

**2020 Northeast Pasture Consortium Conference Proceedings  
January 15-16, Lake Morey Resort, 82 Clubhouse Road, Fairlee, VT**

The final speaker of this session was **Kevin Ogles**, Grazing Lands Specialist, USDA-NRCS, East National Technology Support Center, Greensboro, NC. His presentation was revised from the one listed in the Conference agenda to “Silvopasture: Land Manager Verbal and Non-Verbal Communication”. He did this to stress the point that there is confusion on what silvopasture really is. Some people say they are doing a form of silvopasture when they really are not. It is not necessarily to deceive others or themselves, but their visualization of what silvopasture is. He gave this analogy. A simple thing like a lawn mower can be visualized by people in many different ways depending on their experiences over their lifetime. A lawn mower can be a gas-powered push mower, an electric cord push lawn mower, a reel type push lawn mower, and perhaps a battery-powered push mower. Then, there are self-propelled push type lawn mowers that only need to be directed by the user. Then, as the yard size or area to be mowed increases, there are riding lawn mowers of various sizes and designs for homeowners and yard maintenance people. There may even be mowers that are pulled by a tractor or all-terrain vehicle by highway maintenance crews and other people needing to cover a lot of ground or on very steep sideslopes.

So, Kevin started out with a few examples of what silvopasture is not with some great visuals. The first one Kevin displayed was used by Justin Morris in his presentation in 2018 on pasture soil health, but Kevin’s second slide beats that one for showing what can happen in a grazed woodlot on a steep hillside depending on what is fenced off for woodland pasture to avoid very steep terrain in constructing the fence. Below is that slide. No caption sound bite does it justice, so as editor I explain what it depicts.



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(Editor' Notes: The picture above shows a typical woodland pasture that I have seen everywhere that I have traveled in the US for NRCS - which is nearly all of it. This is why, as Jeff Jourdain said earlier, foresters in general are against having livestock, especially cattle in the 'woods'. This is NOT silvopasture as the woods, the cattle, and the open pasture are all losers in this situation. The fence around it costs more than the amount of forage produced for livestock consumption. Whatever number of years is picked to pay back fencing costs, even if the fence were to last 20 years before posts rot or rust off at the groundline or the wire gets too rusty and brittle, the fence would not pay for itself. Then, there is the maintenance which can be considerable if the cattle are trying to find something to eat on the other side of the fence, and they **will** find an opening or make one. Meanwhile, the forest is degrading. Money is lost as an opportunity cost because the fence is not protecting the woods, but actually contributing to its decline.

This picture also shows a form of erosion that occurs wherever cattle are forced onto a steep slope with a pliable (plastic) soil. It is called cattle terracettes. "Terracettes are a combination of repetitious bench, path-like, and riser, slope-like, features that exist on pastured hills with >15° (27%) slope in semiarid environments of the western United States as well as throughout the world."(Mark Corrao, 2016) Note in the picture above that the cattle are all treading across a steep slope, most of it is less than 27% but it is in a wetter climate. They have created a series of parallel cowpaths at short intervals down the slope. As a cow path deepens from compaction, it captures rainwater and runoff running down the slope. The soil below it becomes more saturated, and with further animal traffic, it begins to slump downhill due the force of the steps the cows exert on the path and the increased plasticity of the soil under it (wetter so more malleable). "Increased antecedent soil moisture conditions on terracettted sites as opposed to non-terraccettted sites may lead to increases in runoff or erosion, at least partially, from plant root impedance and soil structural alterations resulting from compaction."(Mark Corrao, 2016) The erosion here comes mainly as soil slump or creep, and it is created by cattle. It would not have occurred on this slope without cattle traffic going across it repeatedly. The more they traverse the slope; the worse it gets. Near the top of the grassed part of the steep slope, a large soil slump has occurred on the steepest portion of the slope. This may be caused by a haul road. There are several cattle using this as a walkway. The rest of the cattle herd are more dispersed on several parallel cowpaths. There are four cattle actually trying to scrounge for grass a few feet downslope of the large slump. They all graze upslope. They cannot graze downslope because they are not giraffes; hence, the short intervals between paths. The rest of the herd realized the futility of finding much to eat on this slope and are merely crossing it, hoping there is something on the other side. Good luck with that.

