

NW Michigan Regional Fruit Grower Newsletter - November 2011
CALENDAR OF EVENTS

2011

- 11/16 Michigan's Safe Food Assessment Program: Food Safety on the Small Farm**
Boardman River Nature Center, 6:30-9:00 p.m.
www.localdifference.org/getfarming Click on "Workshops"
- 11/17 Good Agricultural Practices – GAP Audit**
NWMHRS 9:00-3:00 p.m.
www.localdifference.org/getfarming Click on "Workshops"
- 11/28 Beginning the Estate Planning Process**
Hart United Methodist Church, Hart
- 11/29 Farm and Business Estate and Succession Planning**
Hart United Methodist Church, Hart
- 12/6-8 Great Lakes Fruit, Vegetable & Farm Market Expo**
DeVos Place, Grand Rapids
- 12/12 MDA Pesticide Applicator Recertification Review & Test**
Banks' Township Hall (Antrim County)
- 12/12 Hoop for the Future Workshop**
Black Star Farms
www.localdifference.org/getfarming Click on "Workshops"
- 12/15 MDA Pesticide Applicator Recertification Review & Test**
NWMHRS
- 12/16 Farm Tax Seminar**
Cadillac Sands Resort
<http://taxschool.canr.msu.edu>

2012

- 1/24-25 NW Michigan Orchard & Vineyard Show**
Grand Traverse Resort

2011 PESTICIDE CERTIFICATION REVIEW AND TEST

December 12th at the Banks' Township Hall (Antrim Co.)
December 15th at the NW MI Horticultural Research Station

- 9:00-12:00 Review of the Core Manual Materials
- 12:00-1:00 Lunch on your own
- 1:00-3:00 Certification tests will be offered by MDA

There is no cost for the review session. If you will be taking the MDA exam in the afternoon, please have the exam fee(s) on hand. The cost for the private applicator exam is \$50 and for commercial \$75. The core exam will also be new this year. Please make your check payable to the **State of Michigan** and bring to the testing session along with your private applicator license.

To help you prepare for the exam, the Pesticide Applicator Core Training Manual can be purchased at your county Extension office or at the NW Michigan Horticultural Research Station. The cost for the core manuals, (Private, E-3007 and Commercial, E-3008) is \$30. Recertification credits will be offered for the morning review session.

Please call Jackie Baase at (231) 946-1510 to register for the session at the NW Michigan Horticultural Research Station. Contact the Antrim County office to register for the session at the Bank's Township Hall at (231) 533-8818.

Is It a Good Time to be a Buyer or Seller of Agricultural Land?

Curtis Talley Jr. MSUE, Hart, MI

A number of factors have come together to provide unique circumstances that can be beneficial for both buyers and sellers of agricultural land: strong demand for land; interest rates at almost all time lows; and, long term federal capital gains tax rates not seen since 1933, are all involved. Let's take a look at these factors.

DEMAND FOR LAND:

Interest in farmland is rising globally. Population growth, rising incomes and demand for better diets is driving demand for food products, oilseed and livestock. The world's population is growing 1.2% annually, fueling the increased demand for protein at a 2.5% annual rate. Arable land is declining in China, India and the US.ⁱ The world historically held large reserves of food and fiber in storage, but those reserves have been liquidated due to large scale floods, droughts, or other weather events that have occurred. China used to carry a year's corn crop in reserve, but it is down to 20% of last year's crop. India used to carry almost a year's reserve of wheat, but it is down to 35%. China and the US historically carried 50% of a year's cotton crop, but that is almost all gone.ⁱⁱ

Institutional investors (pension funds, private equity groups) see farmland as a diversification to their portfolio, an inflation hedge, a safe haven and a source of stable returns. Institutional investors seek long term stable returns of 6-8% and that can be done with agricultural land. Since 1970 farmland averaged returns of 12% annually, better than the S&P 500, but with the risk of corporate bonds.¹ The only investment that has shown less volatility than farmland long term returns has been US Treasuries.²

Investors have historically done their best to avoid overpaying for agricultural land. They are looking for a 5-6% gross cash return, so if land is priced at \$3,000 per acre, a cash rent of at least \$150/acre is necessary.

