



BIO-NEWS

WINTER 2009

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Farming brings challenges, rewards

Healthy soils, healthy livestock - the goals and principles of farming are the same whether you're biological or taking it the next step to organic, but as a newly organic Minnesota farm has learned, the techniques of achieving them present new challenges. And, say farmers Richard Roth and Jamie Mundt, there's a lot to figure out to make that transition.

The 130-cow operation, set in the rolling hills of southeastern Minnesota, was Richard's family farm, purchased by his grandfather in 1912, and he always wanted to carry on the tradition. But with no sons to take the operation on to the next generation, Richard formed a working agreement with Jamie Mundt, a young man who grew up on a nearby farm. It's a solution that has proved beneficial to both and offers a long term future for the farm. In addition to taking the farm organic, they've upgraded facilities including a free stall barn and milking parlor to carry them forward.

The Roth-Mundt farm has been a long-time biological operation, and Midwest Bio-Ag customer, before going organic, making use of rotations, green manure crops, and the nutrients in manure on the 360 acres along with rented



Minnesota farmer Richard Roth sees green manure crops as one way to aid in weed control.

ground that provides all the feed for the livestock.

Managing nutrients Most of the manure goes into the pit and the liquid is spread on fields, as determined by soil tests. "Last fall we spread on ground we're going to seed, that was low in potassium. A lot goes on corn ground," says Richard, "it's a cost saving for fertilizer but an issue for weeds. We try to plant green manure crops in the fall after manure applications, anticipating it converts N into a more organic form and doesn't stimulate the weed growth as much." They like

rye or winter triticale, but last year's spring was wet and cold, making it hard to get the green manure crop worked in. "It's a timing thing, the same way with cultivating or burning weeds," adds Jamie, who likes to use a field cultivator when the crop is small, or disc it in if it's bigger.

Rotations Their rotation was hay for 2-3 years, corn two years, then soybeans before corn and back to hay. Since going organic, "we've tightened the rotation, not as much corn and beans," explains Jamie.

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Gary Zimmer's Winter Letter

Dear Farmer/Agribusiness person,

2008 was a good year to finally come to an end. All we can do is do the best we can, but one nice thing about farming is that we do get a fresh start every year, not only in our weather, but in how and what we do.

Smoothing out the bumps of weather does require time, it's not a thing we can do in one year, not a one time fix. Adding more soil carbon, achieving better mineral balance and building soil life is all part of a program and an ongoing system.

Without that belief and understanding about the soil as a system, I believe that farming would not only be too stressful but not worth doing.

What is your pleasure in farming and working with agriculture?

That the health and wealth of the nation is in our hands is a fact that is too often overlooked and yet the image that consumers have about farming and food is such a small part of what actually takes place.

In January I will be speaking at

a Value-Added conference in Minnesota, so I have had the question on my mind for a long time... value added for whom?

For large agribusiness, value added was about value added for the processor and the marketer.

For the farmer, value added was doing whatever had to be done to produce cheaper, larger yields, cheaper feeds, more crowded animals pushed harder to produce to the max.

Organic farming's principles of healthy soils, healthy foods, healthy livestock and healthy people all added value along with the added value of a healthier environment, quality food and healthier people. And yes, the farmer should be rewarded for his hard work or at least be able to make a living without having an off-farm job.

You certainly don't have to be organic to achieve all of the above objectives, but how else do you get rewarded? Life style, the chal-

lenges, just knowing that you're doing the best you can with your resources and abilities may be enough.

The organic movement along

with the local food movement are both certainly good signs that some consumers do want to know not only how their food is grown but where, and also want to reward the farmer and keep the money within the community. Unfortunately,

many can't afford the extra food cost or can only go part way.

As a society, we certainly got used to our cheap, readily available processed, preserved, easy

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That the health and wealth of the nation is in our hands is a fact that is too often overlooked

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....Gary's Winter Letter

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to eat 'stuff' without great thought, and without measuring the true cost to our health, communities and environment. This lack of value will, and has, come to haunt us. Look at the 'sickness care' costs we have in this country!

So what's the farmer to do? What standard do we farm to? The system of farming we are part of should not only be financially rewarding but add value to every one involved and every area involved.

I don't know how you get started but if you're in the farming game, working closer with the biological system will, over time, get you to a place of less dependence on expensive inputs while growing better quality and healthier crops.

2009 Winter Meetings

That thought leads me to my winter meetings. My theme for this year is "You Can't Violate the Principles."

In my travels (I have just recently returned from a trip to see dairy farms in China) I certainly saw an extreme violation, yet the problems were not noticed by the people managing and working the farm.

