

May 28, 1994

Mr. Richard Irwin
Ecologel USA, Inc.
2700 S. E. 35th Street
Ocala, Florida 34471

Dear Mr. Irwin:

Thank you for the Hydretain samples and the information on these products. We received the Florida grown transplants last Monday and planted all of the treatments on Tuesday, May 24. We have a total of six treatments involved in the Hydretain study:

1. Transplants produced in Florida by Speedling with no addition of Hydretain.
2. Speedling plants treated in Florida before shipping with Hydretain 75.
3. Speedling plants treated in Pennsylvania before transplanting with Hydretain 77.
4. PA grown plants not treated with Hydretain.
5. PA grown plants treated with Hydretain 75 before transplanting.
6. PA grown plants treated with Hydretain 77 before transplanting.

We used a 30:1 dilution rate for the Hydretain 77 and a 15:1 rate for Hydretain 75. Plants were treated by drenching the flats before transplanting. We plan a second application of Hydretain to half of the plants in treatments 2,3, 5, and 6 before the first irrigation period to determine the effect of field application.

The enclosed slides show the differences in yield between the Hydretain treated and untreated (control) plants during the summer of 1992. These plants were grown at Speedling and the Hydretain was applied before shipping at a dilution rate of 14:1. The slides show four plants in the row and were taken on September 1. I do not have slides which show the differences in yield for 1993. If you would like we can send you additional slides of this year's plants showing any differences in transplant growth as well as slides showing differences in yield by mid-September. I have also enclosed the additional data on transplant growth, early fruit development, and yield for 1992 and 1993. Please let me know if you have any questions about the data or the experimental methods.

Thank you again for the products and information. I enjoyed talking to you last week and will keep you informed of the progress of the plants.

Sincerely,



Joe Ciardi

1992

These transplants were grown in Florida, shipped to Pennsylvania, and planted on 5/22/92. The variety is Hypeel 696, a processing tomato. The control plants were grown by Speedling's standard production procedures, while the Hydretain plants were grown in the same way except that the trays were drenched with a Hydretain 75 solution (14:1 dilution rate) before shipping. There were no significant differences in shoot growth during the first five weeks after transplanting. We measured leaf number, stem diameter, height, shoot fresh weight, and shoot dry weight, which is shown below:

Shoot dry weight (g/plant)

Date	Hydretain	Control
5/22	.18	.14
6/2	.23	.23
6/9	.37	.40
6/16	1.01	.74
6/24	2.3	1.1
7/2	5.7	3.2

There were significant differences in the number of fruit set on each plant on 7/9 and 7/16.

Early fruit development (#/plant)

Date	Hydretain	Control	Fisher's lsd
7/2	.47	.13	NS
7/9	4.79	1.37	1.96
7/16	42.67	19.60	20.40

However there was no significant difference in yield in 1992. This season was wetter and cooler than normal, possibly leading to the below normal yields. The abundant rainfall may have also reduced Hydretain's effect on yield.

Total yield (kg/plant)

Date	Hydretain	Control
9/1	1.4	.7

1993

Again in 1993, there were no significant differences in shoot growth.

Shoot dry weight (g/plant)

Date	Hydretain	Control
5/20	.20	.17
5/27	.25	.21
6/4	.42	.38
6/10	1.01	.79
6/18	1.76	1.81
6/28	6.06	4.90

We did once again see significant differences in early fruit development, with the Hydretain treated plants showing a greater number of fruit set per plant.

Early fruit development (#/plant)

Date	Hydretain	Control	Fisher's lsd
7/14	17.75	6.30	7.30

In 1993 we also saw significantly higher yields for the Hydretain treated plants.

Total yield (kg/plant)

Date	Hydretain	Control	Fisher's lsd
8/31	4.3	2.8	1.2

We also measured % soluble solids and fruit size in 1992 and 1993 but there were no significant differences among the treatments.

Yield
(kg/plant)

Treatment	Green fruit	Red fruit	Total
control	1.03	1.68	2.70
PA	1.29	2.22	3.51
fhyd75	0.79	1.80	2.59
ph75	0.83	1.84	2.68
ph75 2x	0.81	1.69	2.50
ph77	0.79	1.96	2.76
ph77 2x	1.05	1.65	2.69