



Leader in
Horticultural
Containers

Understanding fiber growing containers
through real-world applications.



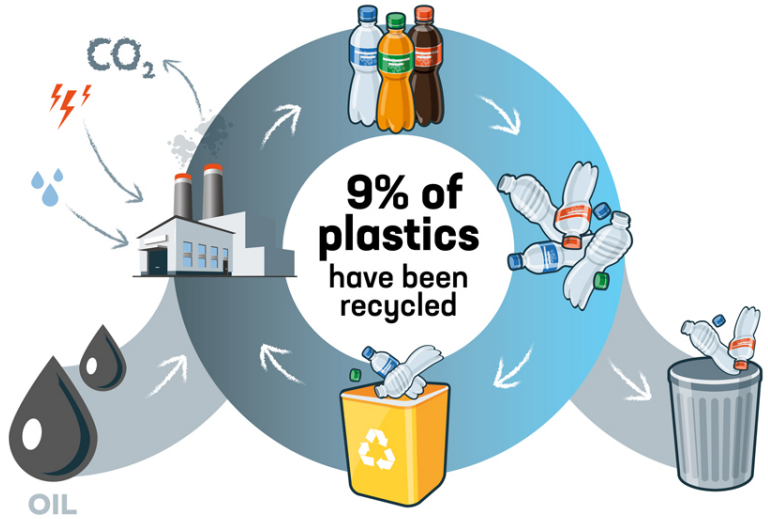
 **EcoGrow**[®]
ENVIRO-CONTAINERS





Why fiber growing containers?

▶ As conversations surrounding climate change become more widespread, **sustainable growing containers** need to be considered in order to retain more environmentally conscious gardeners - especially as more and more plastics are NOT being recycled.



- Globally, only **9% of plastics** ever produced have been recycled.
- **79%** can now be found in landfills, dumps or the environment.
- **12%** have been incinerated.

Source: Sustainability Management School (SUMAS) in Switzerland





Why fiber growing containers?

- **For the grower**, this is an opportunity to bring your inventory full circle by utilizing and marketing plants grown in sustainable, molded pulp growing containers.
- Growers can plant herbs and vegetables such as mint and basil or peas and tomatoes in an environmentally friendly (**and in some cases Certified Organic**) container for sale to consumers - which shows your responsibility for the planet.



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Our Fiber Slurries

- Molded pulp growing containers begin with a **scientifically created fiber slurry**, which supports a variety of applications.
- It all starts out with **recycled paper products** like uncirculated newspapers, unless we're making organic products then we use blank news stock.
- The shredded paper gets mixed together with water in large tanks before **molds are used to help re-form the slurry** into a variety of shapes, sizes and applications.




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Available Slurries Include:



NATURAL

- The sturdiest and most rigid of our slurries
- Ideal for a variety of industrial packaging including corner and edge guards and roll cradles
- 100% biodegradable



ECO

- 100% biodegradable
- Plant based binder helps retain water similar to a wax coating
- Fungicide inhibits the growth of mold



HORTICULTURE

- Durable, and designed for one complete crop cycle
- Suitable for hanging baskets and patio planters
- 100% biodegradable



ORGANIC

- Certified for Organic Growing
- 100% biodegradable and compostable
- Plant based binder helps retain water similar to a wax coating



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Features and Benefits of EcoGrow® Containers?

- They breathe like clay, providing an optimal environment for root systems.
- They biodegrade quickly when planted or worked into the soil for zero waste (no recycling required).
- They're automation friendly and are durable for growing and retail cycles.
- They're available in numerous sizes and styles.
- Our Organic version of EcoGrow containers have been certified for organic farming and gardening in both the United States and Canada according to NOP Regulation.



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The Purpose of the EcoGrow® Trials

For growers who are accustomed to growing in plastic containers, the thought of using a fiber container is an uncomfortable change from the norm.

Understanding how fiber containers **can be used in real-world growing**, while providing results, is critical in determining if EcoGrow is a viable solution at your operation.



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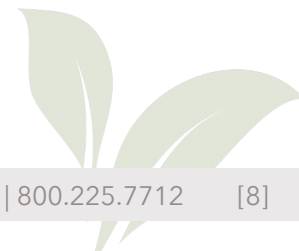
The Purpose of the EcoGrow® Trials

During the trials, it was also important to:

- Validate the integrity of EcoGrow containers under normal, typical greenhouse growing and cultural conditions.
- Evaluate and confirm finished product presentation and integrity throughout the retail sales channel/ship-to-shelf sale.
- Evaluate and confirm EcoGrow container degradation over time, as well as plant performance, in simulated consumer applications where EcoGrow containers are planted.



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Cultural Practices

- Plants were grown and treated throughout the trial using normal practices as a standalone crop.
- In order to fully and accurately gauge performance, plants were grown side-by-side with crops grown in plastic containers of similar sizes but grown as independent crops from a cultural standpoint.
- Applying the same cultural practices to crops grown in EcoGrow and plastic containers would have created a tendency for one crop to suffer or flourish based on their individual cultural needs.



