Rejuvenating Pasture

A smooth seedbed was prepared, and lots of rocks had to be picked.

—Ulf Kintzel

I am a big proponent of improving existing pasture. When asked, I rarely advise plowing up existing sod, especially if such a field contains desirable grass species for grazing like orchard grass. Legumes like red and white clover can always be added by frost seeding them into the existing sod. However, there are some pastures that are so weedy or have so much undesirable forage that plowing up the field and reseeding it becomes the better option.

I was confronted with that situation with a newly tiled 12-acre plot. It had large areas of tall fescue because it had been wet for many years, dating back to times well before we bought this farm. Sheep just do not like tall fescue, especially not the unpalatable "native" kind. Another part of this field had been a pumpkin field just prior to us purchasing the farm. While the initial reseeding seemed successful, over time the Canada thistle became an almost dominant species in some spots, carpeting big areas of this former pumpkin field. Any mechanical (bush-hogging, haying) or biological (goats) attempt to reduce these thistles had failed. The same attempts had shown greater success in other pastures at the farm, up to the point that even the sheep started eating these thistles, just not in this particular field.

Before tiling this pasture, I saw no point in reseeding it. After that task was accomplished, it was time to tackle the rejuvenation of this quite-level field with very productive soil types. How productive are these soils? Those who are familiar with the soil types in New York State, here are their names: Honeoye Silt Loam (mostly), some Lima Silt Loam, and just a little Lansing Silt Loam. These are soils with a desirable pH level, with little to no need for lime since they are limestone derived. These soils are too good for just a mediocre stand of pasture.

At first, I had considered having the field plowed up, put into small grain, and then reseeded the same fall. That was until I observed the small grain fields at a neighboring farm. In the midst of some of these fields were patches of Canada thistles, towering over the small grain, spreading their seeds uninfringed. Then I learned that corn does a better job smothering Canada thistles. I let you in on a secret, though: I do not like corn. It leaves the soil exposed to wind and water erosion for such great lengths of time, both during germination and again after harvest. However, if one of my primary goals was to curb the growth of these thistle patches, I had to compromise.

My neighbor Peter, an organic dairy farmer, is always somewhat in need of a field, where he can grow corn. His organic company has him abide by certain rotation guidelines that prohibit putting fields into corn time and again. So he had an interest in growing corn in that field. I had an interest in having him do the field work to reseed my pasture. Since I had not applied anything to my fields for years that would prohibit putting this particular pasture immediately into organic production, we could quickly strike a deal with mutual benefit.

In early 2021, I grazed this pasture as short as possible to allow for easy plowing. On May 20th a short season corn for silage was seeded. A little problem had occurred. Since a neighboring farmer had spread commercial fertilizer in an adjacent hayfield, it now

Photos by Author

required a strip along the edge of my field to be seeded with something else since that strip was not eligible to be certified organic. The solution was sorghum sudangrass, which would be baled for horses. The harvest of the corn started on September 20th. I bush-hogged the stubble immediately after harvest. During the harvest of the corn and the bush-hogging I noticed that the remaining Canada thistle plants that had developed seemed very weak. I was hopeful. Ten days later I broadcast triticale at 3 bushels per acre. I had hoped to be able to graze the triticale and also wanted to avoid soil erosion. The fall growth of this small grain did not yield much to make grazing worthwhile. It did help to avoid soil erosion, especially water erosion since this was a historically wet fall.

In early 2022, I contacted seed dealers to explore the availability of late-heading orchard grass. One seemed to have what I wanted: a very late-heading orchard grass variety called "Echelon." I opted against HLR orchard grass from Barenbrug, although I knew of the great quality of it, because it also contains medium maturing orchard grass. Instead, I took a chance on Echelon, which is considered a truly late-heading variety. Why the importance of a late-heading variety of orchard grass? This field will primarily be a hayfield for first-cutting hay, then it will be grazed for the remainder of the season. A late-heading variety of orchard grass buys you about two weeks of additional time in the spring compared to native or early-heading orchard grass and will still make good quality first-cutting dry hay. These two weeks is the difference between needing to cut the grass to make good hay in late May or very early June versus mid-June. By mid-June the weather is already far more likely to yield dry weather compared to early June. And in case you doubt my timeline as far as high-quality hay is concerned and think that it still needs to be cut a little earlier, I want you to know that I graze all my hayfields early in the season. That reduces both the number and the strength of seed stems in orchard grass, and it also keeps a lush and heavy undergrowth for a much longer time than it would without grazing it prior to haying.

My very own pasture mix: a late-heading orchard grass, a New Zealand grazing white clover, and medium red clover.

This seed dealer did not carry any of the New Zealand white clover varieties I favor like Kopu 2 and Alice. I went with the one they had: Domino. I readily took a chance on this one simply because I never had a variety of New Zealand grazing white clover that failed me. I also purchased medium red clover from a neighbor that was locally grown. Why not just buy a pasture mix? Because such a mix will have many grass species I don't care for and only a few that I like. Besides, the earliest-maturing grass variety basically determines when you must cut such a stand for hay. I prefer making my own mix.

