BRUNSWICK
FORAGE SEED SALES, LLC

Newsletter
January 2011

What Can A $10.65/Acre Investment In Your Alfalfa Field Do For Your Livestock's Performance

Seeding 5 pounds of a cool season grass mix in with your new alfalfa seeding can provide both direct financial benefits to your bottom line and over time will improve the health of your herd thus resulting in even more financial benefits. With dairy industry being so volatile over the last several years we all need to be focusing on the importance of the production and the performance of our cows without a large overhead cost. Moreover, we do not want to increase our production and performance if it is going to come at a cost to our cow health.

Simply putting 5 pounds of this cool season grass mix in your alfalfa field is not going to be the silver bullet to all the problems of dairy farming. There are several management techniques that need to be followed in order to get the full payback you deserve from putting this grass in with your alfalfa, and along with these techniques is a cash outlay. Even with this cash outlay, the benefits will significantly overcome the expense.

First, we will look at the proven benefits of grass. Grass has been proven to produce 1-2 tons more dry matter per acre, reduce weed pressure in the field, decrease drying time, and increase the digestibilities of the hay. It is hard to put an exact dollar value on all of these items, but from what has been consistently shown by years of production and told by producers feeding hays of this type we are able to put some numbers behind the values of grass in your field.

The production increase and weed suppression comes from the grass forming a carpet over the ground. A second year alfalfa stand in excellent condition will have a minimum of 20 plants per square foot the second year of production and by the fourth year of production an excellent stand will have a minimum of 6 plants per square foot. A square foot consists of 144 square inches and each plant the second year will have 7.2 square inches (3 inch by 2.5 inch area) and in the fourth year each plant will have 24 square inches (6 inch by 4 inch area). In both of these scenarios there will be bare dirt visible until the canopy of the alfalfa forms and allowing for the presence of weeds. However, if grass were added to the field these voids would be filled thus reducing weed pressure and giving a yield boost by having more forage being grown per square foot. Having this extra production is a direct measurable item we can put a value on.

A decrease in drying time is not an item that we can say that puts money directly into your pocket. However, when you are faced with challenging weather conditions (temperature and forecasted rain) a reduction is drying time can be the difference between high quality hay in the barn or hay getting rained on resulting in a poor feed quality hay. A quicker drying time can mean less propionic acid applied to the hay when baling or a higher energy value when you can ensile it quicker. There is a definite value to this, but what the value is worth is for you to decide.

The most important benefit I feel you get out of grass in your ration is the extra digestibility the hay gains. In the 2010 World Forage Super Bowl at the World Dairy Expo alfalfa-grass hay averaged 11.5 points higher in 48 hour – NDFd compared to the straight alfalfa samples. Moreover, the alfalfa-grass hay averaged 275 more pounds of milk per ton of hay. That data is measured laboratory data from feed samples across the Midwest. Looking a little closer to home, there are individuals who have seen first hand the results of grass in their alfalfa. This last summer an individual who felt there was just too much grass in his alfalfa field stated his butterfat went up and had minimal metabolic problems when he started feeding his first cutting haylage. What's interesting about this was he did not start feeding it until the summer heat was upon us. I was told by another individual that his butterfat finally was going up. I asked what his nutritionist changed in his ration, and he stated he had got into some hay that had more grass in it. Therefore, if we start looking at increasing butterfat and reducing metabolic problems we can definitely put a value on that.

Earlier I spoke of an additional cash outlay associated with seeding grass along with your alfalfa. The big expense of having grass in your alfalfa field is the nitrogen fertilizer required to get the full production and feed quality from the grass. Nitrogen needs to be applied for every cutting in order to get the maximum regrowth from the grass. Nitrogen's role in the grasses production is that it is a structural component of chlorophyll, nucleic acids, and all proteins. The end result of this is large gains in growth, higher feed energy values, and higher protein levels. Nitrogen application is going to be based on what cutting you are focusing on and what the weather outlook is. The grasses we want you to seed in alfalfa are called cool season grasses because of the desired cool temperatures for maximum production. The higher amounts of nitrogen need to be applied prior to

June 1 and after August 15. These dates reflect the best growing conditions for grass and when the most nitrogen will be utilized. Even though alfalfa is a legume its nitrogen will not be available until the soil temperature is above 70 degrees Fahrenheit which is in the middle of June. It is important to look at weather patterns when applying nitrogen. The way the rain seems to stop after July 1 the last several years I would be cautious of applying nitrogen when there is no rain in the forecast. I would recommend the following nitrogen application rates: 30 units prior to first cutting, 30 units for second cutting, and 20 units for each cutting after that.

