

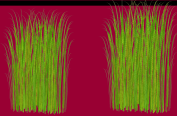
The Municipal Agricultural Connection

Have an interesting topic you want discussed in the Newsletter or municipal meeting? Suggestions to Asst. Agricultural Fieldman Tanis Ponath, asb@mdwainwright.ca or 780-842-4454

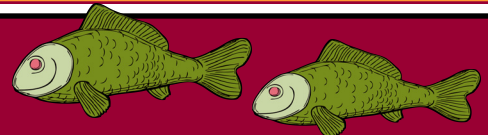
Alberta Agriculture and Forestry



Partners in Rural Conservation
www.mdwainwright.ca



Aquaponics



This summer I had the opportunity to visit the Truman residents. Deb and her husband Terrill maintain a beautiful yard and a very thriving vegetable garden. I received a call from Deb asking if the M.D was doing another garden tour, because they decided to do a trial run of an Aquaponics system for growing vegetables. I had no idea what Aquaponics was so even though we did not host a garden tour this year I decided to go and investigate for myself. When I arrived Deb was just going out to feed her fish. The fish were living in a cattle trough converted into a fish tank (see image 1). The tank was covered with a black tarp, with insulation around the tank. The tank was covered not only to keep the cats out, but more importantly to prohibit the growth of algae in the system. Insulation is required to help maintain the water temperature. Aquaponics need significantly warmer water; up to 80 degrees Fahrenheit for optimal plant growth. Deb stated that keeping the water warm was one of their biggest setbacks. Our climate is just not warm enough to support a large operation especially when temperatures start dropping this time of year, she said. Getting the right kind of fish was also an issue. In Alberta fish are very strictly regulated. To obtain species such as tilapia, it would require a lot of paperwork and permits. Tilapia would have been the ideal species because they are able to withstand the higher water tempera-



Image 1



Image 2



Image 3



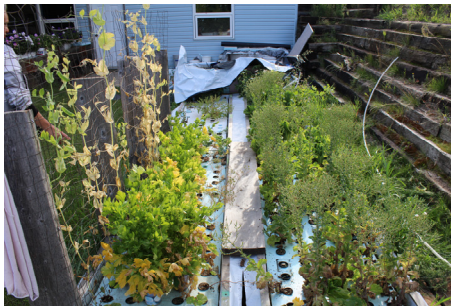
tures that are needed for the system. The Truman's decided to go with a variety of goldfish and coy fish. However, it was a challenge because they do not do well in warmer water. Even with some setbacks they still managed to get a good variety of vegetables. The lettuce grew well along with cabbage, peas, celery, and a tomato plant. Deb did mention that frost had already affected some of her plants.

The type of Aquaponics system that they ran was a Deep Water Culture System. This system works on the idea of floating plants on top of the water allowing the roots to be submerged in the water. The Truman's built wood bunks with a floating foam raft on top (see image 2). Holes were cut into the foam and that is where the plants were placed with their roots submerged into the water (see image 3). You do not have to water your plants or clean the fish tank. The water is constantly being filtered through. Dirty water from the fish tank (which is full of nutrients) is pumped into the beds, then water flows through the garden and is cleaned. The clean water now flows back into the fish tank. If water needs to be added to the system, it is added to the plants not the tank. Aquaponics is really the combination of Hydroponics and Aquacul-

Aquaponics Cont....

ture. It utilizes the best of both worlds, and turns the negative situations of those systems into a positive. For example, hydroponics requires the addition of extensive nutrients as well as periodic flushing of the system which can lead to disposal problems. Re-circulating aquaculture also needs to have its nutrient rich water changed and this must be done on a regular basis and sometimes daily. Both systems would require an area to dispose of water and an access to fresh clean water on a daily basis. In Aquaponics you do not need to add additional nutrients and water does not need to be changed.

In areas with warmer climates such as Hawaii they are able to have such large systems that along with selling and growing vegetables they can also sell the fish that are being raised in the tank. These systems do have the ability to be successful in our climate. If they were set up in a green house or an area where temperature can be regulated. To summarize the Aquaponics process here



- are five things to remember:
1. Fish are raised in a tank.
 2. Water from fish tank is pumped to the plants.
 3. Bacteria converts ammonia and nitrite to nitrate.
 4. Plants absorb the nutrient rich water.
 5. Filtered water is returned to the fish tank clean.

Please remember that all rural municipal taxes are due by NOV.30/15

Municipal calendars are expected to arrive at the end of October, be sure to come in and get yours quick because they go fast!!

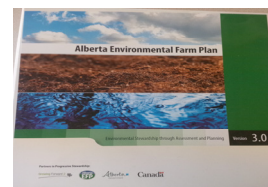
Growing Forward 2

Once harvest has come and gone and the dust has settled it may be a good opportunity to apply for funding through Growing

Forward 2. This funding could help jumpstart a project that may have been previously put on the back burner. Here is a list of programs that are currently taking applications that may apply to you:

1. Livestock Welfare Producer- If you are looking into upgrading your handling systems to make them more efficient and safe then this program would give you access to loading/unloading chutes, sort pens, crowd tubs, handling/sorting systems etc. You do need a current premise ID and a completed Livestock Risk Assessment.
2. On Farm Water Management- If you are looking into drilling a new well, decommissioning an old well, constructing a dugout or any activities that have to do with water this is the program to apply to. To be eligible for this program you have to complete a Long Term Water Management Plan and have it approved before you can access an application.
3. On Farm Stewardship- This program gives you access to a variety of funding options for different projects. This program focuses on the impact on water quality and promotes sustainable management. Examples of funding include fencing for riparian areas, offsite watering, wetland restoration and shelterbelt establishment. To qualify for this program you need to have an Environmental Farm Plan (EFP) completed.