If the principles are violated, crops need insecticides, soils need fumigants, crops need to be altered and protected from the world's predators, diseases and insects. Is this natural? Can we get to the true potential of yield by pushing the crop?

High yielding healthy crops can be grown on healthy soils without



Feeds and farm management are different in China, but the principles of dairying are the same the world over, as are the results of violating those principles.

all the protective chemistry, at least most of the time, if we follow the principles.

The soil principles I do believe have never been better understood and practiced by many farmers. Live-stock principles are the same as soil principles -- both need balance and need to stay within the guidelines of how things are designed to work.

At my winter meetings, I will outline these principles in detail along with sharing farm practices that eliminate many problems and lead to success.

I'll also take you on a 'picture' tour of farms from Greece to China and around the U.S.

More info at <http://www.nuganics.com.au>

Winter is a time to think and to plan, evaluate our practices, and check the easy steps we can make without risk.

Our winter meetings are also a time of appreciation to thank our farmer customers and supporters.

As usual I will start at 10:30 a.m. sharp and be done by 3 p.m. (there are several exceptions to the time, please check the schedule on pages 14-15) with a

lunch provided by our local consultants and Midwestern Bio-Ag.

I think you will find the meetings educational and entertaining, and I hope to see you there.

GFZ

High yielding healthy crops can be grown on healthy soils without all the protective chemistry, at least most of the time, if we follow the principles.

Less Dependency

Some thoughts by Gary Zimmer

Less dependency— on what?

How about nitrogen? And of course there's our dependence on chemicals and biotechnology. Healthy soils with balanced minerals don't really need all these crop protecting inputs. They never make things better next year and are costly. Also, when overdone, it causes problems not only to the environment but also to plant health and soil health.

So what can be done?

Nitrogen is a good example. It's the only nutrient you can grow. Others you can extract or make more available, but if it's not there, it probably won't show up in your crop. So plants and biology not only make more nitrogen available but also recycle and make other minerals more plant usable, along with improving soil structure and root systems.

So why not do everything you can to get soils full of soil life? Why not grow plants, many different plants, just for feeding soil life and adding carbon? It's an investment that does take time but it will allow things to continuously get better and make 'less dependency' a part of your farming program.

Nitrogen is just one example--our dependencies on chemicals (insecticides, herbicides, fungicides) and biotechnology-- these can all be reduced, too.

I hear many farmers talk about how flat the soybean yields are, and yet corn yields increase. Soybeans are a biological crop

and corn is more of a chemistry crop (at least to a point). There are many ways you can tweak the system:

- added sulfur,
- well-timed nitrogen applications,
- slow release form of nitrogen such as ESN,
- adding a carbon, sugar or molasses to the nitrogen
- growing clovers and/or legumes in the rotation.

The last of these not only grows nitrogen but provides the added benefit of improving soil health, because plant diversity is a major component of soil and plant health.

So how would you accomplish that? Ideally, having wheat in the rotation, interseeding or growing a crop after harvest sure would

be a great improvement for a corn-bean farm. It would certainly be a nice if the price and demand for wheat stayed high.

Good soil drainage, adequate soil air, and roots are also areas you can improve to limit N dependency.

With fertilizers, balancing the soluble to the slow release is not only more efficient, but aids in root growth and health.

Sources of fertilizer matter, too, as do levels of calcium and trace minerals, which can be limiting factors on many farms, as well as adding to plant efficiency.

Some inputs, like soil correctives are 'investments,' meaning that they're not just a one year deal but continue to offer benefits. This may also be true for green manure soil builders.

Even if wheat doesn't work on a corn-bean farm, you can plant rye after harvesting soybeans. To go even further, can we fly on soil building crops over existing crops—will that fit your operation? You need to be convinced that this is a system, convinced of what can be done not only for more efficiencies, but also for future crop improvement.

Then there are livestock manures. Chicken manure from laying hens (which are fed high calcium diets) has sure shown benefits on the farm not only as

a bulk spread input but also as crop fertilizer. It's available calcium and carbon is composted and pelleted. And we know that adding carbon to fertilizers is always a good idea.

So don't violate the principles of healthy soils: soil life and di-

versity, soil air and water, large root systems, controlled tillage, adding more of the nutrients that are you limiting factors, and soil carbon. Working on these key areas not only makes the farm less dependent but opens doors leading to higher yields, more efficient crops and

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Sources of fertilizer matter, too, as do levels of calcium and trace minerals, which can be limiting factors on many farms

...less dependency

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increased profits.