The last comment about the above photograph is that it was taken in early spring. There is little to no grass, so why are the cattle there? We look at the woods in the background. There is no understory left. The forest is a dense stand of trees so when the hardwoods leaf-out, the sunlight now reaching the forest floor will not occur. This is woodland pasture with little thought about management or the consequences.)

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The next photograph Kevin presented was one of some Angus cattle standing or lounging in a



dense stand of evergreens. The thought here was to give them natural protection from winter's cold weather and get them out of the wind. This takes into consideration the livestock, but it is the only thing being considered. No out-of-pocket money to house them there. Just hope they do not poke themselves in the eye on a dead branch. They look cozy there, but the trees are getting pruned of their branches, and sadly, their roots. No worries about the forage, they are just hay bales anyway.



Kevin's next picture is at a woven wire/barbed wire fence shot into a heavily utilized woodland pasture with a tree stocking density that makes it inhospitable to forage production. The livestock should be in the field where the photographer is. The fence could then protect the forest. This woodland pasture though might be a good candidate for silvopasture if soil drainage is good and there are potential quality trees still left in it. It needs to be thinned of some of its trees to open up the tree canopy. There is some scattered sunlight reaching the floor now, but is well short of what is needed to grow forages for grazing. Below the two strands of barbed wire and to the left of the steel post, the woven wire is beginning to sag due to cows putting their heads and necks between the lower barbed wire and the woven wire. As the cows reach for a bit of grass on the

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photographer's side of the fence, they push down on the woven wire, and in an attempt to reach further through the fence, the cows can push forward and deform the woven wire even more. Eventually, it will be a way to escape. Note cattle browse line at bottom of the tree canopy.



This photo shows a full canopy pine forest. This too could be thinned to open up the canopy. However, it may have a very acidic soil that would hinder forage production greatly if not limed to raise the soil to near neutral in acidity. Some acidic soils also have high levels of soluble (exchangeable) aluminum (AL) in them that is toxic to most cool season pasture grasses and legumes causing them to fail to grow or grow poorly. Only native warm season grasses are tolerant to high levels of exchangeable AL.



This picture shows a declining orchard in a nice stand of grass. The trees are past their prime so rather than going to silvopasture, it might be better to decide on pasture if the goal is to raise some livestock on it rather than cropping it. It would be less labor intensive than renovating it as an orchard that will need to be carefully maintained to grow merchantable fruit or nuts and not done overnight.



To the left is a well-kept nut tree plantation that is grassed, but mowed instead of being grazed. This could support a few grazing animals if the landowner were so inclined. It would need fencing, exterior and interior. The grazing enterprise would be done primarily to keep the grass short so as not to compete with the trees for moisture and to aid in harvesting the nut crop. Judging by the way each tree is mulched around their base, most likely a livestock program is not in the cards with this landowner.

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Kevin showed us another picture of a pine windbreak between two closely-mowed grassy fields. This windbreak is treated better than most with each tree being mulched around its base. A paved highway was in the foreground and the grass mowed to its edge. No fencing visible anywhere. To utilize the two grassy areas as pasture, fencing was have to be installed, perimeter and interior. The windbreak could be protected with fencing on both sides that are installed at the edge of the tree dripline. The trees are tall enough to cast shade on one grassy area so it could act as shelter for getting out of the sun and possibly the wind depending on direction for each side of the windbreak. It would not be silvopasture.



Here is an existing pasture that has a lot of bare ground and is weedy. This pasture needs some pasture management first before raising the idea that it be planned as a silvopasture. First things first. Take baby steps with this landowner. Go for a more simple pasture management plan rather than putting silvopasture complexity on top of it. Trees would have to be planted and protected from livestock damage. Is that likely to happen, seeing the condition the pasture is in now?



This landowner is doing things right with their pasture. If the landowner were interested in doing silvopasture to provide some shade for the cattle, they would likely be successful with it. They are taking the time and effort to be the best of pasture managers. They would approach silvopasture in the same manner if they decided to give it a try.



Kevin ended his presentation showing the conference attendees a well-grassed and maintained silvopasture with primarily pole-sized trees growing on it. Grass is lush. It is early spring so most of the forest floor is bathed in sunshine. This is a successful silvopasture that promotes a healthy young forest, a lush forage sward, and healthy goats and sheep. As time and weather permit, a bit more slash could be picked up to grow more grass. A small chain saw and a cart behind a ATV is all that is needed to haul away some firewood.