PasturePro Posts

Green Dot Bioplastics develops a strong durable wood-composite for electric fence posts

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Green Dot Bioplastics developed a wood-plastic composite for Kencove's PasturePro Posts that is stronger, lasts longer and is easier to use compared to the competition.

It's organic certified and ready for long-term use.

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Kencove Farm Fence Supplies (Kencove) is a nationwide manufacturer and distributor of electric fence supplies for animal containment and exclusion. Charles and Phyllis Kendall founded Kencove in 1980 out of their living room and built the company into a nationwide manufacturer of electric fencing materials such as posts, wire and energizers.

Kencove serves large farming operations as well as personal backyard farms — anyone who needs animal containment and protection solutions. The company carries electric fencing supplies for chickens, horses, cattle, sheep, goats, pigs and more.

The Green Dot Bioplastics team has been collaborating with Kencove for years — particularly for the PasturePro Posts — to develop consistently high quality and durable materials. Kencove has been carrying PasturePro Posts since 2009. The company purchased the manufacturing facility in 2015.

PasturePro Posts

Although traditional electric fence line posts require insulation for protection from the ground, PasturePro Posts are natural insulators, so there is no need to purchase insulators for the fence.

In fact, PasturePro Posts allow high-tensile wires to stretch and return to their initial tension after impact from wildlife or livestock. This accommodation makes the posts suitable for the cattle industry since they can handle significant animal pressure.

The material for the PasturePro Posts had to balance:

- Dielectric properties
- Tensile strength
- Memory capability
- Durability
- Aesthetics
- Flexibility
- UV properties
- Recyclability

Determining a formulation that met all these requirements as well as the cost target was challenging. As such, Green Forest Composites, the original manufacturer of PasturePro Posts, reached out to Green Dot Bioplastics.

Collaboration with Green Dot Bioplastics

Green Dot Bioplastics worked with Green Forest Composites to run multiple trial productions with various combinations of polypropylene (PP) grades and wood, as well as various processing conditions.

A wood-plastic composite for heightened function

Green Forest Composites determined that high-grade PP was an optimal material due to its consistency, fatigue resistance, insulation properties and flexibility.

Wood fiber was used to add strength and lighten the weight of the posts. There was a wide range of wood species to pick from, including oak, pine and maple that came in various particle sizes. Choosing the correct one was critical since its properties would affect the manufacturing process.

There were several manufacturing challenges associated with the PasturePro Posts. In the early 2000s, the orientation of wood-plastic composites was a newly patented process and everything from speed, length of the line, heating, cooling and die sizes were constantly being adjusted. After carefully consulting with Green Forest Composites, Green Dot Bioplastics was able to pinpoint a consistent wood pellet that could function within the formulation.

Steve Freeman, the founder of Green Forest Composites, recalled our team's hands on approach. He said, **"I remember the service and attention [Green Dot Bioplastics] gave us. Eventually the company helped us develop a consistent wood pellet that worked."**

Comparison with tradition fiberglass and metal posts

Traditional fiberglass posts have a tendency to splinter easily, especially as the posts age or are flexed. They are also non-recyclable. Metal posts can pose an electrical ground hazard if the fence wire is knocked away from the insulator. They are also prone to rusting. Both fiberglass posts and metal posts are liable to be displaced or pulled from the ground.

PasturePro Posts, on the other hand, pose none of these threats. Recycling can be completed by grinding and adding them back in small amounts post production. The wood-plastic composite also prevents the PasturePro Posts from splintering, rotting and rusting. The posts are also natural insulators so accidental grounding is not a concern.

Organic certified and ready for long-term use

The PasturePro Posts have received an organic certification from the Washington State Department of Agriculture, meaning that both Kencove's manufacturing process and the wood-plastic composite developed with Green Dot Bioplastics have passed stringent regulations.

You can purchase American-made PasturePro Posts from Kencove's website or by calling (800) 536-2683. Each order comes backed by a 20-year warranty.

If you would like to learn more about designing and manufacturing with wood-plastic composites, you can download our "Working with wood-plastic composites" white paper.

Request a product development consultation

Let's have a conversation about your product, timeline and goals.

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