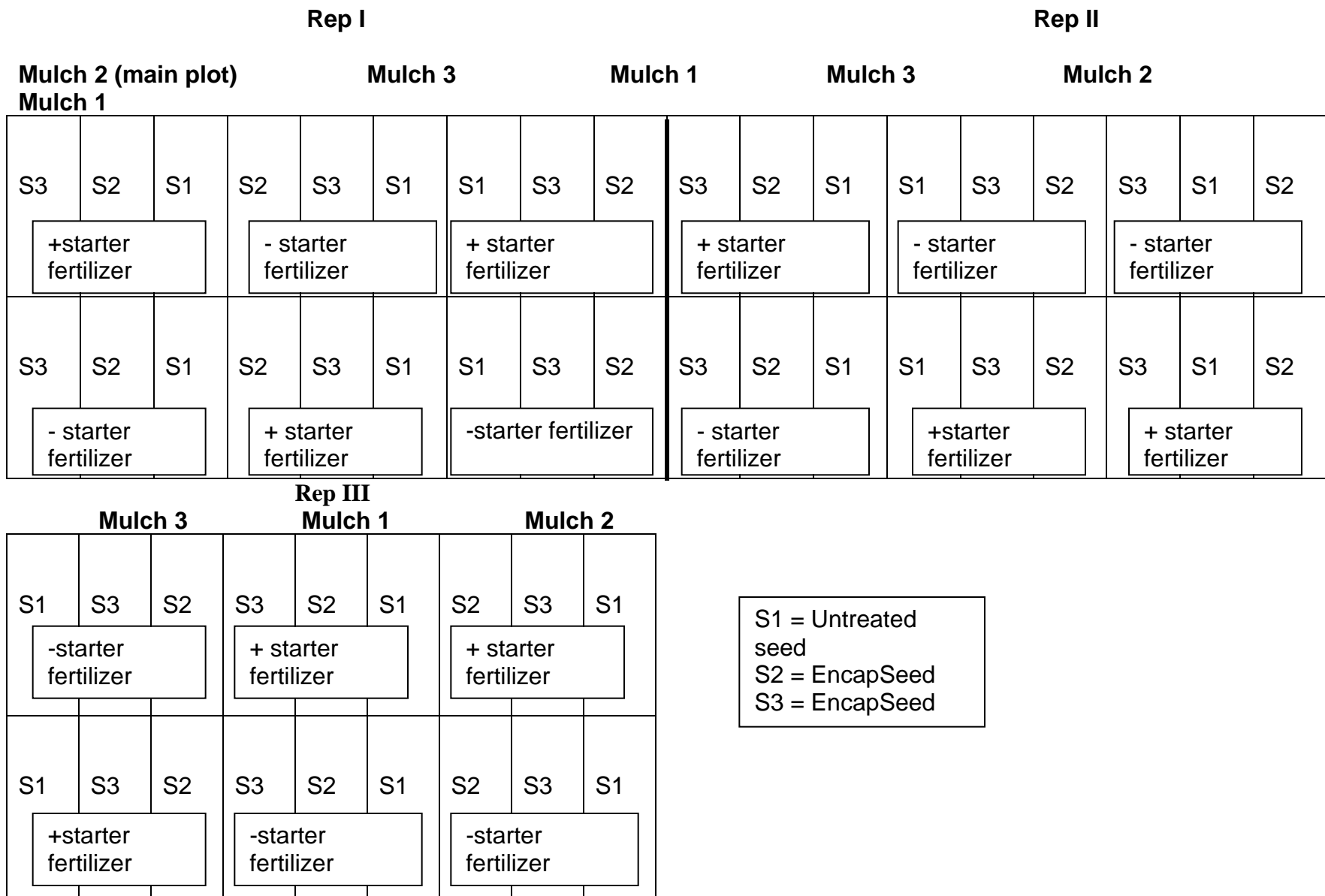


Figure 1. Plot plan for testing EncapSeed products in mulch and starter fertilizer combinations.

