

Ag Digest

January/February 2003

Special Points of Interest

- Meat Processing Facility
- Milk Vending Machines
- Machinery Cost Analysis

**Building Strong
and
Vibrant
New York
Communities**

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Weeping Birch Dairy Farm's Diversification Plan: Managing Forest Lands and Growing Gourmet Mushrooms

by:
Laura McDermott

Weeping Birch Dairy Farm is owned and operated by William McMurray and his three children: Robin, Tina and Bonnie. The 100 cow dairy plus the custom hauling business are full time jobs, but as the number of families depending on farm income increases, all members agreed that now was a good time to look at ways to diversify income and labor.

The first step was to look for assets that had not been fully utilized and one of the most obvious was the large hardwood forest on the property. It had been decades since the last timber harvest, so the McMurrays contacted Jon Raymond, a local certified forester. With Jon's help they selectively harvested a good portion of their woodland and developed a plan to better utilize this resource in the future. Many of the remaining trees were tagged for future removal, hopefully when the market will be high and the tree growth will be straight. It's important to remember that, despite the long term nature of growing timber trees, the worth of a nice straight veneer quality Red Oak could be far more than most other crops. The McMurrays also wanted to utilize the timber harvest refuse. Some of the waste wood went into firewood,

but many of the stumps were selected for mushroom growing. Growing mushrooms in a forest setting was particularly attractive, because they did not want to make a huge investment in infrastructure.

With Jon Raymond's help, the McMurrays contacted John Boyle, an agroforestry consultant. As luck would have it, Mr. Boyle was looking for a location to study the culture of mushrooms on hardwood stumpage. Mr. Boyle wrote a grant proposal that was accepted by the USDA Sustainable Agriculture Research and Education program (SARE). The grant paid for mushroom

spawn and for the consulting fee. Seven types of mushrooms were chosen for this project: Oyster mushrooms (12 different strains), Lion's Mane or Pom-Pom mushrooms, Winter mushrooms, Hen-of-the-woods (2 strains), Wine Cap, Blewit and Reishi. These mushrooms were inoculated into a variety of substrates including stumps, logs, 4' bolts, blocks of wood, branches converted into piles of woodchips, and well decomposed piles of leaves and needles. All of the substrates were from a variety of hardwoods including Oak, Maple, Beech, Birch, Aspen,



Jon Raymond, the forester talks to the group in front of the shitake production stacks.

(Continued from page 1)

and Ash. Pine stumps were also inoculated and pine needles were used. The inoculating began in late March and concluded July 1st. Each "planting bed" was labeled so that yield data can be collected. The study is looking at which combinations of woodland waste and mushrooms yield the best under completely natural conditions.



The arrow points to the stump rim where drilled holes were inoculated with spawn and then sealed with wax to prevent moisture loss.

The inoculation process was a family affair, but Tina McMurray and an employee, Derek Dearstyne, were the primary work force. In order to drill the holes and then seal them with wax, they had to bring a generator and extension cords into the woods. The holes (5-7/16 in diameter and 1-2" deep) are drilled around the perimeter of the stump; large trees can have as many as 100 holes in 1 stump! The 4' bolts are stacked like Lincoln logs so to make harvesting easier. The spawn is inserted into the hole, and then sealed with the wax to prevent loss of moisture. Some mushrooms were planted in v-notches made by a chainsaw. All of the hardwoods, with the exception of poplar and birch, should fruit heavily for 3-5 years. Production will then continue slowly until the substrate is so rotted that it cannot support growth. The logs could then be used for fuel or they might be able to be chipped into sawdust and re-inoculated for oyster mushroom production.

In addition to the SARE project, the McMurrays are starting a Shiitake growing operation. In April they planted 32 5-lb. bags of spawn in Oak and Ironwood bolts

obtained from tops left after the selective harvest. Several strains of Shiitake were used to cover the temperature range and therefore insure a longer fruiting period. These bolts should produce 12-15 pounds of mushrooms per week starting in spring 2003, although some fruiting had begun in early October. Unlike the SARE project, these production areas will be forced to

promote fruiting. The McMurray's also inoculated some baled hay with Oyster spawn. These did not take probably due to the presence of citric and propionic acid, common materials used to prolong hay storage by inhibiting fungal growth (hence no mushroom growth!).

The McMurray's made some discoveries during this project. First, when contracting with the timber harvester, they would consider requesting some changes be made to standard logging

practice. The forester could lop the trees where the big branches meet the trunk. This would make it easier to cut the 4 foot bolts from the straightest part of the main branches. The harvester could also leave the stumps higher than the usual 12 inches. Stumps between 12 and 24 inches would make drilling holes easier and give the mushrooms more wood to grow in. The harvester should not drive over treetops, because it's important that bark is intact on all bolts. These recommendations may reduce the price you receive for the timber harvest.

Second, plan

on improving the rough trails that the logger makes. You should include many side trails, because harvesting will be much faster with good access. It is very helpful to own an ATV, as this is about the only equipment that can get to some of the woodland locations. The mushrooms need to be checked daily while they are fruiting, a job that takes Tina around 25 minutes to accomplish, but will take much longer as harvest increases.

Third, plan ahead. Ideally the trees should be inoculated immediately after a dormant harvest. The log needs to have and maintain moisture content of over 29% or the mycelium will not grow and the mushrooms will die.