For livestock farms, less dependency means better home grown forages. Start with quality alfalfa, add a blend of grasses that are highly digestible and in sync with alfalfa. Add balanced soil fertility, use calcium, calcium, calcium; harvest forages properly to retain quality; choose crops for digestibility and quality. Silage type corns have made great improvements in the last few years with better feed testing giving us guidance.

Less dependency on livestock farms means manure and nutrient management to make the best use of this valuable resource. With all the calcium used on forage and legume production, a tight rotation and corn production is cheap and easy.

Yields as the only factor of 'success' always gets us in trouble. For dairy, bulk tank averages and herd averages are only a small measure of profitability. What about milk quality? What about cow longevity, cull rates and home-raised replacements?

At Otter Creek Organic Farm we just sold 100 cows off our dairy and will sell another 100 next year just to keep our herd size down to our goal of 120. We went from 120 to 250 in three years (without buying a single animal). Why the decrease? Our farm works better, is set up better, for a milking herd of 120. It's better for the cattle (cow comfort, handling) and for the humans.



So milk income is only one part of success. As a FSA farm loan officer told me, if you keep the calves alive and the cows bred on schedule, profitability is much easier. Those two areas work real well on our farm, and we do run a high percentage of heifer calves, so we're raising a lot more replacements than we need, which is not a bad sideline income source.

How we raise and feed our beef and hogs also affects our cost and the quality of the food we produce. Feeding our hogs \$10/bushel organic corn and \$20/bushel soybeans as their main feed is costly. How about pasture and alternative crops like triticale and peas underseeded with clover, alfalfa and grasses. Put up balage—pigs love it. We obviously can't compete with conventional prices but for us growing corn doesn't cost \$10/bushel. It's the cheapest, easiest organic crop to grow in our rotation.

In 2007-08 many grain farmers thought that their ship came in, and it's name was ethanol. Corn at \$7, beans at \$12, wheat at \$10—

how can we not get rich? I do believe though, that farmers will learn a hard lesson again. If there is extra money generated on the farm, someone is going to figure out a way to get at it. High prices for fuel, fertilizer, seed, equipment, rising tech fees, higher land rents—you name it, if it's a cost of production, it goes up. Now it's a much larger input cost with margins for profit just as narrow, but with a larger risk than ever.

Biological farming offers the opportunity to reduce dependency and achieve better yields with less risk from disease, insects and the weather. Many farmers spend money on things which get them by now, but never improve things for the future, which isn't what I like spending money on.

Want to hear more? Attend one of my winter meetings (schedule printed on pages 14-15). Learn more about how following biological farming principles means less dependency, better soils and crops, and healthier livestock and people.



Summer finds the dairy herd grazing on new pastures.

....farming challenges, rewards

(Continued from page 1)

"That helps on weed pressure," noted Richard. They also use triticale & peas or small grains as a nurse crop for their hay.

Weed control They both agreed on what's been the major challenge as they've transitioned. "Weeds are the biggest thing," says Richard, with giant ragweed the hardest to control. Last year, they hired neighbor kids "to walk the fields, pulling giant ragweed and lambs quarters."

Crop Yields "This year was an excellent year" for crop yields. Soybeans averaged in the upper 40s and corn ran as high as 200 bu/acre. They use very little fertilizer on beans while corn gets 100 lbs. of a custom blend supplying calcium and sulfur plus high levels of traces.

They like the MBA fertilizers, says Richard, because they are soil friendly products, getting away from the salt based fertilizers.

"And they work well with organic," added Jamie.

Their farm has good soils, mostly silt loam with some sandy knobs. Soils act like a sponge, says Richard, "even the smell of

the soil, it's different."

Dairy herd In the transition to organic, "I thought the cows would be a bigger challenge," they admit. The cattle have been healthy, however, something they appreciate "You don't spend the money out of your pocket" on vet bills, says Richard. Vet costs are "mainly for herd checks and vaccinations," agreed Jamie, adding that, not wanting to expand their herd, they've had enough increase in numbers that "we've sold heifers the last 2 or 3 years."

The cattle are all Holsteins, though they have tried a Jersey cross for calving heifers.

They raise about 75 calves in a small barn, and once past five months, they're turned out in larger outdoor lots with wind-breaks and bedding packs.

Richard likes triticale and peas as an 'excellent heifer feed' and they feed MBA's heifer mineral and Redmond conditioner.

Dry cows get grassy hay and

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Cows dig into the TMR on a cold December day.

....farming challenges, rewards

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corn silage, or pasture in summer. They use Midwestern Bio-Ag's Keystone minerals, adding kelp and PYK, notes Jamie.

Lactating cows, divided into two groups, get a home grown ration of dry hay, haylage, corn silage, high moisture corn, roasted beans, and small grains with MBA minerals. For cow comfort, they have mattresses with bedding in the free stall barn.