In the spring that same year I grazed the triticale. I grazed it very short to make plowing easy. My neighbor then plowed up the field with a chisel plow. He then disced the field to prepare the seedbed. On May 5th in 2022 he seeded the field with a drill seeder mounted to a power harrow and followed by a cultipacker, using my very own pasture mix. The dry spring made such early seeding possible. I used a fifty-gallon water trough to mix the seed just before seeding. The seeding rate per acre amounted to about 12.5 lbs. Echelon orchard grass, 4 lbs. Domino white clover, and 8 lbs. red clover. These numbers are an estimate. Since we did not have an exact number on the acreage and only a good estimate, I had purchased a little extra seed. I had once run out of seed when reseeding this aforementioned pumpkin field due to a little seeding error. While the area not covered was relatively small, it is irritating when you are trying to seed a nice new pasture or hayfield and then you run out of seed in the middle of doing the work while your seed dealer may or may not have any seed you want left at that time.

I bush-hogged the new stand very high in late June to keep remaining thistles from developing seed heads and to kill the triticale that had reemerged and developed seed heads. Drought-like conditions in July and the first part of August made me worry if my seeding would be successful. After rain started falling in mid-August,

I grazed it lightly for four days. A lot of ragweed had grown, too. I had postponed bush-hogging it because of drought. While ragweed is always a fearsome sight, it is an annual which will eventually disappear again under grazing pressure. After the drought-like conditions ended, I bush-hogged the ragweed in the third and fourth week of August, simply to let light in, especially for the orchard grass seedlings. I paid close attention to the Canada thistle while I bush-hogged. They seemed to be still weakened at that time. Lots of red clover had developed, and some white clover was noticeable too. I was not sure about the orchard grass.

The first cut of hay, cut in mid-June.

I grazed that field some more that fall, albeit still very lightly. I was still concerned about the development of the orchard grass. My neighbor Peter, having a better eye for the development of the grass seedlings, assured me it was there but needed more time to develop than the clovers. I took his word for it.

Meanwhile, lots of rocks were picked, even though my neighbor had already taken out a good amount when he prepared the seedbed. I picked rocks when I bush-hogged the corn stubble. Then I picked rocks when I bush-hogged the ragweed. Then I picked rocks again the following winter. No, wait! I had one of my sons at home for winter break. He did most of the rock picking that time; I drove the tractor. Those among you readers who have picked rocks know well how much "fun" it is.

In the spring of 2023, I once again grazed the field lightly for a few days very early in the season. Then I let it rest. Especially the red clover developed like a thick carpet. It was now apparent that the Echelon orchard grass had developed nicely as well. Lots of rain in April suggested that the yield was going to be high. The stand developed rapidly. As expected, the red clover dominated the stand at first since it develops faster than the orchard grass and white clover. In late May and early June, we had a perfect week to make hay. It was warm and dry for the entire week. Except, I wasn't home. I had taken my annual vacation with my family, visiting my in-laws in Poland. When we came back, the weather changed. It was rainy on many days. It did help to increase the yield without it being at the expense of quality because this was all new seeding. On June 17th I took a chance. It was time to cut the field. My neighbor Peter, who also does the custom haying at my place, cut the entire field. The yield was indeed very high. However, the weather did not seem to cooperate. Rain moved in. I could see the rain clouds west and north and south of us. I got lucky. I didn't get any of that rain. That happened again just a day before baling. And then again the day we baled. It took five days to dry this tremendous amount of mostly red clover hay. On day five we got 83 bales of dry hay without a drop of rain. I was delighted.

It so happened that we then had the best summer ever in 2023. After an almost drought in early June, we received four and a half inches of rain in one week. We continued to receive ample rain from then on almost all the way through the fall without it ever being too wet. A dry spell in late August into early September was very brief. The pasture kept growing in July and August like it was spring. I have never had as much grass in the summer as I had in 2023. The rain helped my new seeding to grow back rapidly. While the red clover was still dominant, I could see more and more of my late-heading orchard grass and also the New Zealand grazing white clover, which always needs a bit more time to establish. I had so much pasture that I decided to do what I normally don't do anymore: have second-cutting hay made on three quarters of this pasture for my small winter lambing season. (The remaining quarter had already been used for grazing for my adult rams and the ram lambs I sell for breeding stock.) During a brief dry spell I asked my custom haying guy Peter to cut the field. I had hoped for another 40 bales on the approximately

nine acres he hayed. We ended up with 70. The amount of hay amazed both him and me. The second cutting had yielded more bales per acre than the first cutting.

What about the Canada thistle and the fescue; the two main reasons why I had the field reseeded in the first place? The Canada thistle is not gone. However, the thick patches have been reduced to an occasional plant, lacking the vigor the plants had in the previous patches. Tall fescue is also reduced to an occasional plant. That was to be expected given the seedbank that must have been in the field. To rid the pasture entirely of both the thistles and the tall fescue would not have been realistic. Now I have a nice productive field which will be used for haying for many years to come. The haying, which will be most years in mid-June, will further weaken the remaining Canada thistle plants. That is both the plan and my hope.

So, was it worth it, plowing this field up, losing production for the most part of two years, and spending money and time on having it reseeded? In this case the answer is an unequivocal "yes." How about my other pastures, growing mostly orchard grass and white clover and some red clover? I gave that much thought. I ended up where I was before, where in fact I have been for decades: improve, but don't plow the pasture up to reseed it. The time spent, the production that is lost over a couple of years, and the cost of reseeding would not be justified in a pasture that is already productive. What I did with the rejuvenation of this 12-acre field will remain the exception.

Seeding with a drill seeder, mounted to a power harrow, and followed by a cultipacker.

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