On the topic of Environmental Farm Plans, this would be a great opportunity to complete one. The binder or online version is a great way to outline your goals to run a sustainable operation and receive funding for your efforts. If you have any questions regarding EFP's or Growing Forward 2 funding you can contact the office at 842-4454



Rural Routes

On Friday August 7, 2015 the M.D of Wainwright hosted its annual Rural Routes Supper. Local rural residents from Wainwright, Irma, Chauvin and Edgerton opened their pockets and generously donated \$1166.00 to support the local food bank. Pastor Dan the representative for the local food bank came and collected the donation from Asst. Agricultural Fieldman Tanis Ponath. If you are interested in supporting the local food



bank you can give Pastor Dan a call at 780-842-3033.

100 Year Farm Family Honoured



Reeve Bob Barss (far right) presents the Olsen Family of Irma with a plaque congratulating them on 100 years of family farming on the homestead quarter.

Attention

Please be aware that the empty chemical container sites located in the M.D, **DO NOT** accept obsolete herbicide , surfactant, or adjuvant jugs. We only accept containers that are under 23L, bulk containers can be returned to retailers. Hold all obsolete pesticide and livestock equine medication containers until a scheduled pick up in our area. Please stay tuned in 2016.

Buyer Beware!

Due to drought conditions that have plagued our province this year some producers will be bringing in feed from out of province. This can increase the risk of invasive species being transported to your area. Hay is at high risk for bringing in prohibited noxious weeds and rats can also hitch a free ride to Alberta. With the high cost of feed there is a greater chance that older feed will be sold to Alberta producers. Any feed that has been baled in 2014 or earlier runs a higher risk of having rats that have made their home in bales compared to newly harvested hay. Green feed and straw are at higher risk of containing rats. Please keep a look out inspect feed as it is brought onto your farm. A few things to keep in mind when purchasing hay and preventing the spread of weeds:

- Purchase certified hay
- INSPECT before you buy
- Feed hay in areas that can be easy to check for weeds in the spring
- Identification is key, if you are unsure about a plant your local Agricultural Fieldman is a great resource

HAVE YOU SEEN THIS WEED?



Tall Buttercup

More municipal sightings showed up this season. If you have noticed this weed please contact your agricultural fieldman. Toxic to livestock (including cows and horses).



Fall Frenzy

Storing Grain and Insects:

There are many species of insects that affect stored grain in Alberta. These insects need very specific conditions to live in. In some cases you may unknowingly be providing the perfect conditions for an outbreak. There are two different kinds of pests that can affect your grain, primary and secondary insects. Primary means that they infest, feed, and reproduce on whole grain kernels. Secondary insects require mold or damaged kernels to survive. Most of these pests are also very strong flyers. They can detect the odour warm grain emits from very large distances. The most effective way to protect your grain is to monitor the moisture/temperature and control with proper aeration. Grain stored below 13.5% moisture can be stored safely. Grain stored between 13.5%-17% may be tough and should be monitored. Nothing should be stored over 17% because it will deteriorate very quickly and attract unwanted visitors.

Rusty Grain Beetle

The most serious insect pest that affects a large percentage of farmers in western Canada is the rusty grain beetle. Heavy infestations of the pest will cause your grain to heat and spoil. Eggs are laid in kernels and grain dust. When they hatch larvae penetrate and feed on the germ of the damaged kernels. Adults have flat, rectangular, shiny bodies; they are reddish brown beetles that are approximately 2mm in length. This insect also causes the spread of fungal spores. The most common way to treat rusty grain beetle is to treat grain with diatomaceous earth as it is being augured into the bin. It is applied as a dry powder and the insects will die as a result of desiccation.



Bale Silage:

We have all heard the news; many areas of Alberta have declared a State of Agriculture Disaster in 2015. Producers are on the look out for more efficient and affordable way to feed their cows. Bale silage is an option to use feed more efficiently. Bale silage ultimately involves the preservation of perennial or annual forage crops. You can use either round or large square baling systems. You need to be able to produce a very dense bale, soft core bales would not be as efficient for making bale silage.

Bale silage allows the producer to reap the benefits of improved feed quality without having to purchase silaging equipment. It allows the producer to use their normal bale handling and feeding equipment and reduce field loss that could occur when swath grazing. One producer stated, "we did it because of the drought, there were more weeds and wild oats were crazy. We wanted to save feed because we couldn't afford to swath graze with the cost of feed. The loss of feed left in the field that the cows would trample into the ground left it unaffordable".

The quality of the silage is achieved when lactic acid is produced during the ensiling process. Lactic acid is the most efficient fermentation acid and will drop the pH of a forage crop very fast. The faster the fermentation process finishes the more stable the silage will be. Fast fermentation also means more nutrients have been retained. Ensiling bales at 45-55 percent moisture will provide adequate moisture for fermentation. Producer can expect to see a final pH of 4.7-5.8 in bale silage. Bales should be wrapped or tubed ideally within 5 hours of bailing. Delaying wrapping by more than 10 hours will cause a slower fermentation process which would lead to a slower drop in silage pH. The suggested minimum plastic wrapping is 4ml thick, if you want to carry your feed over to the next year it is suggested that you consider high thickness ratings of up to 8. Bale silage can be kept from season to season as long as you have taken the necessary actions to prevent air movement through the bales which in return will cause spoilage. Dispose of feed bales immediately if you noticed they have been damaged. If you have bales that were put up with less than 45 percent moisture they should be fed out during the first winter feeding period. This type of forage lacks stability and should not be carried over from one feeding season to the next. If your crop is cut and baled at the right time there should not be any need to add preservatives. You can add silage inoculants which can help lower the pH. A few other options are mold inhibitors, and fermentation stimulants.

