



ADVANCED AG SYSTEMS'

# Crop Soil News

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"It is the crops  
that feed the  
cows that make  
the milk  
which creates  
the money."

Advanced Ag Systems  
Research, Education, Consulting

## A Different Road: High Energy Forage for Organic Dairy/Livestock and Grass-fed farms

Working with numerous farms over the past 40 years, it has always been frustrating to see organic farmers trying to do the impossible simply because "real farmers grow corn". They plant the corn as high energy forage necessary for all profitable livestock production. It is critical that it be cultivated on a timely basis or weeds will overwhelm the crop. The result of repeated cultivation is that it loosens (super aerates) the soil which oxidizes organic matter vital to the soil's health and structure. Loose soil on slopes is very vulnerable to rain washing it away the most productive part. The biggest issue is that the multiple cultivations come at the same time and in the same nice weather as the first cutting hay crop. Critical hay harvest is delayed for the corn's benefit. When hay is at peak quality there is nothing on the farm that is more important than harvesting and storing that quality. You are losing money literally by each day the harvest is delayed. But you must cultivate, or you will not have a corn crop.

An alternative that our recent research has revealed, and more organic farms are looking at, is the use of a **BMR male sterile sorghum instead of corn**. As was shown in the [March](#) and [April](#) (click to open link) issues of the newsletter, [nutrient-enhanced male sterile BMR forage sorghum with delayed harvest](#) has nearly the same energy and potentially more protein than corn silage. It is not a GMO and can be purchased as untreated seed. It costs just a fraction of what organic corn seed would cost to plant. Yields equal to or exceed corn silage. Sorghum's fine roots enhance rather than deteriorate soil structure. Planted correctly, it can be successfully grown without herbicides.

It is **critical** that sorghum be planted when the **soil is 65F** and the forecast is for warmer temperatures the next week to 10 days. This allows the sorghum to rapidly germinate and jump out of the ground quickly shading out any potential weeds. Planted into warm soil with a following warm rain, we have experienced the crop fully emerging in three days. The bonus is that if there are any spots that light is getting through, sorghum quickly sends out lateral shoots to fill in, so the resultant canopy completely shades the ground. These warm soil temperatures usually occur **AFTER** winter forage, cool season grasses, red clover, and alfalfa have reached their peak quality stage. Thus, you harvest all your haylage at high quality first. You then come back and incorporate manure for the sorghum's critical nitrogen supply. Immediately incorporating



Above the line no herbicide, below with herbicide. Sorghum grew better and faster if it did not have to metabolize the herbicide.

manure increases the plant's vital available nitrogen by 75% over surface spread (see [December 2021](#) newsletter). When the soil temperature and the weather forecast are right, you plant.

Instead of owning a corn planter, a good quality press wheel drill that can plant accurately below 8 lbs. of seed/acre, with sleeved drop tubes planting in narrow rows is perfect for rapid shading of the ground to control weeds. (Annual grasses do not germinate below 60% incident light at the ground). The same drill can be used to grow the increasingly popular, soil-enhancing, high forage quality winter triticale the other half of the year. By drilling in narrow rows, the sorghum seeds/plants are spaced equidistant (an 8-inch drill at suggested 100,000 seeds/acre is a seed every 7.8 inches in the row). This maximizes the rapid shading of the ground. It also maximizes the stalk size so the male sterile can stand for 8 weeks after heading without lodging.



Drilling in narrow rows is key to rapid ground cover which is a huge factor in controlling weeds.

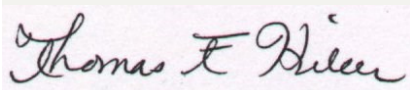
Utilizing a stale seedbed planting system will further enhance weed control. This is where you apply and immediately incorporate manure and roll the field. This makes ideal conditions to encourage small weeds to sprout and start to grow. By allowing the field to sit for a week or so and then lightly harrowing you will kill most of the sprouted weeds. By utilizing a press wheel drill, only the soil over the sorghum seed is then compacted to enhance seed germination. In between the row will still be the loose harrowed soil that is a poorer sprouting condition for small weed seeds. Soil temperature, stale seedbed, drill spacing, and press wheels all work to enhance the crop's emergence and discourage weed emergence.

BMR male sterile forage sorghum is harvested as a **one, direct cut system**. This reduces harvesting cost and doubles the yield while enhancing nutrient content compared to a multi-cut system. If you must multi-cut to harvest as round bale silage, then BMR pearl millet or Sudan grass may be a better crop. The male-sterile forage sorghum is ideally harvested with a directionless corn head. Smaller directionless head versions are now made for even pull-type choppers. Further cost savings is that a **processor is NOT needed and is detrimental** to making quality sorghum silage.

For energy nearly the same as corn silage it is critical that the harvest is delayed for 8 weeks after the male-sterile sorghum heads. This delay is key to enhancing the energy of the forage. It is the same time frame we use with corn silage which is chopped 8 weeks after tasseling. As discussed in the above April newsletter, you need to select the correct season length for your climatic area and time of planting.

As soon as the crop is harvested, you can immediately use your drill to no-till plant triticale into the sorghum stubble for a winter crop. Rolling coulter injection of manure into the triticale in November or December can meet all the winter forage's spring nitrogen needs.

Sincerely,



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