Recent weather events, increasing demand for food, fiber and protein brought on by higher incomes in developing countries and population growth, have contributed to a significant increase in commodity

¹ Jeff Conrad, president of Hancock Agricultural Investment Group, presentation to Global Ag Investing Conference, 2011.

² Gary Taylor "2020 Vision for Agriculture" presentation at Chicago Agriculture Summit, December, 2010

prices. This in turn, has increased net income levels for farmers, providing the additional cash flows that have contributed to increase the demand for farmland.

INTEREST RATES

According to Federal Reserve Board statistics that began in 1930, the prime rate (what commercial banks charge their best customers) did not exceed 2% until after 1950. Since then, it has fluctuated from 3% to 20%. The prime rate has been declining since 1980 and during the first week of May, 2011 it was 3.25%. This current historically low prime rate has translated into low mortgage rates that began around 2004. Are we taking these low rates for granted? It is easy to forget historical trends. Between 1976 and 1981, mortgage interest rates ranged from 11% to in the 21% range.³ That was a doubling of rates in 5 years. My wife and I bought our first home as a couple in 1986 and we were tickled to death to obtain a 13% mortgage rate! It had gone down from 15%! No one knows how long these low rates will last, but some experts sense we are close to a bottom. Many feel there is a greater chance of rates going up than going down, particularly after 2012, when the economy is predicted to have recovered more from the current recession.

TAXES FROM INCOME

We are in a period of historically low long term federal capital gains tax rates. Rates have historically been at least 20%. The period from 1922 to 1933 is the only period that rates were 12.5% or lower. From 1934 to 1996 the maximum capital gains tax rate exceeded 25% and was in excess of 32% from 1970 to 1978. This increased to as high as 39.9% in 1976-78. For a married couple filing jointly with \$69,000 or less of taxable income, the capital gains tax rate will be 0% in 2011.

Capital gain is the profit you make from holding a capital investment such as land. For example, if you buy a parcel of land for \$4000 per acre and hold it longer than one year and sell it for \$5,000/acre, there is a long term capital gain of \$1,000 per acre. There can be deductions to this gain to reduce it slightly, but for the purposes of this article the gain is \$1,000/acre. The tax rate applied to the gain is based on the income tax rate bracket of the payor, or in this case the seller of the farmland.

The federal government levies a tax on long term capital gains based on the taxpayer's taxable income bracket. Under current law (until the end of 2012), if your adjusted gross income is less than \$69,000 for a married couple (\$34,500 single), the tax rate for long term capital gains is 0% (10% and 15% tax bracket). If your income is higher than \$69,000, the rate is 15% (25% tax bracket and above). Capital gains tax rates have not been this low since 1933. These rates will continue until the end of 2012. Without changes to the tax law by Congress, the top rate will increase to 20% beginning in 2013.⁴

As an illustration, let's say that you bought 60 acres of land for \$1,000/acre and are considering selling it for \$2,000/acre and you have owned the land for 5 years and your taxable income after deductions and exemptions for income taxes is less than \$69,000. The land sale creates a long term capital gain of \$1,000/acre. So, there is a total capital gain of \$60,000 (60 acres x \$1,000/acre). If you sell the land in early 2012 and receive 100% of the proceeds before the end of 2012 and your taxable income for income taxes is less than \$69,000, **you will pay no federal income tax** on the capital gain. How can this happen? That \$60,000 of capital gain is tax free because you are in a lower tax bracket (up to the top of the 15% bracket). This is only effective under current law, which expires at the end of 2012. (Remember that you use up your standard and itemized deductions before you have taxable income.)

We are currently in an unusual loan interest and income tax rate situation whereby demand for agricultural land is high while long term interest rates and federal capital gains tax rates are at or near historic lows.