During the October 3rd Open House, the one question that kept coming up was, "How do you tell the good mushrooms from the "bad" mushrooms?" John Boyle insisted that as you become familiar with the different species and their fruiting times, it is very difficult to make a mistake. Tina McMurray simply stated that if there is any doubt whatsoever, the mushroom will not be included in the harvest. The other obvious concern is how do they predict the harvest. Except for the shiitake mushrooms, production is completely weather dependent, so it will be important for the McMurrays to line up buyers in advance. Because they have so many different types of mushrooms, the harvest season should last throughout the normal growing season.



Shiitake mushrooms fruiting on logs in early October, approximately 5 months after inoculation.

DATES OF INTEREST

January 2003

January 14– 16 - Organic Vegetable Production Workshops, in Geneva, NY. Call Abby Seaman for details— 315-787-2422

January 15 - Washington County Toastmasters, 7:00 p.m. in Upstairs Classroom, Section B, Wash. Co. Municipal Center, Fort Edward. For more info call 1-800-548-0881.

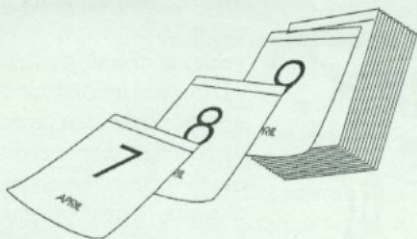
January 16 - Farm Income Tax School, CCE-Saratoga Office, 50 West High Street, Ballston Spa. To register call 885-8995.

January 23 - Capital District Bedding Plant meeting, for more information call CCE Albany County at 765-3500.

January 25 - Vermont Annual Grazing Conference, Randolph, VT.

January 27-29 - NYS Farmers' Direct Marketing Conference in Saratoga Springs.

January 31– February 2, 2003—Organic Vegetable Systems from Seed to Market, will feature instructors from 3 successful northeast farms to talk about production and marketing. Call Regional Farm and Food Project— 518-427-3537



February 2003

February 6 - Dairy Skills Program - Reproduction and Foot Health Module with Dr. John McDermott and Dr. Jack Rath of Granville Vet Clinic. For info and registration, call 743-2238.

February 7-8 - PA Association for Sustainable Ag (PASA) Annual Conference, State College, PA. For more info call 814-349-9856 or www.pasafarming.org.

February 11-13 - NYS Vegetable Growers Conference, Holiday Inn, Liverpool, NY. Call 1-800-548-0881 for more information.

February 26 - Vermont Large Farm Dairy Conference, 9:30 am - 3:30 pm, Sheraton Hotel & Conference Center, Burlington, Vt. (right off Exit 14W on I-89)

March 2004

March 6 - Dairy Skills Program - Obstetrics, Calves , and Heifer Management Module with Dr. Sonya Kelsey of Battenkill Veterinary PC. For info and registration, call 743-2238.

April 2004

April 5, 2003 - Part-Time Farmer Workshop: A Machinery and Marketing Tour - begin at Salem Farm Supply to learn about machinery, buying, renting, custom hiring. Then visit Gardenworks (horticulture business). 3-Corner Field Farm (sheep dairy), Windy River Farm (beef farm), and Hayes Produce (vegetable farm) to learn about marketing many types of farm products in many different ways. Pre-register by sending \$10 to CCE Saratoga County, 50 West High Street, Ballston Spa, NY 12020, by 3/31.

FOR YOUR INFORMATION

- **Survival Spanish for Ag Producers** - having just finished up Hispanic Herdworker School, and fielding several other calls, we need to ask - would anyone be interested in a Survival Spanish Class? I am not sure what type of time commitment we would be thinking about, but if you are interested , please call me at 1-800-548-0881, so we can think about the possibilities. SAB
- **2002 Corn Silage Hybrid Tests** (preliminary results) are available at the web site, <http://www.css.cornell.edu/extension/Extension%20Publications.html> or give me a call for a copy. AG
- **I recently toured a new anaerobic digestion system by dubara company, Inc.** in Schodack that is being adapted to an existing manure storage (2-3 month storage capacity). Two 300-gallon size digesters inoculate manure going into the storage. Temperatures will be kept above 50F. A cover over the storage will allow methane to be collected and used to produce electricity. The concept is very innovative and designed to be installed to existing manure storages. I put my nose to a bucket of digested manure - very little smell. Call me if you want a fact sheet about this demonstration project. AG

Editor

Mandy Hulett

SWCD NOTES

Manure's Environmental Benefit

I recently received the Certified Crop Adviser newsletter for November and there was an article about a new on-line curriculum dealing with manure management. It's called "Livestock and Poultry Environmental Stewardship" (www.lpes.org) and it has the usual coursework pertaining to manure management, but as my article title above indicates, there was a short lesson about the benefits of manure to the environment! What an interesting angle to put on a subject as seemingly objectionable as manure. It may well soon be in the same category as apple pie, Chevrolet and baseball (okay, maybe not).

Seriously though, it was nice to see a generally negative subject being looked at in full view. The premise is that in comparison to commercial fertilizer, manure offers many advantages since it is a living, organic, carbon-based material with far more benefits than fertility alone. A few of the more interesting benefits listed include increased soil carbon and reduced atmospheric carbon levels (a very hot topic today), reduced energy demand for natural gas intensive "N" fertilizer, reduced demand for "P" fertilizer (a somewhat limited resource), reduced soil erosion and runoff, and enhanced soil structure/tilth.

Perhaps the agriculture community can begin to bring public opinion around to seeing the good side of *manure* management, and not see it only as *waste* management. Of course, that would mean that this natural, organic material needs to be handled in an environmentally sound fashion to actually achieve the benefits society could really support! If used properly and to full beneficial use, it really is the stuff of life for soils - a very critical component to modern agriculture just as it has always been to farmers throughout history.

