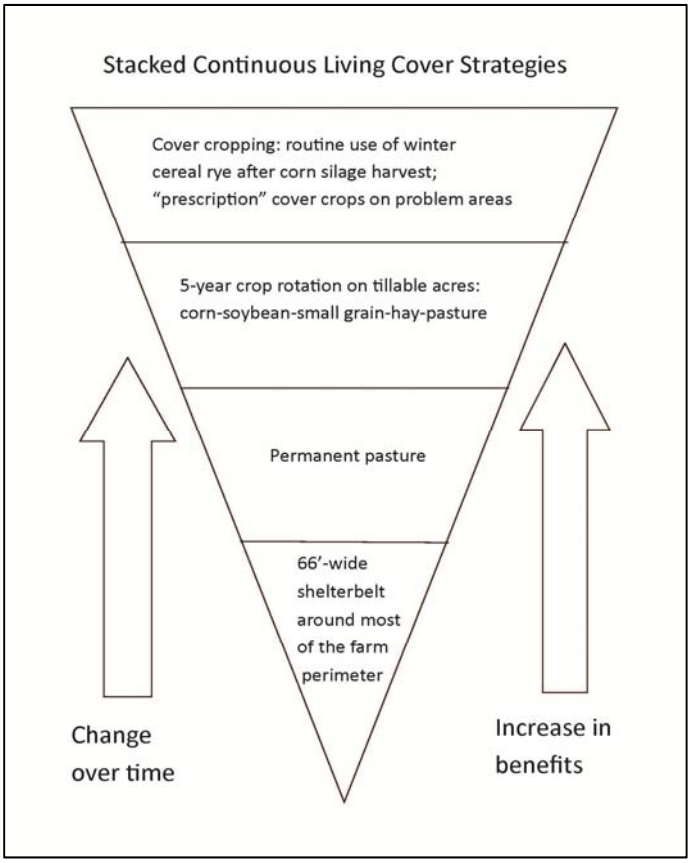
Tom and Irene Frantzen

Summer 2015
Continuous Living Cover Series



New Hampton, IA; July 2015

Tom Frantzen grew up on this farm and started farming it himself in 1974. The farm lies almost at the origin of the upper east fork of the Wapsipinicon River. There are 400 acres with 355 tillable, and all of it certified organic since 1995. Their organic transition in the 1990s included the creation of a 66-foot wide shelterbelt around the majority of the farm. That amounts to 25 acres that was established under a CRP contract and has since been re-enrolled in CRP. It consists of native prairie plants, hand-planted conifers, and direct-seeded hardwoods. Tom views this shelterbelt as the most

Stacking of continuous living cover: Agroforesty is an important strategy for the Frantzen farm. It has been certified organic since 1995 and a key piece of their system is the 66'-wide shelterbelt that surrounds the majority of the property. It serves as their required buffer for organic production, but also provides species diversity, wildlife habitat, and protection against extreme weather. It proved its worth in the flooding of 2008, slowing down rushing floodwater and giving it a chance to spread out and deposit sediment on their fields. They use a five-year crop rotation on their 355 tillable acres, with two of those years in perennial forage. A winter cereal rye cover crop is routinely used on corn stubble following silage harvest and then tilled in prior to soybean planting the following May. Cover crops are also used as a weapon against specific weed problems; for instance, sorghum-sudangrass followed by two years in hay to combat giant ragweed.

distinctive and most critical aspect of his farm, valuable for multiple reasons. One reason is that it serves as their buffer zone as required for organic certification. When he first pursued certification he was told he needed a 25' buffer, but he believes that would have been inadequate. He views 50 feet as a minimum buffer width and is very pleased with his 66 feet of buffer. A biologist present on a farm tour many years ago explained that an area that wildlife use for shelter needs to be wide enough to accommodate normal predator/prey interactions; in other words, the prey species need to have enough room to be able to get away and hide. Tom took that explanation to heart. He also believes that species diversity is important for the long-term stability of the farm, and views the wide buffer zone as a stabilizing force. He notes that there are benefits to it that may not even be understood yet, but he is learning some of them as new research comes forward. For example, research on weed seed predation is relatively recent, and he has learned that the shelterbelt serves as habitat for species that eat weed seeds. Every little bit of weed reduction helps, he says. Another benefit of the shelterbelt is aesthetic: it just looks nice to have trees around the place, says Tom. The 355 tillable acres on the

