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June 1, 1993

Mr. Rick Irwin  
 Hydretain  
 2700 S.E. 35th St.  
 Ocala, FL 34471

Dear Rick:

In our conversation of Friday, May 28 among other things we touched on my experience with Hydretain as a transplant conditioning agent. Let me re-state the situation and conditions under which your product was tested. A FL transplant producer came to me seeking help with a reoccurring problem they encountered when shipping processing tomatoes. The condition manifested itself by severe root death once set in the field in northern climates. This condition also occurs in FL from time to time, only less frequently. The easiest solution of course would have been to find a material we could spray or drench to eliminate the problem. Among the treatments we tried (ethylene, P soaks, frost protectants) was Hydretain. Having no knowledge of the product we hoped the simple sugars might add to the root carbohydrate reserve and thereby impart longevity. As the root death scenario was mostly cosmetic (tomatoes readily re-root) we looked toward yield to tell us if our treatments were effective. Treatments were applied according to label instructions prior to packing and shipping. The following data are synthesized from cooperative trials with colleagues in Ohio and Pennsylvania.

|                  | <u>Ohio</u><br>(tons/acre) | <u>Pennsylvania</u><br>(lbs/plant) |
|------------------|----------------------------|------------------------------------|
| Control          | 27.7                       | 1.71                               |
| Hydretain        | <u>32.9</u>                | <u>3.08</u>                        |
| Local Plants     | 28.1                       | 3.15                               |
| P Soak           | 32.9                       | 1.94                               |
| Ethylene         | 27.7                       | 3.60                               |
| Frost Protectant | 29.3                       | 2.25                               |
| LSD (0.05)       | NS                         | 1.46                               |

Your product increased yields in both trials unlike P soaks or ethylene and therefore seems to exhibit consistency. And while it did not produce significantly greater yields than the control (untreated) increasing yields are a step in the right direction. This study is being repeated in PA this spring.

After my conversation with you I realize Hydretain was not designed to increase yields, but to retain water. This opens a whole new venue for me as a specialist in transplant production and stand establishment.

The results presented above are encouraging enough to look further at the product. But the obvious applications in greenhouse production and stress physiology (commercial growers plant peppers and tomatoes in mid August here in south FL!) are exciting. I would like to work with you in the coming fall on the aspects of transplant production and stand establishment.

Although I generally charge for product evaluation I believe this product is in my best interest to investigate. Should the prospect of financial support become apparent I would graciously accept funding however. Let's talk further about your product.

Sincerely,

A handwritten signature in cursive script, appearing to read "Charlie".

Charles S. Vavrina, PhD  
Vegetable Horticulturist