Bill Keating
Soil Conservation Technician

FARM BUSINESS MANAGEMENT

Trend Stress

With milk prices rising some over the last 2-3 months, I hope that you are starting to feel a little relief with the current month's operating expenses. This doesn't mean that everything is back to normal but that you are starting to get to a point where you can begin to think about catching up. Keep a good focus. If you are getting a little more comfortable, stay on this "diet" financial ration so that you can earn some extra money to repay or to bank ahead.



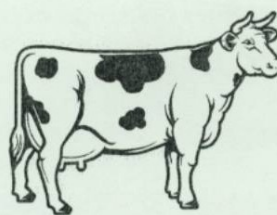
The current state of the dairy industry has led to a proliferation of information on cutting costs, reducing family living, making do with less... There is no doubt; I am just as guilty as everyone else for contributing to the fray!

However, the bottom line says there is only so far that you can cut and most people feel that they were already there, or definitely there now. So if reducing expenses is not the next feasible option, improving income is all that is left.



Obtaining movement on the milk price is a long, slow process and while that is going on, it is important to look at other solutions, both short and long-term. Tracking your quality premiums to make sure that you get the highest price that you can, lowering the somatic cell count so that milk production will get the eventual boost in production (1200 lbs. per lactation for each linear score drop) but also make quality.

Other areas that have to be wrestled with are making sure that you are getting the most possible for your bull calves by dipping their navels, giving them some colostrum and having them be dry when they leave.



And the best value for your cull cows. A big issue facing cull cow values is injection site lesions. Injection site lesions are caused by injections that are given improperly, with dull or dirty needles or too much material given in one injection site. The economic cost can be up to \$70 per animal (Cattle FACS, 2002), if the injections are given in the high value meat cut areas.

Several beef organizations have been working to educate beef producers about the need to move injection locations away from prime cut areas and use lower value cuts as sites in the neck or give drugs subcutaneously if allowed. Dairy farms need to worry about the same issues.

None of these all will add up to huge money, but over time will provide some needed space.

Source: Cattle FACS,
Canadian Cattlemen's Association
Canada, 2002

Sandy Buxton
Farm Business Management

FARMER TO FARMER

What Landowners Should Know About Deer Management Partnership

Jill Cornell, Executive Director
Deer Management Partnership

Deer Management Partnership is a group actively working in Washington County and the surrounding area to provide excellent hunting opportunities as well as deer population control. There has been an enormous increase in the population of the local deer herd over the past few years. With a declining number of hunters and an increasing amount of posted, no-hunting land, it is increasingly difficult to maintain control of the population.

The Deer Management Partnership is a program designed to provide additional training to ethical hunters about anatomy, biology and improve their skills. The group then offers hunting services to landowners for regular hunting or to assist in filling their Department of Environmental Conservation (DEC) Deer Management Assistance Program (DMAP) permits. DMAP permits are frequently for does or out of season hunting. The services the partnership provides are free to landowners.



One of the goals of this group is to be allowed to provide hunting where hunters have been turned away from properties in years previous. Landowners are concerned about accidental shootings, wounded deer being left and other woodlot misuse which is what this group is trying to eliminate. All of this work is fo-

cused around the issue of reducing the amount of field crop damage as well as forest under-story damage. For more information, please contact the Deer Management Partnership at pin-tree@global2000.net.

AG ECONOMIC DEVELOPMENT

Projects of Interest to All Food Producers

Meat Processing Facility

In December, livestock and dairy producers in Washington County received a letter explaining about the progress of work being done to establish a USDA inspected meat processing facility. The purpose of the letter was to let all meat producers know what is going on and invite support and comments. The letter included a survey asking about number of animals and meat processing questions. The survey is very important to the success of the project and I encourage producers to take a few minutes to complete the survey and return it. If you did not receive a survey and would like one, please contact me at the CCE office.

The biggest problem most livestock producers face is how, when, and where can you get animals processed and at what cost. The meat processing project hopes to address these issues by having a facility to be located in the Capital District area that is cost effective and meet the marketing needs of producers.

The organizational structure of the possible facility is not finalized, but is getting closer. Structurally, the USDA inspected facility itself is likely to be a not-for-profit organization that provides a service to producers at cost. Under that may be one or more marketing cooperatives to enable producers to sell product at retail instead of wholesale, a value added approach. A retail shop is a possibility at the facility, and marketing under a branded name is also under consideration. The proposed facility size is 6000 sq. ft. with another 4000 sq. ft. of locker space. A facility location has not yet been located but it will be in the Capital District area.

About two years ago, three producers began to address the problem and developed a business plan to open a USDA Inspected meat processing facility. Because this is a complex issue, and an expensive one, it became clear that the group needed to be enlarged. The current committee consists of livestock producers from Saratoga, Rensselaer, Albany, Washington, and Schoharie Counties. The committee is supported by representatives from the Hudson Mohawk RC&D, the Soil and Water Conservation Districts, the Columbia Land Conservancy, and Cornell Cooperative Extension. The committee is working on applying for grants to help with start up plans, a business plan, and feasibility studies. The group is also meeting with local legislative representatives to inform them of the need and encourage support of the project.