Other extras they use for herd health include BioVet's Green Label Generator Elite for the cattle and Pectilyte for calves.

Pastures and forages While on pasture, the haylage portion of the ration is scaled back and cows are managed in just one group.

Balancing the ration is summer is an art they're learning. "Pasture changes, even with the weather," says Richard. It's not just the different plants available within the pasture but there's even a difference on rainy days versus sunny ones, he notes, when sunshine pulls up the sugars.

Under the Bio-Ag system, they like their hay quality as well. Biological long before going organic, they previously used MBA's Bio-Cal on their hay ground and now use MBA's OrganiCal plus 0-2-12 organic hay fertilizer. "We get pretty good yields," says Richard. "And the cows like it real well," added Jamie.

Completing the program are



A mixture of grasses and alfalfa make excellent forages on the Roth-Mundt farm.

MBA's forage genetics that fit their farming operation including WinterKingII alfalfa, MBA HQF silage corns, and MBA's pasture blends (they like the energy that grasses bring to the forage mixture). And as part of preserving their quality feeds, they utilize Fermentation Plus inoculants on their forages.

All of these practices show in their forage tests, says their MBA consultant, Mike Lovlien. "Their tests are among the highest I see because of their long time commitment to biological and natural farming."

Going organic Going on the organic truck was a big day for the Roth-Mundt farm. While economics was a part of the decision to go organic, it was not the main reason. Jamie's wife Amy was "instrumental" in making the change based on health con-

cerns, and once they discussed it, it became a mutual decision. Richard liked the idea of "getting away from the chemicals" and feels "it puts you closer in touch with God and Mother Nature."

Establishing enough pasture as they moved the herd to grazing proved a challenge in a year with difficult weather conditions, but they aren't daunted by the challenges.

"You experiment every year," says Richard.

"Every year is different," adds Jamie.

For Mike Lovlien, that attitude makes it a pleasure to work with this farm. "They follow our program, they're eager to try new ideas and willing to invest in new equipment where needed. They're innovative in their cropping practices and work toward the goals of healthy crops and cattle."

Don't Violate the Principles of the Cow

By The MBA Nutrition Staff

We sometimes get so carried away with everything that needs doing on the farm that we may forget to make sure we aren't violating the basic principles of dairy nutrition. If we aren't careful and these principles get overlooked, it can get us in trouble with milk production, reproduction, and overall cow health.

A good lactation always starts with a proper dry cow period. The ideal dry cow ration includes feeding corn silage and dry, grassy hay with lower potassium levels. We like to limit feeding fermented feeds like haylage, oatlage, and barlage. It is important that we give the rumen bugs a chance to rest during the dry

period. You will get more mileage out of a good dry cow diet than the milk cow diet.

For the pre-fresh (21 days until calving) diet, we like to transition the rumen to milk cow feeds. We want to feed the milk cow haylage, corn silage, grains, and some protein.

We also like to make sure that dry hay continues to be fed in this ration along with the milk cow diet.

We want to make sure we address the big blocks of nutrition which include:

1) **Water**- Be sure there is

The Big Blocks Of Dairy Nutrition

1. Water
2. Fiber
3. Starch
4. Protein
5. Energy
6. Minerals

plenty of clean water available at all times. Cows should not have to travel long distances to

access water. It is extremely important that you provide enough water troughs/drinking space for the number of cattle that you have.

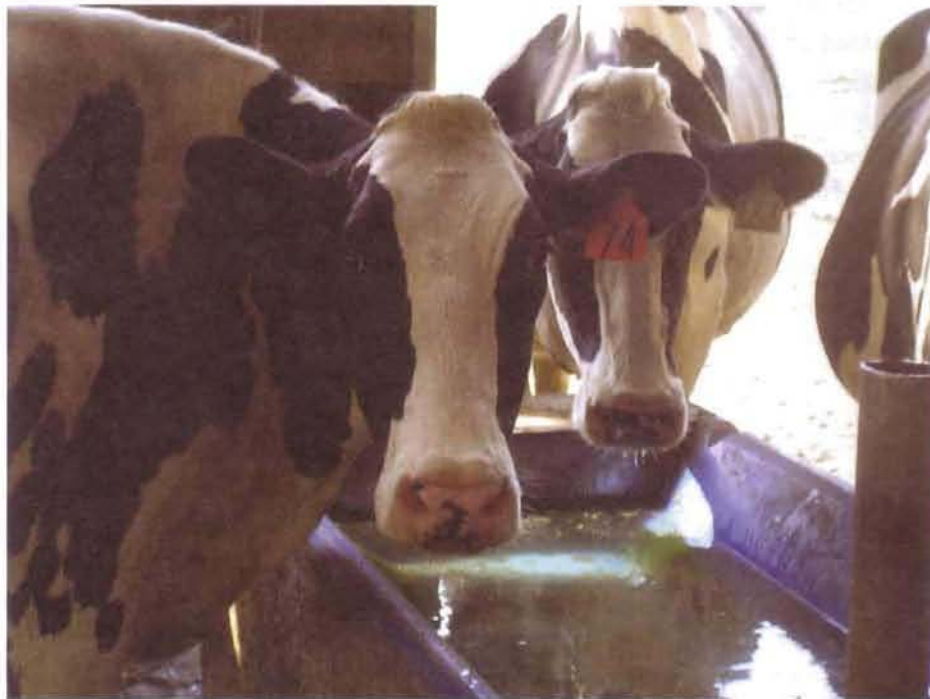
2) **Fiber**- Make sure there is effective fiber available all day long. We want the ADF to be

