



High-density conifers offer cattle the most protection from winter storms. Large living-barn areas allow the cattle to comfortably spread out and move while still enjoying protection.

A Living, Growing Cattle Shelter

Tree stands provide shelter for cattle during the winter and appreciate over time.

*Story & photos by
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Ten years ago, Brett Chedzoy, owner of Angus Glen Farms in upstate New York, faced two options: either invest tens of thousands of dollars in barn and corral renovations for his 100-head registered-Angus herd, or convert his entire operation to a more holistic out-wintering design. He calculated the costs and decided to out-winter his cattle through bale grazing.

Known for its sometimes dramatic winter weather, Chedzoy also began investigating the use of living barns — dense, well-managed wooded areas — for winter shelter on his upstate New York farm.

On clear winter days, Chedzoy, also a forester with Cornell Cooperative Extension, keeps the

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— Brett Chedzoy

cattle in what he calls “silvopastures,” savannah-like or open wooded pastures where timber-quality tree growth, forage growth and cattle production are optimized.

Largely made up of well-spaced deciduous trees, Chedzoy says, “Silvopastures really give us that shaded grazing that really helps Angus cattle in the hottest months of the year. Silvopastures, though, would not provide very much protection or shelter in the winter.”

Thus, enter living barns.

It didn’t take long for Angus Glen cattle to learn that when angry winter clouds gather, they’ll soon be heading to the nearest conifer grove for protection.

Living barns explained

Because they employ a naturally growing and often already existing resource, living barns are a cost-effective way of providing shelter for livestock, says Chedzoy. A living barn or wooded shelter area can be created from natural wooded areas already on the farm or ranch or from plantation trees. However, tree age and size will be a factor in designating appropriate living-barn areas.

“The value of a living barn, as a

shelter, is proportional to the size of the trees and the density of the trees,” Chedzoy explains.

Obviously, well-stocked areas of larger trees offer the best winter protection.

Living-barn size is also relative to the operation’s needs and the number of times the area is used, says Chedzoy.

“If the animals fit into it during a bad winter storm, it’s big enough,” he advises. “If they can be protected by the trees it’s big enough, but bigger is better because you want the animals to be able to move around.”

Bunching cattle under the same trees too often will stress the cattle and stress the trees, he emphasizes.

“If one area repeatedly takes abuse, you may start to lose those trees.”

Chedzoy says living barns can be created/managed as shelter for things other than cattle. He lists timber, windbreaks, aesthetic beauty, wildlife

Managing living barns appropriately means not overusing them. Both Brett Chedzoy and Morgan Hartman take advantage of several living barns throughout the winter as they rotate through pastures. Chedzoy says he watches the extended weather forecast to know when he needs to start moving his cattle toward the nearest living shelter.

habitat and shade for farm machinery as alternative uses.

Managing partner of Black Queen Angus Farm LLC in Berlin, N.Y., Morgan Hartman says in addition to using his living barns as wintertime shelters for the last 10 years, he also



includes wooded streambeds in his summer grazing rotation for hot, humid weather.

He cites a week in July that had temperatures in the low to mid-90s and humidity around 85%-90%.

"The cattle did fine because they were in the shade. They had access to water. They were grazing in the middle of the day," says Hartman.

He partly attributes the grazing behavior during high heat periods to his holistic planned grazing strategy, but doesn't discount the advantage of having plenty of shade and water for the cattle.

Appreciating assets

Whoever said, "Money doesn't grow on trees" hasn't visited with Chedzoy or Hartman.

Chedzoy says, "Trees are growing, and they're therefore increasing in volume and usually in value, as well. The bigger trees get, the more they're worth. They are going from being a little tree that's worth nothing, to a pulpwood-sized tree that's worth a little bit, or a firewood-sized tree that's worth a little bit, to a saw-timber tree that can become quite valuable.

"Conifer species, in general, are not really high in value compared to hardwood trees," he continues, "but hardwood trees cost a lot more to get established, and they don't provide as good of shelter in the winter."