Coping with Climate Change

There's no debate that we're seeing climate change, Tom says – the question is how to abate the effects. He thinks his shelterbelt and the continuous living cover in other parts of the farm do a pretty good job. The flood of 2008 is an example. June of that year was wet to start with. Tom was edgy one day for no apparent reason, and decided to move the cows out of a riparian area to higher ground. They got 9" of rain the next night. The floodwaters were moving very fast when they hit his shelterbelt, which performed just as it should. The shelterbelt held the water, slowed the rampage of the flood down and made it less violent, and caused the waters to spread out. The slowed, spread-out water deposited a lot of sediment on his fields. He could see the different responses to flooding on various parts of his diversified farm. The hay ground held and absorbed water. The pasture and small grain areas also held onto water. Water ran off of the tilled fields, but those were a small percentage of the total farm. He believes that if he had had all tilled fields, the flooding would have been far worse for those downstream from his farm.

Tom expects to see more flooding, drought, and other weather extremes in the future. He's seen evidence that his diverse system is resilient, but isn't sure just how far it can be pushed. The summer of 2014 included multiple shifts between extremely wet and extremely dry conditions, followed by an early frost. That was their hardest year ever, with lower grain yields even than in the drought of 2012.

Frantzen farm are in a five-year rotation of corn-soybean-small grain-hay-pasture. The small grain in the rotation is usually a mixture of wheat, barley and oats, which is commonly called “succotash.” Tom notes that row crops account for 40% of the years of the rotation, or two years out of five. He says that percentage is a basic principle of successful organic farming: you never want more than 50% of your rotation in a row crop. He has a 50-cow Angus x Gelbveih beef herd and finishes out the calves as organic beef, which requires him to have the animals on pasture during the growing season. Drought in 2012 set back his availability of forage for the cattle because a new seeding of hay didn’t survive. It took him several years to restore the crop rotation after that crop failure.

Cover cropping is something that Tom continues to study. He regularly plants a winter cereal rye cover crop after harvesting corn silage in the fall. The rye gets tilled down in May before planting soybean. He’s happy with that system because he gets a very clean stand of soybean. He hasn’t been able to make it work to plant winter cereal rye following corn grain harvest, however. His grain harvest is just too late in the year to allow establishment of the winter rye crop.

Tom has used cover cropping to address specific problems on his farm. One example is combating giant ragweed. He says that giant ragweed is an increasing problem for him, and one that he believes is climate change-related. He has had pretty good success in controlling it by planting a sorghum-sudangrass cover crop followed by two years of hay.

Another example of “prescription” cover crop use was his treatment of a degraded field purchased from a neighboring farm in 1995. Tom worked at restoring productivity to that field through manure application and crop rotation for 10 years with little progress. Finally, he found the winning combination of a small grain underseeded with sweet clover, a biennial legume. The small grain was harvested in the fall and the sweet clover left on the field. It grew explosively in the second year. He plowed it down in late June and planted a cover crop of oilseed radish; then plowed that down before planting into a row crop the following spring – and was finally able to harvest a good crop from that field.

The forages in Tom’s rotation feed the cattle, which he can sell at a premium price as organic beef. Tom is adamant that he will never sell hay or other forage from his farm; it has to run through an animal first. He believes that selling forages from a farm will deplete soil nutrients faster than selling grain; and in many cases faster than an organic farmer’s ability to replace them. Feeding the forages to cattle and returning their manure to the soil stabilizes the soil fertility and biology. Achieving stability through diversity is what the Frantzen farm is all about.