

Japanese Millet and Camelina: New Crops on our Farm

By Brent Beidler

Regina and I purchased our 145 acre dairy farm in Randolph Center, Vermont in 1998. It was during our first year on the farm that we experimented with a new crop called Japanese millet. I had hired an older, local farmer for some tillage as I wanted to plant a summer annual crop for supplemental grazing during the middle portion of the summer when perennial pasture growth slows down. The neighbor recommended that I try Japanese millet as he had found it to be a palatable feed that was more tolerant of wet soil conditions than sorghum/sudan. Japanese millet forage is also not subject to the prussic acid poisoning concerns and can be safely grazed or ensiled even if drought stressed or frosted.

We typically have planted a small portion of our pastures to millet each year. We find it to be a good complement to the grass/clover pastures that are the mainstay for our 40 cow milking herd. During the hot summer days the cows can quickly fill up on the 12-24 inch tall plants then retreat to the shade for a few hours. We generally alternate every 12 hours between millet and perennial pastures as this gives a balanced menu for the herd. The millet is planted in early to mid June after the soil temperatures have warmed above 60 degrees. It is possible to take a cut of hay or graze the field before preparing the seedbed. The normal seeding rate for a monocrop of the forage is about 25 lbs/Acre. The millet generally grows quickly and is ready to graze in 40-50 days after planting. We start grazing when the millet is about 18 inches tall and try to leave a 6 inch residual height so that the plants can regrow quickly. The plants will continue growing until killing frost. In addition to grazing we have sometimes made wrapped round bales of millet and found it to be a high energy feed source.

During the 2007 cropping season we started growing millet for seed as well as forage. We were aware that

there are no certified organic seed sources and hoped to grow our own seed as well as develop a potentially new enterprise for the farm. We received a Farmer SARE grant to study millet seed production in the Northeast. Heather Darby, UVM professor and extension agronomist, served as an advisor to the project. The experimental aspect of the grant looked at the mechanical harvesting of the seed. We tried two harvest methods – a) direct harvesting with a combine or b) swathing and drying the crop before combining. We found that it was possible to direct harvest the crop without the added step of windrowing. We were surprised that it took until mid October for the millet seed to ripen and dry down enough for harvest. We also baled up the straw and it is providing wonderful bedding for the milking herd this winter. We were pleased with our first year effort at seed production and now are in the process of cleaning and bagging seed to sell.

Another new crop that we planted for the first time this year was camelina. Camelina is an oilseed crop valued for its omega-3 attributes and as a possible source for biodiesel. It contains 34 -36 percent omega-3 oil and can be safely stored at room temperature without going rancid. Camelina originated in Northern Europe and has been used there for centuries. In recent decades camelina production has been overshadowed by the development of higher yielding oil crops like canola.

Our milk coop, CROPP/ Organic Valley has been investigating camelina as a potential biodiesel crop for its farmers. In addition to providing oil, the meal byproduct makes camelina production particularly attractive to livestock producers. Camelina was selected over other oil crops because it is widely adaptable and more weed suppressive which makes it suitable for organic production. In addition it is well known that many other oilseed crops like canola and soybean are dominated by GMO genetics. CROPP looked to camelina to be a non-GMO alternative



Cows grazing millet



Harvesting millet

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that perhaps would “fly below the radar” of the biotech giants and not be subject to contamination concerns. I have, however, recently learned that GMO camelina varieties are being developed to exploit the high omega-3 properties.

CROPP provided camelina seed for experimental plantings on 5 farms around the country. On our farm we planted a small half acre plot on May 5th with a seeding rate of 10 lbs/A. The seed is tiny, resembling alfalfa, but it emerged very quickly and competed well with weeds.

We harvested the crop in late August and had a yield of about 1200 lbs/acre. There was considerable amount of seed lost due to the small field size and combine adjustment losses. Some of the seed was pressed for oil at Stateline Farm in North Bennington, Vermont. John Williamson (owner of Stateline Farm) has been growing different oilseed crops on this farm for a few several



camelina seed heads
millet

years. John was happy to try pressing the camelina. He was pleased with the oil yield and pressing characteristics of camelina and is going to grow some himself next year.

The cows at our farm have recently been trying out the high protein camelina meal as a supplement. They find it palatable and we hope to have a sample tested for nutrient composition in the near future. The humans on the farm are also trying out the camelina oil for salads and cooking.

We are encouraged by the camelina experiment and have enough seed saved for a much larger planting in 2008. We are happy to share more specifics about our experiences related to these crops to anyone with interest.

Brent and Regina Beidler are certified organic dairy producers in Randolph Center, VT and Heather Darby is a UVM Extension Agronomist and Nutrient Management Specialist located in St Albans, VT (heather.darby@uvm.edu, Phone:(802)524-6501) If you are interested in purchasing certified organic millet seed, contact Brent and Regina Beidler, Beidler Family Farm, Randolph Center VT, (802) 728-5601, bbeidler@verizon.net ♦

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