above 19% and NDF above 30%.

3) **Starch**- We want to make sure the correct amount is available, not too much and not too little. We balance rations based on starch to forage NDF ratios. Forage NDF is the sample fiber amount from forage products only. This fiber has the best ability to hold the rumen pH. The starch number comes from the corn silage, all corns, oats, barley, and other grains in a ration. We like starch to be above 19 percent with a maximum of 24 percent in the lactation diets. With a lower percent, chances are you will have lower milk production.

Too much starch can cause acidosis and very sick cows causing milk production to decrease and contributing to reproductive troubles. We like a 2-3 point spread between starch and forage NDF. Forage NDF should always be higher than the starch level.

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Water is an important yet often overlooked element of dairy nutrition.

....don't violate the principles

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4) **Molds and Yeast** - Feeds with mold and yeast can cause poor reproduction, higher SCC, and lower milk production. If you are worried that your feed might have mold or yeast, using a mycotoxin binder would be helpful.

5) **Protein**- We want soluble protein slightly below 40%. A diet too low in soluble protein may lead to decreased rumen efficiency and poor starch digestion. Commonly, this contributes to lower than expected production.

However, a diet too high in soluble protein is an indicator of overfeeding protein, may cause a depressed immune system, and can cause reproductive problems. Usually high soluble protein comes from feeding wet, fermented forages. Dry hay, corn silage, and most protein products have low soluble protein. We recommend including these products in the dairy ration.

6) **Energy**-There has to be enough available energy for fiber digestion to occur all day long. We would like to see some bypass fat in the ration which we discussed in our last newsletter.

7) **Minerals**- These need to be balanced and made with high quality ingredients. One important measure is a 10:1 Nitrogen



to Sulfur ratio. We also like calcium to phosphorus to be 2:1 and potassium to calcium and phosphorus to near 1:1. Sometimes, problems with breeding can come from having a mineral imbalance.

Observing the Cattle

It is very important that we observe the cow because she will tell us everything we need to

know. One aspect we like to see is manure consistency—not too loose and not too stiff. Are there any grains passing through and ending up in the manure? Is there excessive fiber in the manure? If so, you need to

consult with your nutritionist and evaluate your feeding program. We also like to see at least 60% of the cows chewing their cud when resting or not eating.

Continue your evaluation beyond the diet and manure.

The hair coat gives important clues to animal health. Is the color of the hair dull or bright? Is the hair spiking on the neck?

What do the hooves look like? Are the majority of the cows lame or limping?

Are cows so skinny that their ribs are showing?

Observing these items on cows serves as a report card for us. Too many negatives tell us we are failing at keeping the cow healthy and comfortable.

If you are unsure of what exactly to be looking for, don't hesitate to contact your local Bio-Ag consultant. They have the resources available to answer all of your questions. Schedule an appointment today with your local consultant and the MBA nutrition team to evaluate your operation.

By working together with your MBA consultant(s) you can fine-tune your nutrition program to return maximum profits with minimum headaches.

We like to see at least 60% of the cows chewing their cud when resting or not eating.

Midwestern Bio-Ag, Organic Valley 'Transition to Organic' Plots

By Leilani Zimmer-Durand
Plant and Soils Research

The process of moving from conventional crop production to organic can be daunting, particularly for farmers new to organics. In the spring of 2007, Organic Valley and Midwestern Bio-Ag set up three demonstration plots at Organic Valley's Cash-ton, WI facility to highlight three different methods for transitioning from conventional to organic crop production.

The first plot, Plot A, is a low-input system. In Spring 2007, 4000 gallons per acre of liquid manure was added to the plot shortly before it was planted to oats underseeded with alfalfa. No other inputs have been added to this plot.