³ Mortgage Intelligence May 11, 2011.

⁴ Tax Relief, Unemployment Insurance Reauthorization and Job Creation Act of 2010.

Unless Congress changes the tax law, the long term capital gains rate increases to 10% from 0% and to 20% from 15% after 2012.

These examples are for educational purposes only. Consult a qualified tax or investment professional before embarking on capital purchases or the sale of capital assets.

If you have any questions or need any additional information contact your local Michigan State University Extension Farm Management educator or the author, Curtis Talley Jr., Farm Management Educator talleycu@anr.msu.edu ; phone: 231-873-2129

ⁱ Gary Taylor "2020 Vision for Agriculture" presentation at Chicago Agriculture Summit, December, 2010

ⁱⁱ Gary Taylor "2020 Vision for Agriculture" presentation at Chicago Agriculture Summit, December, 2010

Beginning the Estate Planning Process

Hart United Methodist Church
308 S. State Street
Hart, MI 49420

Monday November 28, 2011

AGENDA

- | | |
|-----------------|--|
| 5:30- 6:00 p.m. | Registration |
| 6:00-6:30 p.m. | "Peace of Mind" Estate Planning Tool
<i>Curtis Talley, Farm Management Educator, MSUE</i> |
| 7:00-7:45 p.m. | Estate planning basics
The costs of dying unprepared (emotional and dollars)
What does your estate planning professional need from you?
What is probate? Is it important to avoid probate?
The role of an attorney; attorney client privilege; costs
Major Components: Wills & Trusts; Why, When and How used?
<i>Eric R. Fox, Attorney at Law</i> |
| 7:45-8:00 p.m. | BREAK |
| 8:00-8:45 p.m. | Tools used in estate and business succession planning
Family communication
Developing the vision for the future
Transferring Assets: Sales, Gifts or Inherit: Pros and Cons
Case studies
<i>Dennis Stein, Farm Management Educator, MSUE</i> |
| 8:45-9:00 p.m. | Questions |

Registration Fee: \$15 per first registrant, \$5 per person for each additional family member
Program questions may be directed to Curtis Talley Jr., MSU Extension Hart, MI 231-873-2129

Farm and Business Estate and Succession Planning

Hart United Methodist Church
308 S. State Street
Hart, MI 49420

November 29, 2011

AGENDA

- | | |
|------------------|--|
| 8:00-8:30 a.m. | Registration |
| 8:30-9:00 a.m. | Estate and Transition Planning: Critical Success Factors
<i>Curtis Talley Jr., Farm Management Educator, MSUE</i> |
| 9:00-9:30 a.m. | The Need for a Common Vision and goals (perspectives of each generation)
<i>Dennis Stein, Farm Management Educator, MSUE</i> |
| 9:30-9:45 a.m. | <i>BREAK</i> |
| 9:45-10:45 a.m. | Business Arrangements and Agreements
Who is the client?
<i>LLCs (Limited Liability Company) advantages & disadvantages</i>
<i>Reasoning for more than one LLC</i>
<i>Other Operating Agreements; Partnerships, Corporations</i>
<i>Eric R. Fox, Attorney at Law</i> |
| 10:45-11:45 a.m. | How to keep or lose the successor generation
Establishing an operating entity with incentives for the successors
Using separate operating and land holding entities
How does the senior generation delegate authority but still maintain some control?
Fair vs Equal
Buy-Sell Agreements
<i>Dennis Stein, Farm Management Educator, MSUE</i> |
| 12:00-12:30 | Lunch |
| 12:30-1:30 p.m. | "My Estate Planning and Business Succession Experience"
A farmer panel that discusses their experiences |
| 1:30-2:30 | Hands on Activities
Future vision and goals worksheet older generation
Future vision and goals worksheet younger generation
Are you ready for succession?
Rating lifestyle values and choices worksheet |
| 2:45 | Where do we go from here? What would you like the next steps to be?
Final questions and evaluation |

Adjourn

Registration Fee: \$25 per first registrant, \$15 per person for each additional family member
Program questions may be directed to MSU Extension at Hart, M 231-873-2129

Good News!