Culled Dairy Cows

A possible project currently applying for grant dollars is marketing culled dairy cows to supply hamburger to the Regional Food Bank in Albany. The Food Bank is very interested in purchasing local hamburger and in turn will create a better market for culled dairy cows for our dairy farmers. The intent is to have the price of the culled dairy cow to be better then sending it to an auction and in turn the Food Bank would support local agriculture while getting a better price on their purchase. A win, win for everyone. Obviously, a USDA inspected meat processing facility will make the project more of a reality.

New York City Markets

Another project currently applying for grant dollars is to hire a part time marketing liaison in New York City and a refrigerated truck to coordinate New York City restaurants and food products from Washington, Saratoga, and Rensselaer County producers. Producers would deliver the order to a refrigerated trucking company in Hoosick Falls and the trucking company would deliver two times a week. Producers would be expected to pay a fee to have their products delivered and fund the marketing liaison. The service will be more cost effective for producers enabling them to tap in to the NYC markets with out investing large amounts of time and money. Products needed will be fruits, vegetables, meats, dairy, and maple products.

If any of these projects interest you or if you have questions, please contact me at the CCE office.

Paula Schaffer
Ag Economic Development Educator

DAIRY

Schools Are Successful in Obtaining Milk Vending Machines

In March of 2002, when Senator Charles Schumer announced that he was calling on USDA to encourage the placement of vending machines that sell milk products in schools, as a more nutritious alternative to soft drinks and to broaden the market for dairy farmers, we all scratched our heads and wondered how successful it would be. Almost a year later, I'm glad that I took the initiative to send out packets to every school in Washington County with high hopes that this could be a real success! Enclosed in the packets were contact information for milk vending machine manufacturers and services, local milk companies taking part in delivery, their delivery cycles, prices and flavors carried, as well as some positive feedback from random school districts around the country already taking part in milk vending. I don't know if they used any of that information I distributed, but skimming through the newspapers over the past six months has been quite encouraging in the sense that there are many school districts jumping on the band wagon. At the time this article was written, nine out of ten school districts in Washington County already have milk vending machines installed!

When Governor George Pataki signed the new law in October allowing vending companies to sell pints of milk without obtaining a milk dealer license, it encouraged more vendors to enter the "vendi-milk" market and immediately increase the number of milk vending machines in schools. Upstate Farms Cooperative estimates that 300 gallons of milk are consumed per month from the average milk vending machine. Based on that, Schumer said, when fully phased in, student milk consumption from a single vending machine could yield almost \$340 per month or more than \$4,000 per year for the dairy industry.

In 1976, carbonated soft drinks overtook milk in gallons consumed per person per year, and the gap has been growing ever since. Twenty-five years ago, teenagers drank nearly twice as much milk as soda, but today they drink twice as much soda as milk. This shift has prompted concerns not only about obesity but also about tooth decay and decreased calcium intake for growing bones. William Byrne, president of Syracuse-based Bryne Dairy, noted that the push for vending machines will give the milk industry a better chance to compete with soft drink companies. The soft drink companies "have more marketing dollars to work with," Byrne said, making it difficult for dairy producers and distributors to reach children at an age when they form habits about beverage preferences. According to National Institutes of Health data, "the Vendi-milk program comes not a moment too soon," Schumer wrote in a letter to Education Commissioner Joel Klein. "Eighty-five percent of teenager girls do not consume adequate amounts of calcium each day, making them susceptible to brittle bones and osteoporosis later in life. 60 percent of teenage boys also suffer from low calcium intake. Milk is an excellent source of vitamins and minerals that help promote central nervous system development and strong immune systems. Milk machines also give a boost to schools themselves. Like the junk food vending machines before them, the Vendi-milk program generates income for schools that can be used to provide additional school programming."

So, now that we have established that milk vending ma-

chines are benefiting school kids, how are they benefiting dairy farmers? Unfortunately, Senator Schumer has only surveyed metropolitan school districts for milk vending machine usage and, therefore, has only found 120 schools in NYS using them. We know there are many more schools involved because if these numbers were accurate, Washington County alone would make up 7% of that number. If just *one* vending machine generated \$4,000 per year for the dairy industry, imagine if every school district in NYS had a vending machine. This could be a win-win situation for both kids and farmers. It definitely wouldn't solve the slump we are in as far as milk price goes, but every little bit helps. We all talk about educating the consumer as one of our top priorities in increasing consumption of dairy products, what better time to start educating than at an early age.

If your school district does *not* have a milk vending machine (ie. Fort Ann), talk to your school boards about educating our young consumers to make nutritious decisions. I think it is a rewarding experience to know that we can actually do something good for school kids as well as doing our part in improving the dairy industry.

Sources:

The Ithaca Journal, NYS Farm Bureau
The Christian Science Monitor
Cornell University, Christina Stark, Registered Dietician
Senator Charles E. Schumer website

*Mandy Hulett
Dairy Educator*

CROPS AND SOILS

Is Your Machinery Pulling Its Own Weight?

Source:

"Machinery Management"
by Wayne Knoblauch

Can you economically justify owning your line of machinery? Is each piece making you money? Are you paying too much for hiring a custom operator? I hope that this article will help you push the pencil to analyze each piece of your machinery and determine if it is making you money or hurting you.