The second plot, Plot B, is a 'manure plus minerals' system. In Spring 2007, 4000 gallons per acre of liquid manure was added to the plot before it was planted to oats underseeded with alfalfa. In the fall, 1000 lbs/acre of gypsum was applied, and in Spring 2008 200 lbs/acre of organic approved 0-1-24 crop fertilizer was applied.

The third plot, Plot C, is an 'accelerated soil building' system. Like the other two plots, in Spring 2007, 4000 gallons per acre of liquid manure was added to the plot. This plot was planted to oats, then buckwheat, both of which were shallow in-

corporated into the soil at maturity. In the fall, gypsum, rock phosphate, and a micronutrient blend were applied to the plot, and it was planted to rye and vetch for an over-winter cover. A similar plan was followed in 2008, minus the rock phosphate and micronutrients.

The 2.75 acre plots were carved out of what was formerly a single corn/bean field. Soil tests were taken in Spring 2007, and showed no marked differences in CEC, organic matter, or mineral content between the plots. All of the plots had low P, K, and S levels, with a base saturation of 35% Mg and 64% Ca.

In 2007 oats and oat straw were harvested from Plots A and B. In 2008, three crops of alfalfa hay were harvested from Plots A and B. Nothing has been harvested from Plot C. All crops on Plot C were shallow incorporated to build soil biology and soil nutrients.

2008 Yields

PLOT	1st Crop	2nd Crop	3rd Crop
A	12 bales	13 bales	5 bales
B	6 bales	11 bales	3 bales
C	Green Manure Crop	Green Manure Crop	Green Manure Crop

Contrary to our expectations, Plot A, the low input plot, yielded more than Plot B.

The question then arose: why would the lower input plot have substantially higher yields? Forage tests conducted on 2nd crop alfalfa showed similar mineral content, and a RFQ of 145 on Plot B vs. 140 on the low input plot. Given that the starting soil tests were nearly identical, it didn't make a whole lot of sense that Plot A would yield 7 more large round bales than Plot B.

A second type of soil test was conducted on the plots in spring of 2008 which shed some light on this question. While the initial soil tests were the typical chemical extraction to look at nutrients, CEC and organic matter, the second soil test conducted was more comprehensive. It is a soil test developed by scientists at Cornell University that measures chemical, physical, and biological indicators in the soil.

Even though all three plots had

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... transition demonstration plots

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been farmed as one field for many years, and even though the initial soil tests showed no difference between them, the Cornell Soil Health Assessment clearly showed a trend towards declining physical structure and declining biological activity on Plots B and C (see table below).

The results of the Cornell test highlighted the limitations of looking at chemistry alone when assessing the soil, and the importance of healthy soil biology in

contributing to yield.

Next year, all three of these plots will be planted to organic corn. In theory, the higher input plots, Plots B and C, should produce the healthiest crop and the highest yield. But given the differences in starting soil health, this may not be the case.

A living, biologically active soil contributes to better soil structure, better water infiltration, improved mineral uptake, and thus better yields. Over time, Plot C should catch up to the

other plots as the benefits of two years of soil building take effect. But it isn't something that will be seen overnight.

It takes time to build a healthy soil. It will be interesting to watch soil health and crop yields on these plots as the experiment continues over the next three years.

(For more information on the Cornell Soil Health Assessment, Check the website: <http://soilhealth.cals.cornell.edu/extension/test.htm>

	Indicators:	Plot A		Plot B		Plot C	
		Value	Rating	Value	Rating	Value	Rating
Physical properties	Aggregate stability	40.9	10	36.6	8	33.5	7
	Available water capacity	.21	7	.23	10	.24	10
	Surface hardness	97	10	88	10	80	10
	Subsurface hardness	130	10	130	10	118	10
Biological properties	Organic matter	2.9	5	2.7	4	2.5	2
	Active carbon	568	3	523	1	496	1
	Potentially mineralizable N	7.6	6	7.4	6	6.5	5
	Root health rating	7.5	3	6.0	5	6.0	5
Chemical properties	pH	7.2	10	6.9	10	6.9	10
	Extractable P	6.5	10	4.0	5	5.0	10
	Extractable K	58	7.5	58	7.5	50	7.5
	Minor elements	High		High		High	

Cornell Soil Health Assessment. Each property is given a rating of 1 to 10, with 10 the highest. Cells highlighted in yellow show areas of concern, while those highlighted in red are problems that need to be addressed.

Tibetan farmers face familiar challenges

By Dan Davidson
MBA staff consultant

Farming in a remote village in Tibet is in some ways very similar to what we are used to, but in many ways it is very different.