Perry Hedin, Manager, CIAB

The USDA published the Proposed Rule for Bottom Line Credits today. I am in the process of reading and reviewing it right now, but the Proposed Rule appears to adopt the industry's recommendations and requests as presented.

The easiest way to obtain a copy is to hold the "control" button and click on this link <http://www.gpo.gov/fdsys/search/getftoc.action> and print the PDF version of the Federal Register. The RD is the first item and is at the top of the page.

The comment period is only two weeks with comments being due November 25, 2011. Following review of the comments, the USDA will call for the vote on the proposed amendment. I do not imagine that this will be until the turn of the year.

WHAT DO LANDOWNERS NEED TO LOOK FOR IN AN OIL AND GAS LEASE?

There are key words and phrases landowners should be aware of in an oil and gas lease. This is the first of a series of articles discussing these in layman's terms.

Curtis Talley, Michigan State University Extension

Landowners who have never dealt with leasing their mineral rights for oil and gas production may find that they have difficulty understanding the lease language in layman's terms upon reading a lease. Are there key words or phrases that someone should be aware of? This article will discuss language from leases utilized by the oil and gas industry that are offered to landowners. When the word "company" is stated, it is referring to the oil and gas company that is interested in leasing a landowner's mineral rights.

Let's look at some of the key phrases or terms that landowners have asked about.

Phrases or terms related to **Geophysical Testing** may read similar to:

"Exploring by geophysical and other methods." This allows the company to conduct seismographic studies to determine if drilling an oil and gas well should be considered. If the lease does not specifically call for the payment of surface damages for this activity, the landowner may not receive any surface damage payments when seismic work is conducted.

Phrases or terms related to **Useful or Convenient Easements** may read similar to:

"Together with all rights, privileges or easements useful or convenient." This denotes unpaid usage of the land surface and allows the company to place roadways, pipelines and have other unnamed "privileges" wherever it is convenient for the company. The landowner can limit the activities that are unpaid and require payment for, or not allow certain activities.

Phrases or terms related to **Mother Hubbard Clause** may read similar to:

“Or any other land adjacent or appurtenant thereto.” This is called the Mother Hubbard clause. This permits the company to obtain the right to develop all contiguous or “appurtenant” lands owned by the landowner or that the landowner may own in the future. These can be adjacent, or they can be located in another township. Sometimes, landowners prefer to not lease all of their land. If the landowner accepts this provision, he is not reserving the right to negotiate a separate lease to the additional property in the future.

For more information regarding oil and gas leasing you can contact Curtis Talley Jr. at 231-873-2129. Michigan State University Extension also has a website www.msue.msu.edu/oilandgas that has additional information to assist landowners in understanding and negotiating oil and gas leases and the oil and gas industry in general.

SO YOU WANT TO WRITE A FARMER/RANCHER GRANT

Follow these important tips for writing a successful NCR-SARE farmer/rancher grant proposal.

Published October 3, 2011, MSU-E News for Agriculture - Fruit

Dale R. Mutch, Michigan State University Extension

If you are considering writing a “farmer/rancher” grant to the North Central Region Sustainable Agriculture Research and Education (NCR-SARE), it is extremely important to read these grant writing tips. Remember, these grants are competitive and farmers and ranchers throughout the NCR are submitting proposals. This is not to discourage you, but to help you prepare your sustainable agriculture ideas. The following are tips to help you write your grant proposal.

Read the call for proposals carefully

Be sure you have a copy of the current Call for Proposals. There are changes to the application form each year and your proposal can be disqualified if you do not use the current form.