Deciding between purchasing machinery and hiring custom operators may be a pressing decision for our current dairy situation. For dairy farmers to receive payments from the Milk Income Loss Contract, they must follow a conservation plan. For some, this may mean planting no-till corn. So a whole series of questions arise: Do I have enough acres to justify buying a no-till planter?; Can I rent a no-till planter?; Is there someone I can trust and hire out my corn planting?; Can I purchase a no-till planter with someone else?; Should I change my cropping program?; Should I do custom work to justify owning my machinery? Machinery and cropping expenses are large expenses and often hurt the bottom line of many dairies. For an hour or two, put aside your love for iron and push a pencil to justify owning your machinery. Below I have provided tables with "average values" for machinery expenses. Of course, your analysis will be

more accurate if you use your own real numbers. If you do not keep records well enough to have accurate numbers, you simply are asking for trouble. There is no excuse for not keeping good records.

Let's figure out if I should buy a \$25,000 6-row no-till planter to plant my 200 acres of corn. **First**, I need to know how many hours/year it will be used. So,

$$\text{Acres/hr} = \text{width (15 ft)} \times \text{speed (3 mph)} \times \text{field efficiency (0.65)} \div 8.33 = 3.5 \text{ ac/hr}$$

$$\text{Hours/yr} = \text{ac/yr (200)} \div \text{ac/hr (3.5)} = 57 \text{ hrs/yr}$$

Second, determine annual operating costs. Repairs costs are in the accompanying table. I am using \$12/hr for labor. For fuel and lubricants per hour, here is an estimate:

- Gasoline & lube = 0.069 X max. PTO HP X fuel cost
- Diesel & lube = 0.0504 X max. PTO HP X fuel cost
- L.P. gas & lube = 0.0828 X max. PTO HP X fuel cost

$$\text{Operating Costs} = \text{Repairs (\$750, 3\% of new price)} + \text{Labor (57 hr X \$12/hr or \$684)} + \text{Fuel (0.0504 X 125HP X \$1.25/gal X 57 hr or \$449)} = \$1883/\text{yr or } \$9.42/\text{ac}$$

Third, determine annual ownership costs. Here I am using a 10 year depreciation time, a 5 year loan at 8% interest, and a \$3.80/\$1000 insurance rate.

$$\text{Annual Ownership Cost} = \text{Depreciation (\$2500/yr)} + \text{Interest (\$1850/yr)} + \text{Insurance (\$95)} + \text{Housing (you should assign a storage cost)} = \$4445/\text{yr}$$

Fourth, what will it cost per acre to plant no-till corn with this purchased machinery?

$$\text{Cost per Acre} = [\text{Ann. Ownership Costs (\$4445)} + \text{Ann. Operating Costs (\$1883)}] \div \text{Acres covered/yr (200)} = \$31.64/\text{acre}$$

This price to plant corn may be a bit high. Let's assume that \$25 per acre is a more reasonable cost or what a custom operator may charge. Now the break-even acreage for this planter is:

| Machine | Estimated Life (hrs) | Speed (mph) | (%) Field Efficiency |
|----------------|----------------------|-------------|----------------------|
| Plow/Chisel | 2,500 | 3.5 - 6 | 70 - 90 |
| Harrows | 2,500 | 3 - 6 | 70 - 90 |
| Cultivators | 2,500 | 3 - 8 | 70 - 90 |
| Spreader/Spray | 1,200 | 3 - 5 | 50 - 80 |
| Planters | 1,200 | 3 - 5 | 50 - 80 |
| Grain Drill | 1,000 | 2.5 - 6 | 65 - 85 |
| Mowers | 2,500 | 3 - 7 | 55 - 85 |
| Hay Rake | 2,500 | 4 - 5 | 70-85 |
| Baler | 2,500 | 3-10 T/hr | 60-85 |
| Chopper, pull | 2,000 | 2 - 4.5 | 50 - 75 |
| Combine, s.p. | 2,000 | 2 - 5 | 65 - 80 |
| Silo Blower | 2,000 | ---- | 20 - 50 T/hr |

$$\text{Break-even Acreage} = \text{Ann. Ownership Costs (\$4445)} \div [\text{Dif. of Custom Rate and Operating Cost/ac (\$25/ac - \$9.42/ac = \$15.58)}] = 285 \text{ ac}$$

We have too few acres to justify this particular planter. Is there another 100 acres that you can custom plant? At 3.5 ac/hr planting, you can plant 300 acres in 9 days (10 hrs/day).

Use your own real numbers and these formulas to evaluate each piece of your machinery. Make the hard decisions necessary so that your cropping enterprise makes you money. Call me for the complete copy of this "Machinery Management" article.

*Aaron Gabriel
Crops and Soils Educator*

Annual Machinery Repair Costs as a Percent of List Price

| Hours of Use | 4WD Tractor | 2WD Tractor | Hours of Use | Tillage Tools | Man. Spreader, Loader, Self-Prop. Combine/ Harvester | PTO mach. | Planters, Drills, Rake, Mower |
|--------------|-----------------|-------------|-----------------|---------------|--|-----------|-------------------------------|
| | % of List Price | Price | % of List Price | Price | | | |
| 500 | 0.5 | 0.5 | 50 | 0.8 | 0.3 | 0.1 | 0.3 |
| 1,000 | 1.0 | 3.0 | 125 | 4.0 | 0.5 | 0.5 | 0.8 |
| 2,000 | 7.0 | 8.0 | 250 | 8.0 | 4.0 | 3.0 | 4.0 |
| 3,000 | 12.0 | 15.0 | 500 | 20.0 | 8.0 | 8.0 | 10.0 |
| 4,000 | 18.0 | 23.0 | 750 | 34.0 | 15.0 | 14.0 | 28.0 |
| ----- | ----- | ----- | 1,000 | 48.0 | 23.0 | 22.0 | 38.0 |

FSA NOTES

MILC Program

By the time you receive this issue of the Ag Digest, dairy farmers should have received their MILC payment for October's milk production. MILC payment rates for the last three months are as follows:

OCTOBER... ..\$1.5930/cwt.
 NOVEMBER...\$1.3905/cwt.
 DECEMBER...\$1.4265/cwt.