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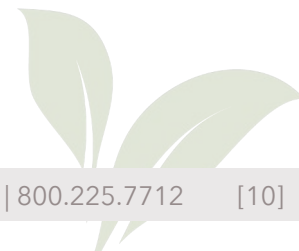


Irrigation Practices

- Irrigation was provided as needed and carefully timed as required by the trial crop.
- Irrigation was applied through various mediums including, but not limited to, flood, overhead boom, overhead hand and overhead automatic sprinklers in an effort to validate EcoGrow container integrity for most or all irrigation methods used by greenhouse growers.



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Trial Progress

The following slides show the various container applications and the duration of the plantings by date.





3.75 URC Geranium Trial - Direct Stick

Feb-5



March-24



March-24



▶ Geranium URC's were directly placed into EcoGrow containers and rooted under mist in a high-humidity propagation house. Once rooted, plants were removed from the mist and moved to a finishing greenhouse. Root development, root growth and plant growth were observed as excellent. Containers were monitored and evaluated under extreme moisture conditions for both integrity and mold. Containers withstood the extreme moisture conditions and functioned the same as rooted liner trials. Some mold developed where each container contacted the plastic tray but dissipated once removed from the mist.

March-24



March-24



March-24



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4.00 Rosemary Trial - 50 count Rooted Liners

Feb-5



March-24



April-13



May-13



May-13



Sept-6



▶ Rooted liners were transplanted on February 5 and container integrity was observed for the duration of a typical Mother's Day growing and selling crop cycle. Plant growth and root development were excellent when compared to the controlled crop grown side-by-side in plastic. The trial was extended through September 6 to evaluate the effects an extended holding period might have on container integrity. Discoloration aside, the integrity of the containers held up for the duration of the trial.



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4.00 Organic Trial - 72 count Rooted Liners

March-24



April-13



April-13



▶ Rooted liners were transplanted on March 24 and container integrity was observed for the duration of a typical Mother's Day growing and selling crop cycle. Plant growth and root development were excellent when compared to the controlled crop grown side-by-side in plastic. The trial was extended through September 6 to evaluate the effects an extended holding period might have on container integrity. Discoloration aside, the integrity of the containers held up for the duration of the trial.

May-13



May-13



Sept-6



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Perennial Liner Trial - 50 count Rooted Liners w/shift

Aug-4



Aug-4



Sept-6



Sept-6



Sept-6

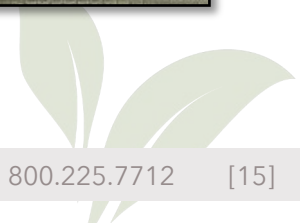


Sept-6



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▶ Rooted liners were transplanted on August 4 for a scheduled 5-week shift cycle. Plant growth and root development were excellent. Pots were shifted into a plastic branded container on September 6, finished, overwintered and sold the following spring.





3.75 Planted Pot Geranium Trial

March-24



April-13



April-13



April-13



▶ A portion of the plants from the 3.75 URC Geranium Trial were shifted into plastic containers, 3 plants per pot, on March 24. Plant growth and root development was intermittently observed to evaluate plantability of EcoGrow containers. Root development did not appear to be impeded by the EcoGrow container.

Sept-6



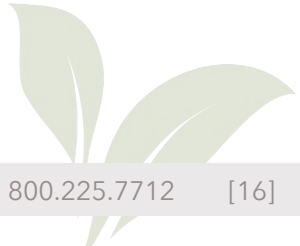
Sept-6



Sept-6



▶ The containers were grown through September 6, a typical consumer cycle, and root mass was broken down to evaluate the structure of the EcoGrow containers in the media profile. The containers had biodegraded to the point shown in the September 6 photo (above left).





4.00 Herb Trial - 10-week crop, rooted cuttings



▶ GA grower trial with a timed rosemary crop. Plant growth and root development were excellent and container integrity was confirmed.



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3.5 Planted Foliage Liner Trial – 6-week liner, 4 weeks planted



▶ Aglaonema URC's were direct stuck into a 3.50 EcoGrow container, finished, then shifted to plastic nursery containers, 3 plants per pot. Plant growth and root development through the container were excellent at 4 weeks after transplant.



EcoGrow planted container with expose root system.



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4.00 Annual Trial

- ▶ MI grower trial with 288 plug Ride The Wave Petunias. Plant growth and root development were excellent, container integrity was confirmed.



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Conclusions

- Overall, the EcoGrow containers held up extremely well during the growing duration under normal, cultural growing conditions.
- They proved to be strong and resilient when handled and their composition was not weakened under normal irrigation practices.
- Root systems developed as they would in plastic containers, and in many cases, appeared to be larger, healthier and more fibrous.



▶ **Conclusion:** Fiber growing containers are a suitable, sustainable alternative to plastic containers.



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Resources Links

- [HC's fiber production process - whiteboard video](#)
- [More information and FAQs on fiber growing containers](#)
- [HC blogs discussing fiber growing containers and sustainability in the market](#)
- [How our molded pulp slurries are made](#)
- [**Contact us for additional questions**](#)



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