The other very important management technique that most feel is an expense of having grass in the alfalfa is leaving 3-4 inches of stubble in the hay field. If you are going to raise grass it is absolutely necessary to raise the cutting level of the mower. Unlike alfalfa, which stores its energy reserves in its roots, grass stores its energy reserves in the lower portion of the plant. An improper cutting height will impede regrowth and eventually cause the grass to die off. Along with storing nutrients, the leaf area from this stubble needs to absorb sunlight to get a quicker regrowth. Even though you may feel that too much valuable feed is being left in the field, you are actually leaving the most undigestible part of the plant in the field that will not provide a significant amount of nutritional benefit to the cow.

There are several other important factors that I want to address because of my past conversations with individuals.

- All grasses are not created equal. Barenbrug and DLF are the top two grass companies in the world. We choose to work with them for their advancements of breeding grasses that result in better agronomics and digestibilities. They have developed grasses that will head out 2 weeks later than the average grade grasses. With rank overripe first cutting being a big concern of many producers, our grasses give you a larger harvest window with maturities that match the bloom of the alfalfa.
- Do not be afraid to put more than 2-3 pounds on per acre. The 5 pounds I recommend is a minimum and increasing up to 10 pounds per acre is a great thing, but most people do not feel comfortable at that rate. It is something that you will have to work up to over time.
- Having a custom mix made just for you is available. Each individual knows what works for them or they just want to try a little of one type of grass with what they had been used to working with. This is an easy way to transition from what you are used to doing to what will provide you with a lot of benefits.

The following is what I feel is extremely reasonable when it comes to the paybacks and expenses associated with grass added to an alfalfa seeding. This will all be on a per acre basis. The cost of seeding 3 pounds of a top quality fescue and 2 pounds of a top quality orchard grass is $10.65 per acre and this field will be in production for 4 crop years with no planned benefit in the first year. Each year a total of 100 units of nitrogen will be applied over 4 cuttings and these units of nitrogen will be priced according to 28% at $300.00 per ton. The production increase will be 1 ton of dry matter per acre which is equivalent to 1.25 tons of as is feed and this hay will be valued at $140.00 per ton. Each year you will be able to harvest 7 tons per acre of as is feed at 15% moisture and this acre of field will provide 5 pounds of as is feed per day for 8 cows for 1 year. Assuming these cows are milking 60 pounds of milk at a 3.5% butterfat and they increase to a 3.6% butterfat. The butterfat is priced at $2.00 per pound and the fat increase is very modest because I know from personal experience that the increase will be much higher. Finally, there will be no consideration given to the reduction in metabolic problems and the expenses associated with them.

Item	***Income***	***Expense***
Kora/Intensiv Mix		$ 10.65
Total Nitrogen 4 Years - 400 Units		$ 214.29
Total Yield Gain- Years 2,3,&4 - 3.75 tons = 1.25 ton/yr * 3 years	$ 525.00	
Total Additional Butterfat Pound - Years 2,3,&4 - 700 Pounds	$1,401.60	
Total	**$1,926.60**	**$ 224.94**
Income Over Expense Per Acre Of Hay - 4 Years	$1,701.66	
Average Income Over Expense Per Year	$ 425.42	

When you start putting these number into effect on your farm with the total number of cows and total acres of alfalfa you will be amazed by the potential of grass in your alfalfa field.

A Mix Can Be A Better Decision

It seems the standard way of seeding alfalfa would include 18 pounds of alfalfa, 2 pounds of grass, and 2 bushels of oats. A mix of the nature would cost $93 per acre to seed, and not give you the flexibility you need for raising high quality hay. The flexibility you need includes a plant diversity that can sustain through different stresses that will be present through the growing season. When seeding a hayfield, the field itself may have some challenges as a whole or just a couple of areas of the field that will be challenged. These challenges could be a poorly drained spot or an area where the nutrients are not at a level that alfalfa desires. Here is how the plant diversity will help in a hay field.

- ***Soil Type*** – The heavy clay glacial till soils of the area can cause a great amount of heaving in alfalfa with the freeze and thaw cycle in the late winter and early spring. This heave can be detrimental to your alfalfa stand, but it can be addressed with the right alfalfa. The branchroot alfalfas provide a solid root structure that will help anchor the alfalfa when these conditions arise. An alfalfa like King Fisher 444 has both the branchroot and conventional taproot to make it an overall great alfalfa for clay soils. Along with its great root system, King Fisher 444 has a great wheel traffic rating for those hard worked fields.
- ***Fertility*** – Calcium is probably one of the most important fertility levels in a hayfield. The best conditions for growing alfalfa involves a pH above 6.5 and Calcium base saturation above 70%. I have seen grid sampling or zone sampling results where there are variations in the field that will not adequately support alfalfa. Including some red clover in the seeding mixture will help overcome this challenge. Red clover has the ability to handle more acid soils. Freedom! red clover from Barenbrug is an improved clover that is longer lived than common red clover, and does not have the stem hairs thus resulting in a cleaner baling hay during harvest and faster drying.
- ***Lodging*** – Standability will always be a challenge when growing alfalfa. Planting a StandFast alfalfa will help increase standability through late bloom. StandFast alfalfas are non-gmo and do not have an increased amount of lignin that is giving them the improved standability. The increased standability is achieved through breeding giving the lignin a different structure in the cell wall. StandFast alfalfas also have 25-30% faster regrowth giving bigger yields and quicker canopy for weed suppression.
- ***Heat Tolerance*** – Cool season grasses (orchard grass, timothy, and fescue) grow the best when temperatures are between 60 and 70 degrees Fahrenheit. At temperatures above 70 degrees their growth begins to slow. The most heat tolerant of the cool season grasses is Tall Fescue, and its addition to the seeding mix will help boost the grass production during the hot days of the summer.
- ***Feed Quality*** – Each component of the seeding mix has their own individual feeding quality that helps improve the overall feeding quality of the harvested product.
- ***Nurse Crops -*** Nurse crops such as Forage Plus Oats or Italian Ryegrass are specifically bred for forage production. Standard seed oats or bin run oats are bred for grain production not forage production. Seeding rate is another big difference in nurse crops. Forage plus oats require no more than 1 bushel per acre and Italian Ryegrass is at 5 pounds per acre. Italian Ryegrass is to be strictly used in a silage situation and never in a dry baling situation.