DCP Sign-Up Underway

To sign-up for the Direct & Counter-Cyclical Program (DCP), you need to select an option that will either update or maintain your farm's current base and yields. Farmers should make an appointment with us to help you work through your options. Please remember that all landowners must sign the CCC-515 (Base and Yield Election Form) by April 1, 2003.

All producers on base acres must share in direct and counter-cyclical payments. Producers eligible to share in direct and counter-cyclical payments are:

- * An owner on an eligible farm who meets the definition of a producer on base acres. Landowners who cash rent their land are ineligible for DCP payments.
- * A producer (other than the owner) on base acres with a cash lease agreement.

Direct payments rates are as follows:

Corn---\$.28/bu. Wheat-----\$.52/bu.
Barley-.24/bu. Soybeans--\$.44/bu.
Oats-.024/bu.

Please call Keisha or Dave at 692-9940 (ext. 2) to make an appointment to review the DCP program.

Wool & Mohair Loans and LDP's

Sheep and goat farmers who produce wool and mohair may apply for either a nine-month marketing assistance loan or a Loan Deficiency Payment (LDP). Loan rates are as follows:

Graded Wool... ..\$1.00/lb.
 Ungraded Wool... ..\$.40/lb.
 Mohair... ..\$4.20/lb.

The final date to request a wool or mohair loan or LDP on 2002 sheared production is January 31, 2003. Contact the office for more information.

FSA Accepting Emergency Loan Applications

Washington and Warren counties have been declared eligible for Farm Service Agency (FSA) disaster emergency loan assistance effective November 15, 2002 due to damages and losses caused by drought which occurred June 1, 2002 and continuing. Family farmers who have suffered the loss of at least 30% of their production due to the drought may be eligible for FSA loans. Proceeds from crop insurance and any FSA programs are taken into account when determining eligibility for production losses. Losses must be supported with documented records. Under the FSA Emergency Loan Programs farmers may be eligible for production loss loans of up to 100% of their actual losses, or the operating loan amount needed to continue in business, or a maximum principal balance outstanding of \$500,000, whichever is less. Farmers must be unable to obtain credit from private commercial lenders. The interest rate on Emergency Loans is 3.75%.

Application for loans under this emergency designation will be accepted until July 15, 2003. Call the FSA office at 692-9940 (ext. 2) for more information.

David Holck
 County Executive Director

A Range of Beef & Cattle Prices from McLenithan's Cambridge, NY

Week of January 7, 2003

Dairy Cows For Slaughter:(\$/lb)

Utility34-.47 1/2
 Cutters24-.35
 Cannors12-.24 1/2

Dairy Bulls for Slaughter:(\$/lb)

Utility48-.56
 Cutters39-.45

Calves:(\$/lb)

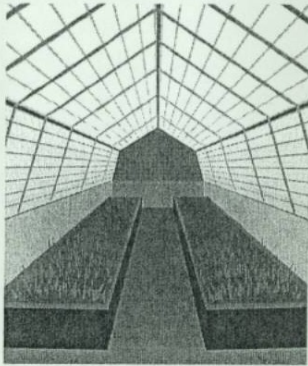
Bobs over 100 lbs.15-.36
 Bobs 80-100 lbs.11-.30
 Bobs 60-80 lbs.06-.28
 Bobs under 60 lbs.05-.20
 Heifer Calves1.70-4.00
 Return to Feed54-1.45

HORTICULTURE

Cleanin' Up the Greenhouse

Source:

Jillanne R. Burns, Floriculture Specialist
Cornell Cooperative Extension-Suffolk County



It's time to clean up the greenhouse and get ready for spring crops. This is a critical time where literally, an ounce of prevention is worth a pound of cure!! Although greenhouse sanitation should always be top priority, when you are between crops it is always a good time to do a "big cleaning". In order to facilitate this process, all debris should be removed from the greenhouse. This includes things like left over plant debris, pots, tags and anything else where dust and soil particles can accumulate. This debris should be bagged and disposed of to help reduce disease inoculum and insect infestations. If possible, it is a good idea to power-wash benches and concrete walkways to additionally remove dust particles. This is also a good tool for physical removal of algae. If a power washer is not available, a vacuum will also do a good job for picking up dust and debris. Benches, tools, and walkways should also be treated with a commercial registered greenhouse disinfectant. Capillary matting can harbor disease-causing organisms such as *Pythium* spp. If soilborne disease was a problem in the previous crop, replacing the capillary matting may be important to protect crops from future reoccurrence. After disinfestation, keep all "dirty" equipment off of the benches. All equipment that may touch the benches should never be placed on the floor. This is especially true for hose ends, which could "water" disease organisms from dust on the floor directly into your pots.

In an ideal world, all pots being used should be new. If pots *have* to be re-used, it is imperative that they are cleaned. In order to accomplish this, pots need to be soaked in either a 10% Clorox solution for at least 10 minutes, or in an appropriately labeled greenhouse disinfectant. Debris must be washed off of the pots first as this can reduce the potency of the disinfectant. Whether using Clorox or other disinfectants, solutions should be recharged regularly. If the pots in question contained plants that were infected with disease, it is not worth the money saved to try and re-use the pots. Even after certain pathogens like



Theilariopsis spp. May be able to survive this disinfestation treatment.

