

4/1/2024

3M Exploring Greenhouse Films

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Prior to the Indoor Ag-Con event, John Morrow at 3M reached out to me to tell me about the film products they are working on for the greenhouse space.

John is part of the New Growth Ventures group within Corporate R&D, which is building new businesses for the company. The horticulture industry has been on their radar for a while, he said, but now they are exploring products that can provide light management solutions for growers.



First, a quick primer on 3M and what they do. They have a number of specialties (from tape to sandpaper, PPE and many more), but one of their main specialties is light management film. They can create layers of films, all of which can offer different attributes, that measure at the micro level, John said, and they are taking that expertise and finding solutions for growers.

One example currently being explored is an anti-reflective film applied to the glass that is highlight diffused and increases transmission 3% to 10%. It

offers more uniformity of light to the plants, reducing shadows and hot spots. This film has already been trialed at Vineland and during certain times of the year they found up to 16% increase in yield.

Another example is an infrared light-blocking film applied directly to the greenhouse glass that can reduce the heat from solar radiation coming into the growing facility, which in turn reduces cooling costs. They are working on a pilot project this spring to trial this film.

A third product is a retroreflective film, also applied directly to the glass, that recycles upwards of 70% of the LED light that normally escapes. This helps reduce light pollution and lighting costs. John said they are currently trialing this with Vineland Research & Innovation Centre in Canada.

3M also is working with a Switzerland-based company, Voltiris, on an exciting project involving 3Ms films and

capturing solar energy to power the greenhouse. [I wrote about that separately in this story.](#)

Currently 3M is continuing to explore the industry to better understand interest from growers and to make connections with operations that would like to partner on trials. If you're interested, [contact John](#).