Lately, when doing thinning cuts, Hartman has found the wood-shavings market to be profitable.

"The living barn is an asset that will appreciate over time versus depreciate like most roofed structures would," Chedzoy concludes.

Managing resources

Barns, sheds, lean-tos, etc., need consistent upkeep. The same is true of living barns. Chedzoy maintains that living barns are to provide protection from extreme winter weather, period. Living barns are not winter-feeding grounds, winter/summer loafing

grounds, or sacrifice areas when the pasture is too muddy or otherwise. Because the sources of protection — trees — are living, they must be managed as such.

"Trees can tolerate acute stress, but if we beat up on our trees year after year, the symptoms will eventually appear," notes Chedzoy.

"If we're continuously compacting roots, or puncturing or damaging the roots

through too much animal impact, or suffocating the roots by feeding too much hay in a wooded area and letting the hay and manure accumulate, then eventually those trees could start to decline in health and vigor and even die."

It might take years for symptoms to become apparent, but once they do, it's often too late to reverse course, he says.

Creating a living barn

Chedzoy's first tip for anyone considering planting a new stand or enhancing a natural stand for a living barn is to consult with a local professional forester. Whether it is through extension, the state forestry agency or through a local consulting forester, it's worth it, he admonishes.

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“Every tree that’s planted is going to represent a significant investment. It’s probably still cheaper than building a new barn, but, nonetheless, it’s going to be a significant investment, so people should try to get some advice from a local forestry expert on species, design, site preparation, seedling sources, etc.”

At Angus Glen Farms, Chedzoy uses a combination of both plantations and natural wooded areas as living barns. Around six shelter areas, ranging from one acre to five acres in size, are rotated throughout the winter to avoid excessive animal impact in one area.

“Our living-barn areas are stocked with

two to three days worth of hay,” Chedzoy says. “If what we see in the extended forecast is a period of extreme cold or a snowstorm, then we can start moving the herd towards one of the those living-barn areas.

“We don’t generally give animals access to the shelter areas all winter long,



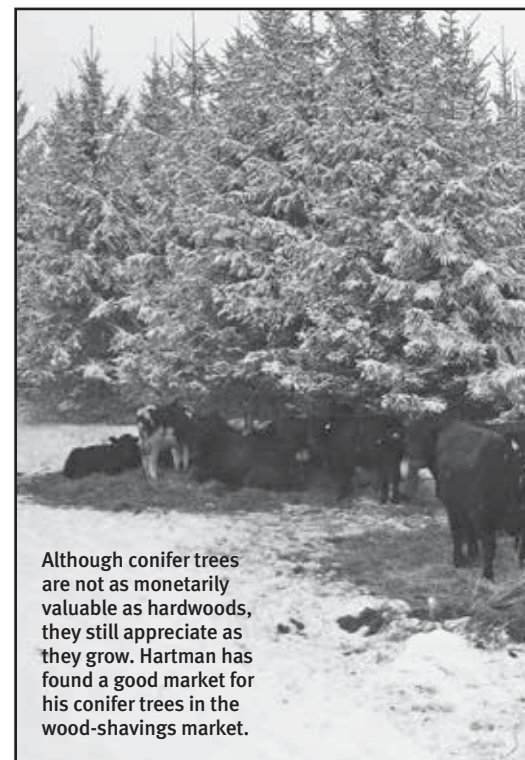
because they don’t necessarily need it.”

At Black Queen Angus, Hartman uses a mix of hardwoods and pines, specifically plantation spruce. He says he also prefers his living barns be located on south-facing slopes “so we take advantage of the lower sun angle in the wintertime.”

“Of course, black cows and the sun, they are like giant solar panels,” he adds.

The type of tree selected will determine the level of protection and the amount of time before cattle can use the living barn. Chedzoy recommends using evergreens or conifers vs. hardwood species. Evergreens tolerate operator error better than hardwoods and provide much better shelter during the winter, he says.