Table 1. Summer establishment of lawn-type turf using Encap Seed Company's products, Verona, WI.

Treatment	Washout	% Cover							Uniformity
<u>Main Plots</u>	<u>6/27</u>	<u>7/6</u>	<u>7/11</u>	<u>7/18</u>	<u>7/25</u>	<u>8/3</u>	<u>8/17</u>	<u>8/21</u>	<u>8/21</u>
no mulch	2.9	6.6	7.4	12.2	24.7	44.2	62.5	68.1	4.7
straw	1.0	16.9	26.7	38.6	54.4	63.9	76.9	78.9	5.6
Penmulch	2.1	16.0	19.0	25.8	37.6	52.2	70.7	76.3	5.2
LSD 0.05	1.0	ns	9.5	17.1	ns	ns	ns	ns	ns
<u>Subplots</u>									
starter fertilizer	2.1	14.9	20.1	26.6	41.9	56.3	70.6	74.8	5.3
no starter fert.	1.9	11.5	15.4	24.5	36.0	50.6	69.5	74.0	5.0
LSD 0.05	ns	*	**	ns	ns	ns	ns	ns	ns
<u>Sub-subplots</u>									
untreated seed	2.1	12.6	16.9	24.9	37.6	52.8	71.0	74.3	5.1
Encap	2.0	13.0	16.9	25.6	39.4	53.6	69.0	73.8	5.1
Encap Plus	1.9	13.9	19.3	26.1	39.7	53.9	70.1	75.1	5.3
LSD 0.05	ns	ns	ns	ns	ns	ns	ns	ns	ns

*(**) indicates significance at p 0.05 and p 0.01, respectively
 ns = significant at p 0.05

Table 1. Autumn establishment of lawn-type turf using Encap Seed Company's products, Verona, WI.

Treatment	Washout	% Cover							Quality		Uniformity
		9/18	9/26	10/8	10/13	10/19	10/26	11/3	10/26	11/3	11/3
Main Plots											
no mulch	8.0	3.2	5.4	18.1	23.9	35.0	46.7	49.7	3.4	3.5	3.7
straw	1.1	14.7	30.0	52.5	58.1	67.2	72.8	74.4	4.4	4.6	4.2
Penmulch	5.2	9.3	11.4	37.8	40.8	54.2	65.3	67.8	4.7	4.8	4.4
LSD 0.05	1.4	ns	14.4	20.0	20.0	16.0	13.2	13.8	0.8	0.7	ns
Subplots											
starter fertilizer	4.8	9.6	17.0	38.3	43.9	55.6	64.3	67.4	4.3	4.4	4.3
no starter fert.	4.7	8.5	14.1	33.9	38.0	48.7	58.9	60.6	4.1	4.2	4.0
LSD 0.05	ns	ns	ns	*	*	*	*	**	ns	ns	*
Sub-subplots											
untreated seed	4.8	7.5	12.4	30.8	34.7	45.3	54.2	55.8	3.8	3.8	3.8
Encap	4.7	10.0	17.9	39.2	44.7	55.0	63.6	66.4	4.4	4.5	4.2
Encap Plus	4.8	9.7	16.4	38.3	43.3	56.1	66.9	69.7	4.4	4.5	4.4
LSD 0.05	ns	ns	3.8	5.5	6.4	6.4	6.4	6.3	0.3	0.4	0.3

*(**) indicates significance at p 0.05 and p 0.01, respectively

ns = significant at p 0.05



Fig. 1. Encap establishment at O.J. Noer Turfgrass Research and Education Facility, Verona, WI, Oct. 16, 2000.



Fig. 2. Example of individual Encap project plot, Oct. 16, 2000, at the O.J. Noer Turfgrass Research and Education Facility, Verona, WI (plot is Penmulch, with starter fertilizer, and Encap seed).