Weeds are not just an aesthetic problem in the greenhouse. Not only do they harbor all life stages of insects, they can also remain asymptomatic for viruses that these insects can then vector to crop plants. Although weeds can be pulled by hand, when considering using chemical control options, between cropping cycles is the most ideal time to avoid damage from drift to the crop plants. All of the herbicides labeled for weed control in greenhouses are post-emergent. For longer-term pre-emergent control, weed barriers such as geotextiles or gravel can be helpful. Even if weeds have been killed, it is important to remove them in case they have viable seed.



Lastly, sanitation doesn't stop at the greenhouse door. What is outside can easily come in through vents and doorways so it is important to keep surrounding areas clean as well. It is recommended to keep at least 3' plant and debris free border around the greenhouse to reduce pest problems. Keep dumpsters, which could potentially hold contaminated plant material away from greenhouse vents. These measures can really help avoid many pest related headaches giving the growers more time to grow the plants which is what they do best!!!

Laura McDermott
Horticulture Educator

This newsletter is provided to you as part of the Cornell Cooperative Extension educational program for commercial farmers.

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Sincerely,

Sandra Buxton
Extension Educator

LIVESTOCK

Somatic Cell Count Basics for Dairy Sheep

Source:
Jeromy Ten Hag
OMAFRA Milk Quality Assurance Program Lead

Somatic cell count (SCC) is a measure of the white blood cell count in milk. The SCC in milk of an individual ewe indicates her udder health status, and bulk tank milk SCC can indicate the general state of udder health in a sheep flock. Somatic cells are always present in milk, but the SCC will rise when an infectious agent enters the udder or when the udder has been injured. A major consequence of rising SCC is a decrease in raw milk quality, which has implications for milk processing.

There is no clearly defined SCC threshold that represents a healthy udder in dairy ewes. Research studies have found SCC levels for a healthy udder could range up to 1,600,000 cells/ml. More recently, researchers have indicated that the upper threshold for SCC in a healthy ewe's udder should be 250,000 cells/ml

(Pengov, 2001, Menzies, 2000).



There are negative economic consequences for the producer if somatic cell counts are elevated in the sheep flock. A high SCC is a strong signal of an udder infection, referred to as

mastitis. Common clinical signs of mastitis are a swollen udder half, abnormal color of milk, or clots present in the milk. There are significant costs incurred as a result of mastitis in dairy ewes. Costs include the antibiotic treatment used to cure the infection, the loss of milk withheld due to the antibiotic residues, the producer's time to treat the animal, and a decrease in milk production for the remainder of the lactation. High SCC has also been suggested as the main reason for culling dairy sheep.

When a bulk tank SCC reaches levels above the upper threshold for good udder health (250,000 cells/ml), producers should begin to investigate possible udder health problems. Ewes may not be exhibiting clinical signs of mastitis, but more than likely will have sub-clinical mastitis infections. Using individual animal SCC or the on-farm rapid test, California Mastitis Test (CMT), can help in identifying ewes with sub-clinical mastitis. The presence of sub-clinical mastitis may require a change in flock management practices to minimize the risk factors that contribute to high SCC.

High SCC also has a negative effect on milk processing through decreased yields and off-flavor development in finished products. A recent study found that sheep milk with a SCC >1,000,000 decreased the cheese yield and increased the development of rancid flavors in the cheese (Jaeggi, 2001). More research is needed to define the acceptable sheep milk SCC for

optimal cheese processing in sheep milk.

A few factors, effect on SCC, and management tips:

Stage of lactation - SCC can vary irregularly in sheep milk independent of presence of udder infection, but normally SCC is higher in early and late lactation.

Age - Generally younger ewes have lower SCC than older ewes.

Infection status - Sub clinical AND clinical udder infection can increase SCC in milk. Identifying subclinical mastitis can be done by measuring SCC for individual ewes or by performing an on-farm California Mastitis Test (CMT).

Flock management - Poor flock hygiene increases the risk of bacteria entering the ewe's udder, hence increasing the risk of higher SCC in the milk. SCC increases as housing density of the sheep flock increases. Dirty teats and udders increase the change of bacteria entering the teat canal. This increases the risk of a ewe ending up with a subclinical or clinical udder infection. Maintain dry and clean housing facilities to minimize bacteria load that the udder and teats are exposed to. And make sure pens are well bedded.

Milking equipment maintenance - Improper milking machine function can result in uneven milk out, liner slips and damaged teat ends. These factors can all have a negative impact on udder health. Have your milking equipment dealer perform a thorough milking machine performance analysis at least once a year to ensure the proper function of the machine.

Timing and condition of milk sample - SCC is higher for ewe milk from the morning milking compared to evening milking. If possible, submit fresh milk samples for somatic cell count testing to get more accurate results.

Breed - The range in SCC that represent healthy or infected udders may be different among breeds. Be aware of the breeds that are susceptible to higher cell counts, so the other factors that may cause high SCC can be managed closely.



Manby Hulett
Dairy Educator

VEGETABLES

December 12, 2002 the Capital District Vegetable Team and CCE Washington County held their vegetable meeting that alternates years with the New England Vegetable Conference. Following are some notes from that meeting. More notes will appear in the next HortNews in February. Happy New Year and see you at this winter's conferences!