Hartman agrees, adding, “[Spruce trees] provide tremendous cover because a spruce is such a thick, dense canopy tree, and it’s got strong limbs, so it will



Although conifer trees are not as monetarily valuable as hardwoods, they still appreciate as they grow. Hartman has found a good market for his conifer trees in the wood-shavings market.



the cattle will be using the living barn in the winter when the trees are dormant and the ground is frozen, the manager must watch for any excessive damage to the trees by livestock.

“Residency time of the animals there is going to be one of the most important variables that’s going to influence the

impact. If you put animals in there for 24 hours to ride out a storm, chances are that the animals are not going to get bored and do much that’s going to negatively affect the trees. If the animals are in there for a week, you’re going to see a lot more rubbing and chewing of the bark,” cautions Chedzoy.

“It’s important to diversify your tree species,” he adds.

Chedzoy explains that there has been a large increase in the number of tree pests and diseases in the last five to 10 years, and almost everywhere has been affected.

“Twenty-five years ago we were
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While Chedzoy is adamant that living barns are not suitable feeding areas, he does store two to three days’ worth of feed in them to keep the cattle fed and content. However, too much buildup of feed residue can suffocate the tree roots and cause problems that surface years after the initial incident.

hold the snow up, and it provides a microclimate for the cattle underneath.”

Landowners may choose from several conifer species for living barns depending on region and time preference.

“We can plant fast-growing conifer species like southern yellow pine and get an effective living-barn area established in perhaps as little as five years,” states Chedzoy.

Of course, tree growth is dependent on region, and Chedzoy emphasizes prudent time management by the landowner. He explains that, although



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planting about 25 different conifer species on our farm. Today, only about five of those 25 species don't have serious pest issues," he illustrates.

"Even though we've lost the majority of the species that we had planted on the farm, we still have a good stocking of other species that to date are healthy and

resistant to these pest issues."

According to Chedzoy, the best pest-control method is proper management.

"The only effective pest-control strategy is going to be maintaining a diversity of trees. The healthier the trees are, the more likely they can stave off pests, which again, underscores the importance

of managing a living barn," he says.

Enhancing a natural wooded area is probably the most cost-effective way to get started. Chedzoy says a forestry expert can help the landowner with things like tree selection and thinning in a cost-effective manner.

"If you're thinning out a natural

"Of course, black cows and the sun, they are like giant solar panels."

— *Morgan Hartman*

wooded area, try to leave a diverse stand of trees because we just don't know what the next serious pest is going to be," Chedzoy advises.

Plantation trees should be planted at the recommended stocking rate for the individual species in a given area, says Chedzoy.

"Tree planting isn't cheap. So it really behooves a person to seek some professional advice on how to do it successfully and well," he stresses.

Climbing on the living barn limb

Hartman says the benefits of using living barns in conjunction with out-wintering cattle makes a long list.

1. No transition period.

"There's no transition period in the spring. They've been out on grass (and hay) all winter," says Hartman.

2. Ringworm, lice, mite problems have vanished.

He states, "We've not seen any ringworm, lice or mites in 10 years — and with no treatment. We don't have to treat anymore."

3. Hoof soundness is on the rise.

Giving cattle space during the cold winter and soggy spring months has helped improve cattle hoof soundness. He also names better genetics as another reason for sturdier hooves.

4. Demeanor improvements.

Instead of interacting with his cattle from an ATV or anything else, out-wintering and holistic planned grazing has transitioned Hartman to walking through the herd.

"I'm out there with them every day. Walking the herd. Checking on them. I can't necessarily touch every animal, but I can be just about arm's length with every animal in my herd," he says.

Chedzoy encourages anyone considering creating a living barn, whether by enhancement or plantation, to pencil out the details and compare the investment vs. the alternatives.

He lists the alternatives as do nothing — meaning risking having sick animals, dead animals, stressed animals — or building a roofed shelter.

"In most cases," he says, "the living barn is going to be a more practical, feasible alternative to a roofed shelter."

For more information on living barns, visit Cornell Cooperative Extension's silvopasture forum at www.silvopasture.ning.com.