In October, my wife and I had an opportunity to travel half way around the world and interact with a very different culture.

Tibet is now officially a part of China. The area that we visited is in the foothills of the Himalayan Mountains at close to 10,000 feet of elevation, which shortened the growing season. Corn (maize), wheat, Chinese cabbage and squash were the main crops growing where we were, but rice was common in the valleys and high-land barley grew in the higher elevations. Sunflower and amaranth were sometimes planted along the edges of the field.



Many of the plots had a great deal of slope (some so steep it looked to me like you would have to use ropes to keep from falling) yet I was amazed that I did not see gullies or signs of visible

erosion. Maybe they do not get hard rainfall, but I think it had something to do with the soil structure.

In the area where we were, field work was done by hand with the assistance of water buffalo for fall ploughing. They did not like to use animal traction in the spring because of concerns of compaction.

They also were diligent to do what they could to raise the organic matter. They would gather pine needles from the forest, use them for animal bedding, and then spread the manure on the fields. Vetch had been introduced as an interseeding with the corn and seemed to do real well.

One of the challenges that they had was in getting a consistent plant population. Poking a hole in the ground with a stick and dropping a seed in resulted in a lot of seeds that did not successfully emerge. I think there is real potential to double the yield just by improving the planting technique.

It made me smile to see that doing as good as the neighbor was as important in their culture as it is in ours. I guess human nature is universal. Unfortunately, the fear of looking bad (or losing face as they would say) can get in the way of making positive change.

There are three lessons that stand out to me from this trip.

First, seed placement is critical! Whether it is corn or alfalfa, serious production losses result from inadequate seedbed preparation, seed placement and soil contact.

(Continued on page 13)



Steep, rugged hillsides are among the many challenges of crop production in Tibet.

...Tibet farms

(Continued from page 12)

Second, soil compaction is a relentless enemy. Imagine trying to sleep with a 50# bag lying across your chest. When our ability to breathe is restricted, our performance is compromised—it's no different for a plant.

Third, maintaining or increasing organic matter is an important priority.

We all face our unique challenges, but the fundamentals of farming are still the same whether we are in Tibet, in Wisconsin or wherever you are.



Interseeding is a common production practice.

TRADING POST

FOR SALE

Organic alfalfa hay for sale, 1st, 2nd, 3rd & 4th crops, large rounds and large squares. 712-830-9871

Dutch Belted heifers for sale, bred to a Jersey bull. Other young stock also available. All certified organic 309-737-9379

1973 MF 1135 tractor with Great Bend 860 loader, bucket and hay spear. Cab 2wd 2 hyd 130Hp 3865 hrs new tires front and rear, new hydraulic pump, 3 point, PTO 715-366-7671 or cell 715-347-0545

Operating certified organic dairy farm, 20 acres; 8-stall flatbarn parlor with auto takeoff, 120 head free stall barn with mattresses, large metal equipment building, other outbuildings, etc; option to purchase herd and organic feed etc; up to additional 700 acres organic land available for lease. Very nicely remodeled 4-5 bedroom home and garage. Hortonville, WI 920-993-4038

Six head Black Angus organic raised but not certified calves, 500-600#, 641-484-3374

2008 New Holland BR7060 round baler, silage special, crop cutter, net and twine wrap, bale command, only 500 bales 715-366-7671 or cell 715-347-0545

Organic hay for sale, 2008 crop, MOSA certified 1st, 2nd, 3rd cuttings. Feed tests available. All in net wrapped round bales. 715-366-7671 or cell 715-347-0545

Certified organic dairy cows & heifers. Herd reduction sale. 50 head for sale in March 2009. Contact Gary Zimmer, 608-225-9839

WANTED

Consultants wanted We have openings for full-time consultants to work with biological farmers. Farming experience or sales experience helpful. Help Midwestern Bio-Ag change agriculture! For more information, call 1-800-327-6012, ask for Tim

Wanted—Organic producers of milk, meat and eggs. Now and into the future. Please contact Organic Valley, 1-888-809-9297

*Ads run one-time free in the Bio-News ...
deadline for next issue: March 10
Call Mary at 1-800-327-6012*

Midwestern Bio-Ag Winter 2009 speaking schedule

Join us at any one of the following educational meetings presented by Midwestern Bio-Ag and your local Bio-Ag consultant. Gary Zimmer, Midwestern Bio-Ag president, farmer, educator and author will be the speaker. **Meetings start at 10:30 a.m. and conclude by 3 p.m.** Lunch is included. (There are several exceptions to speaker, starting time, and lunch/fee arrangements. Please check the list.) We hope to see you there!

