

A tougher post

Precast concrete makes its way into the farm building business. ■ By Willie Vogt

The environment can be tough on everything from crops to equipment, and post-frame farm buildings are not a complete exception. The in-ground wooden posts take a beating and those parts sometimes have been known to deteriorate and rot with exposure to the elements.

One company is taking a new approach to the issue by making a change in the material used. Perma-Column Inc. (PCI) is pioneering the use of Precast concrete as an alternative to treated lumber for the support of post-frame buildings.

To make the concrete work, the company had to overcome a few barriers. "There is a unique challenge to using concrete for this application," says Phillip Stoller, who helped developed the new PC system. "The problem is wind loading. The post in a building is like the mast of a sailing ship. When the wind is blowing, the load can be pretty high. We have created a product where strength is no longer an issue."

Where wood flexes under the stress, concrete is more rigid. The folks at PCI discovered that adequate flex strength requires the correct combination of steel reinforcement and high-performance concrete. It's those challenges that Stoller thinks have kept other builders from offering concrete posts.

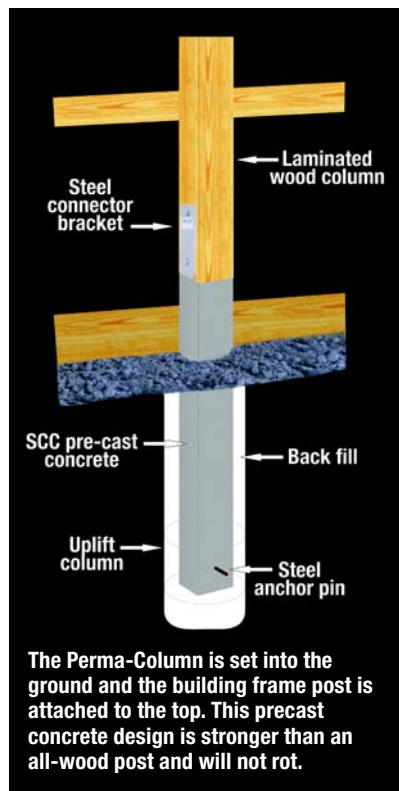
LONG TIME COMING

This technology was first developed in the mid-1990s by Robert Meyer of Meyer Building Corp. The company was searching for an alternative to treated lumber — the foundation product exclusively used in the industry. Meyer answered the

call by inventing Perma-Column.

PCI was formed in 2002 to refine the product and bring it to market.

The key is to get the aggregate in the concrete to be evenly dispersed while controlling the water/cement ratio carefully, which meant using a product called self-consolidating con-



crete (SCC). With this product, special superplasticizers are added to the concrete to keep the aggregate dispersed and provide the workability necessary for producing the post with very low water/cement ratio. Those additives also give the post more flexibility and strength.

The pre-made concrete posts are put into the ground with the wood already attached, and the building is completed with conventional post-

frame construction techniques.

PCI has filed for a patent to protect its rights to the innovation it developed, but has authorized companies to become distributor/producers. Meyer Building and FBI Buildings are using the product, and many other builders are showing an interest.

Tests at Indiana University Purdue University in Fort Wayne, Ind., show the columns are stronger than the wood laminated columns commonly used in the industry.

A PROPANE NOTE

Thanks to all of you who pointed out in a recent column that the Southwest Research Institute tractor was not the first use of propane power. While we talked as if it was the first time, we should have made clear that this was the first emissions-controlled, purpose-built tractor prototype using propane. Vintage machines were often simple conversions for alternative fuel use.

For all those vintage tractor fans who sent in clippings or told us stories about their 1940s (and sooner) use of propane, we appreciate you reading the column.

Given all the use of propane back then and this new tractor we featured recently, it makes you wonder if there really are any new ideas out there. ♦



WILLIE VOGT is an editor in the Farm Progress family and can be reached at wvogt@farmprogress.com.