The above variables can be compensated for if you allow me to blend a custom mix to your needs. My recommendation on a custom mix would include the following: 15 pounds of alfalfa and 4 pounds of Freedom! red clover. The alfalfa would be a custom mix of 9 pounds of a StandFast alfalfa and 6 pounds of a branchroot alfalfa. All of this can be adjusted to your needs and will be blended and labeled specifically for you. The custom grass mix would be mixed separately and consist of a blend of tall fescue and orchard grass. Perennial ryegrass can be added to the mix only if you will be using the hay strictly for silage. A minimum of 5 pounds of grass mix should be seeded per acre.

Earlier I stated the typical cost was $93 per acre for seeding a field of hay the standard way. If you were to plant the above seeding mix with Forage Plus Oats as a nurse crop your cost per acre would be $103 per acre and using Italian Ryegrass as a nurse crop would cost $97 per acre. There is an added cost to this enhanced seed mixture, but you are getting the very best forage genetics on market and more importantly a seed mixture that will handle a wide variety of situations.

Interseed Grass Into Your Existing Alfalfa Field

Early spring is a great time to interseed grass into your existing alfalfa field. The best time to start thinking about interseeding is the 3rd week of March. In the past, we advertised broadcast seeding the grass earlier in the spring and utilizing the freeze and thaw process for incorporating the seed in the soil. This is a viable option, but by using a grain drill there is better seed to soil contact and a much better end result.

The main consideration in doing this type of interseeding, is how long you intend for the field to be in production. If it is the planned last year of production for the alfalfa field an interseeding of either Festolium or Italian Ryegrass are going to be the best option. Both of these grasses have quick first year growth making them the best choice. The Festolium can be dry baled when seeding under 10 pounds per acres, and the Italian Ryegrass shall always be harvested for silage as it will not dry down to properly dry bale. A field that has several years of production left, can be seeding with Festolium, Perennial Ryegrass, or Tall Fescue. The Perennial Ryegrass shall be treated the same as the Italian Ryegrass when harvested and the Tall Fescue is capable of being baled dry.

With any of the above options, I recommend a total seeding rate of 5-10 pounds per acre of any of the grasses. Also, 20-30 units of nitrogen needs to be applied at the time of interseeding and after each additional cutting. The last management technique to remember is not to cut the grass to close to the ground.

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FORAGE SEED SALES, LLC
865 STATE ROUTE 118
ST. HENRY, OHIO 45883

Contact Information

Tim Brunswick
419-852-3477 (cell)
419-375-1047 (home)

Frost Seeding Red Clover

February and March will offer the best opportunity to frost seed red clover into your wheat fields or an existing hay field. Seeding rate needs to be 8 – 10 pounds per acre. Common red clover is the most widely used seed source for frost seeding. An improved red clover such as Freedom! or Cyclone II can be a better option as a seed source. Each of these clovers are long lived with great persistence. More importantly though is the fact that the Freedom! dries down quicker and is less dusty when you are making it for hay.

High Quality Forage From Start To Finish

This purpose of this meeting is to show that forage quality starts with soil health and fertility, includes the proper forage genetics and selection, and is completed with a properly balanced ration. This meeting is going to focus solely on producing high quality forage, but more importantly including these high quality forages in our rations.

Speakers Include:

Kevin Otte – Independent Soil Consultant With Menke Consulting
Lyn Crabtree – President & Owner Masters Choice Hybrids
Charles Sniffen PhD – Owner Fencrest LLC - Recognized expert in the world of dairy cattle nutrition.

Tuesday, February 22, 2011 at St. Henry American Legion Hall 9:30 am – 2:30 pm

Please RSVP so we ensure a proper count for lunch by February 14, 2011.