Dale Moyer, of CCE in Suffolk County, gave two presentations. The first involved Magic Lantern alone or with Gold Bullion pumpkins in a planting study on Long Island and at 2 other locations in NY. Planting date, transplant cell size, and planting technique were studied. The study found yield increases due to higher fruit count in transplants over direct seeded plantings (18-58% increase in ton/acre). A cell size down to 98 (black plastic) had no impact on yield. Planting date may impact yield. In this case the later planting (June 20) resulted in lower yields than the first planting (June 6) on Long Island.

The Second Presentation was on potato varieties and cultural practices. He emphasized the importance of using disease-free seed, warming the seed pieces to 50°F, disinfecting cutting tools between seed lots when cutting seed, and tailoring fertilizer inputs through soil testing and split applications. The advantages of optimal nitrogen application included decrease in vine killer needs, better harvest timing, skin set, and storage life, reduced bruising and optimal marketable yields. The following are his notes on specific varieties:

Norwis: main season maturity, high yield, large, irregular shaped tubers, off-white flesh, moderate to low specific gravity, susceptible to scab, internal necrosis, and hollow heart.

Superior: standard variety, early season maturity, scab resistant, susceptible to early dying disease.

Reba: mid season maturity, yields are higher than Katadin but lower than Norwis, early sizing of tubers should assist in providing good yields, moderately resistant to scab.

Andover (NYE55-44): early season maturity, slightly netted skin, scab resistant, early dying disease.

Eva (NY 103): good yields, round to oblong, bright white, smooth skinned, very attractive, shallow eyes, some scab resistance, storage breakdown?

Russett Norkotah: early mid-season maturity, good yield, Long irregularly shaped tubers, moderate russet, lenticels problem, susceptible to hollow heart.

Dark Red Norland: early season maturity, moderate yield, dark red skin, scab resistant

Redsen: early season maturity, round, small to medium sized tuber, bright red skin, resistant to scab, soft rot problem

NorDonna: Medium early season maturity, yields better than redsen, oblong tubers, dark red skin, susceptible to hollow heart?

Keuka Gold: main season maturity, excellent yield, pale yellow flesh, scab resistant, susceptible to internal necrosis?

Marcy (NY112): main season maturity, very high yields, large tubers, heavily netted, table stock?, large vines, resistant to scab

Colleen Comerse
Ag Program Assistant

COMMODITY PRICE UPDATE

| | 2002 | 2002 | Nov. |
|---|---------------|----------------|------------------|
| <u>Statistical Uniform Price:¹</u> | <u>Nov.</u> | <u>Oct.</u> | <u>Last Year</u> |
| Northeast Marketing Area | 11.56 | 11.65 | 12.61 |
| | 2003 | 2002 | Jan. |
| <u>Washington County:²</u> | <u>Jan.</u> | <u>Oct.</u> | <u>Last Year</u> |
| 16% Dairy Feed/Ton | 9 184.9 | 23 181.85 | 164.45 |
| Central & Western N.Y.S. Elevators Bid | | | Jan. Last |
| <u>Grain - \$/Bushel:³</u> | <u>Jan. 9</u> | <u>Oct. 23</u> | <u>Year</u> |
| Wheat (old) | 3.10 | 3.95 | 2.20 |
| Corn (old crop) | 2.80 | 2.75 | 2.30 |
| Oats (32-38#) old | 2.10 | 1.95 | 1.25 |
| Soybeans (old crop) | 5.60 | 5.00 | 4.40 |
| | | | Jan. |
| <u>Local Cash Grain Prices:³</u> | <u>Jan. 9</u> | <u>Oct. 23</u> | <u>Last Year</u> |
| Soyean Meal - 48% | 223.2 | 227.88 | 235.47 |
| Central & Western N.Y.S. Prices | | | Jan. Last |
| <u>At Sellers Silo- \$/Ton³</u> | <u>Jan.9</u> | <u>Oct. 23</u> | <u>Year</u> |
| High Moisture Shelled Corn (old) | N/A | 72 | 65 |
| | | | Jan. |
| <u>Midwest:⁴</u> | <u>Jan. 9</u> | <u>Oct. 23</u> | <u>Last Year</u> |
| Corn/Bushel-Chicago, IL | 2.34 | 2.42 | 1.97 |
| Soybean/Bushel-Chicago, IL | 5.73 | 5.31 | 4.27 |
| Hominy Feed/Ton-IL | 54.00 | 44.00 | 43.00 |
| Soybean Meal/Ton Decatur, IL | 168.5 | 171.00 | 152.50 |

¹Agricultural Marketing Service Dairy Programs

²Average price of a five to six ton load of non-urea 16% dairy feed from four companies serving Washington County.

³Prices received from major NYS supplier. These prices are not representative of actual prices, but are averages. They are not intended to represent local costs, but are intended to provide you with relative commodity price changes over time. Price may vary depending on load size and delivery distance.

⁴"The Wall Street Journal"

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We're on the Web!
www.cce.cornell.edu/washington

PHOTO CONTEST

Each month we will feature a photo of a farm in Washington County. Even though Ag Digest is now bi-monthly, we will still hold the Photo Contest each month. Each photo will now be posted on our web page for a clearer colored view. Don't forget to go to the web to view the photo for those months in which you don't receive Ag Digest! Due to mailing, parts of the County receive Ag Digest before others. For fairness, the first person to call our office after 8:30 AM on Wednesday, January 15, 2003, (518) 746-2560 or toll free 1-800-548-0881 correctly identifying the farm will have their choice of a Cornell Cooperative Extension mug or hat.

The Nov./Dec. photo was Moses Farm Stand, there was no winner. The Jan. and Feb. photo winners will be announced in next issue.

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