*This article was published in Graze Magazine. However, the ideas fit harvested forages as well.*

For years I have been a proponent of perennial agriculture. I have spent many hours convincing conventional farmers to convert thousands of acres of annuals like corn into perennial fields of grass and legumes. I have talked about labor savings, fuel costs, soil erosion, reduced seed needs, wear on equipment and eliminating the need for chemicals. Those things have been true, and in fact, they still are. Perennial cool-season grasses *have* historically been the most economical and labor efficient crop for us to grow, but a paradigm shift may be changing that and annuals such as sorghum, small-grains and brassicas are starting to make more sense.

I have come to realize that if we graziers don’t recognize the changing economics of agriculture a lot more than my pride will get hurt. Most of the reasons to plant perennials were about cost savings, not performance. That being said, this is still a difficult article to write because it will require a large learning curve to be successful.

**Land Values:**

15 years ago we could buy agriculture land in Wisconsin for $500-$700 an acre. Between interest and taxes you could expect the land to cost you $30-$50 a year in ownership costs. Land values have risen about 800% over this time and while interest has gone down it will still cost you between $150 and $300 per acre annually just in ownership costs. These increased fixed cost’s dramatically raise the cost per ton of perennial grass harvested. Annuals can double our production per acre. This can somewhat offset the ownership costs.

**Feed Security:**

Animal agriculture is rapidly centralizing. In 1995 there were 10 CAFO’s [confined animal feeding operations] in Wisconsin with over 1000 animal units. Today there are over 200. This trend is mirrored over much of the country and puts added pressure for land in those neighborhoods. Most of us have already invested hundreds of thousands in Dairy infrastructures. Being able to guarantee your feed supply may be more important than it was before because that

neighbor you used to buy the cheap round bales from likely went broke, sold out, or both. The shift from “manure being an asset” to, “manure being a liability” may catch many smaller farmers and price land out of their financial reach

A farmer told me that his banker told him that Wisconsin land rent should be “The price of a ton of shell corn.” Or, in other words, over $300 an acre! I think I lost some sleep over that one- thinking about how much we rely on rented land.

**Drought:**

Whether you call it climate change, global warming, or just the “drought of the century” one thing we can all agree on is that this has been a difficult couple years for graziers. While there has been severe drought in the southwest for a number of years, we have now seen it spread to an unprecedented area of the country and it appears to could hang around for a while. Climatologists tell us that our weather is becoming more erratic and some computer models for the upper Midwest are downright scary. For our perennial pastures to be productive we need to have moderate temperatures and adequate moisture. The trends suggest we will be getting less of both of those in the foreseeable future. Combining a cool season annual with a drought tolerant warm season annual will allow us to utilize spring moisture while protecting us from the expanding “summer slump” period.

In many ways, the argument for annuals is much the same as the argument for irrigation. Better performance, added quality and lower risks - with increased costs. Annuals will be more financially palatable for many farmers because of the lower up-front costs. Instead of a $1000 or more dollars per acre a farmer can incorporate annuals for a fraction of the cost.

**Organic Pasture Requirements.**

The new Organic Pasture rules from the USDA require that Organic dairy animals need to get at least 30% of their diet from “pasture.” This is not limited to

perennials and creates a real opportunity for organic farmers who have built dairies in areas with limited “grazable” acres. For instance, if a farmer is able to increase his annual dry-matter yields from 3 to 5 tons per acre, he will be able to raise his stocking density from approximately two cows per acre, to three and a half.

**Improved Seed Genetics.**

It isn’t a secret, but seed companies like to make money and there just isn’t that many dollars being spent on perennial pastures. There are a few companies [mainly European] doing research work on perennial grasses, but most of the research dollars in this country are being spent on annuals. This has accelerated the genetic potential of annuals while perennial genetics have stagnated. Notice that most “New and exciting” pasture “breakthroughs” are merely good marketing of old products - i.e. “high-sugar pasture mixes.” The truth is that almost all cool-season grasses [with the possible exception of orchard grass] are “high-sugar.”

In the past couple years, I have seen a huge influx of new annual products that give graziers far better options than they had in the past. This research is being driven by conventional farmers who are mechanically harvesting these crops but most of them can effectively be harvested by cows.

**The Economics of Annuals.**

Like what was previously stated, perennials cost much less per acre to grow than annuals. But conversely, the cost per ton may not be much different. For the following comparison I assume that the perennial fields would be in a 4 year no-till program like we do on our farm. I spread the seed and planting costs over four years. I also reduced the fertilizer because of less production, but it could be argued that the higher stocking density would result in more manure, thus reducing fertilizer needs. I will let you decide the variables.

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| --- | --- | --- |
| Expenses | Annuals | Perennials |
| Seed | $100 | $20 |
| Fertilizer | $150 | $100 |
| Land Value | $250 | $250 |
| Tillage and planting | $60 | $5 |
| Yield | 5 Tons dry matter | 3 Tons dry matter |

Cost per ton $112 $125

Another factor to consider is “replacement cost.” What does it cost to replace those two or three tons that you lose in yield? Also, is a “grazable” ton worth more to you than a ton of dry hay?

**How Many Annuals?**

Perennials still have a place on grazing farms. After spending the last thousand words promoting annuals, I feel like I should be clear about this. The question is, how many annuals should we plant? Depending on available land, conservation issues and soil fertility that answer will be different for every farmer.

 Annuals certainly take different management than perennials to be successful and those changes may not be for everyone. In an under-stocked farm with heavy, fertile soils, annuals may only be used to renovate pastures and to fill in areas damaged by outwintered animals. But, if you are short on grazable acres or would like to increase stocking densities you could potentially plant up to 50% of your land in annuals and see your farm’s productivity and profitability increase.

Next month I will talk about some of the specific strategies and species we can use to make annuals work for us.