Other MBA staff will also be presenting small group meetings throughout the Midwest over the next several months. Your local consultant will notify you of times and locations for any meetings in your area.



Please join us to learn more about biological farming!

Midwestern Bio-Ag: Mineralized Balanced Agriculture
a leader in biological farming since 1984

1-800-327-6012 or www.midwesternbioag.com for updates & additions

DATE	LOCATION	SPONSOR(S)	PHONE
Jan. 8	New Holland, PA Yoder's Restaurant	Keystone Bio-Ag Sam Zook	717-354-0614
Jan. 13 10 a.m.	Kalona, IA; Iowa Clothing Center, 2 mi. North of Kalona on Hwy 1, to Johnson/ Washington Rd, then 1 mi. east	Firman Hershberger	319-430-0383
Jan. 14 10 a.m.	Memphis, MO Fire Hall	Firman Hershberger	319-430-0383
Jan. 15	Tama, IA Meskwaki Casino Bingo Hotel	MBA of Iowa	1-888-465-3503
Jan. 16	Monticello, Iowa The Wagon Wheel	MBA of Iowa	1-888-465-3503
Jan. 20-22	Pacific Grove, California Eco-Farm Conference (Fee)	Ecological Farming Association	(831) 763-2111
Jan. 20	Eureka, IL (<i>Speaker Bob Yanda</i>) The Chanticleer	Firman Hershberger	319-430-0383
Jan. 22-23	Rochester, MN; Mayo Civic Center Value Added Conference (Fee charged)	River Country RCD	715-834-9672
Jan. 26	Hanover area, Ontario, Canada Location to be announced	Ayton Mobile Feeds Bruce Newman	1-519-369-4520 1-519- 665-7820
Jan. 27 10 a.m.	Shedden, Ont., Canada Shedden Keystone Complex 35921 Talbot Lane Lunch \$15	Ron Scheele Paul Watson	519-762-5358 519-627-0566
Jan. 28 10 a.m.	Buckland, OH Buckland Community Center, Lunch \$15	Tim Wightman Alan Kauffman	765-277-3352 937-844-9174
Jan. 29-30	Dalton, Ohio Buckeye Event Center (Fee charged)	North Central Ohio Dairy Grazing Conference	740-545-6349
Jan. 31	Middlefield, OH Mike Davis-Auctioneers, 15067 Hayes Rd	John Kempf, Andy Shetler Eugene Derstine	888-825-9373

Feb. 2 10 a.m.	Bad Axe, MI Huron County Expo Center	Bio-Ag of Michigan	1-888-825-9373
Feb. 3 10 a.m.	West Branch, MI Quality Inn	Jonathan Graham	877-250-6679
Feb. 5	Altura, MN Fire Station/Community Center	Minnesota consultants Lovlien, Dybing, Mathison	1-866-485-4300
Feb. 6	Belgrade, MN VFW Post	Roman Walz Ken Larson	320-599-4664
Feb. 6	Owatonna, MN (<i>Speaker Bob Yanda</i>) Cabela's	Dee Meiners	1-507-456-9406
Feb. 9	Waupun, WI Pizza Ranch	Roger Drews	920-324-9306
Feb. 10	Fennimore, WI; St. Mary's Church Hall	Scott Wood Bob Johnson	608-822-4923 608-375-2595
Feb. 11	New Glarus, WI Location TBA	Duane Siegenthaler	800-228-2189
Feb. 12	Arena, WI Grandma Mary's Café on Hwy 14	Tim Williams Dan Smith	608-225-4518 800-327-6012
Feb. 13	Arcadia Country Club Arcadia, WI	Joe Danzinger Bob Schmidtkecht	715-495-5504 608-323-2069
Feb. 16 10 a.m.	Menomonie, WI Holiday Manor Conference Center	Dan Jacobson	715-225-2021
Feb. 17	Colby, WI Colby Lions Club Shelter	Rick Knopp	800-436-1459 715-560-6355
Feb. 18	Black Creek, WI Romy's, W5670 Co Rd A,	Clem Greisbach	920-739-7584
Feb. 19	Plover, WI Elizabeth Inn	Mark Klish	715-366-7671
Feb. 20	Hillsdale, IL Mama J's	Bob DePauw	309-523-3921
Feb. 23	Belmont, WI Sports Page	Justin Spensley	608-732-4405
Feb. 24	Blue Earth, MN Hamilton Hall	Ray Yokiel	507-380-5745
Feb. 25	Caledonia, MN MacalGrove Country Club	Dee Meiners	1-507-456-9406
Feb. 26-28	MOSES 20th annual Conference, LaCrosse, WI	MOSES Upper Midwest Organic Conference	715-772-6819