Make sure your goals match SARE’s goals

These grants are for farmers and ranchers to conduct on-farm research and demonstration or education projects that explore and advance sustainable agriculture. They are **not** for funding everyday farming expenses. Grant proposals are evaluated according to how well they match SARE’s unique goals and criteria. Proposals that are not a good match will not be funded. See the Call for Proposals for SARE’s criteria and visit our website, or call 1-800-529-1342 for an information packet about SARE’s goals.

Follow directions

Proposals can be disqualified if the applicant does not answer all questions or follow general format directions regarding the number of pages, spacing and signatures. Do include a title that describes your project. Do **not** include photos or appendices. These will not be forwarded to the selection committee.

Review the Checklist in the Call for Proposals before submitting your proposal.

Involve other groups and people

The strongest proposals demonstrate that the project will be planned and carried out by a variety of individuals or organizations. Successful grant projects have involved Extension educators, Natural Resource Conservation Service (NRCS) staff including Resource, Conservation & Development (RC&D) Council staff, nonprofit group participants, other farmers or ranchers, and other members of the community.

Include a detailed plan for outreach

It is essential that applicants explain how they will communicate their project results to other farmers, agricultural educators, youth, or other appropriate audiences to help further research, education and implementation of sustainable agriculture.

Pay close attention to budget guidelines

Ask for help if you are confused about items that SARE cannot fund or cannot fully fund. Research your expenses and use accurate figures rather than guesses for your budget. Double check your figures. Budget errors like asking for more than the grant allows can hurt your chances for funding.

Keep the writing simple and be sure to explain terms and your link to sustainable agriculture

Proposals with clear objectives and methods are the most successful. Focus on what you can actually accomplish in a project. Do not promise more than you can deliver. Farmers and ranchers will review your proposal and they know what is and is not practical. Explain in detail how your project contributes to sustainable agriculture: How is it good for the environment? How will it help you be more profitable? How does your project benefit your family and community?

Have someone proof-read your proposal

A fresh set of eyes can help you identify sections that are unclear and find typographical errors that you might not otherwise catch. Handwritten proposals are acceptable, but only if they are written very clearly. If reviewers cannot read your writing, you will not get funded.

If you would like a sample Call for Proposals or if you have questions, please contact:

Joan Benjamin, NCR-SARE associate regional coordinator, at 800-529-1342 or 573-681-5545.

NCR-SARE Farmer Rancher Grant Program

Have a great idea about how to enhance sustainable agriculture and your farm's future? Consider writing a NCR-SARE Farmer Rancher grant!

Published October 3, 2011, MSU-E News for Agriculture - Fruit

Dale R. Mutch, Michigan State University Extension

It is time to put your ideas on paper to help sustain your farm's future. The North Central Region Sustainable Agriculture Research and Education (NCR-SARE) Farmer Rancher Grant Program wants to support your great ideas to enhance sustainable agriculture. Michigan farmers have been very successful in receiving these grant dollars. Ninety farmer and rancher grants have been funded to Michigan farmers.

You will need to organize your thoughts and focus your ideas to be funded. The grants are competitive and about 50 are granted each year across the NCR. For tips on how to write a farmer/rancher grant, read "So you want to write a farmer/rancher grant?"

About NCR-SARE

The USDA-funded SARE program was authorized by the 1985 Farm Bill and was first funded in 1988. SARE operates through four regional offices as well as a national office. The NCR serves Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin.

NCR-SARE strengthens rural communities, increases farmer and rancher profitability and improves the environment by supporting research and education. NCR-SARE currently has four grant programs: Farmer Rancher, which includes Youth and Youth Educator grants; Graduate Student; Professional Development; and Research and Education.

NCR-SARE Farmer Rancher Grants

NCR-SARE awards competitive grants to farmers and ranchers for on-farm research, demonstration and education projects. There are three types of grants: individual (\$7,500 maximum); partner (\$15,000 maximum); and group (\$22,500 maximum). Projects must be completed in 25 months.

For 2010, NCR-SARE received 129 proposals and approved 50 grants for funding, totaling \$413,972. Funding since the program began in 1992 totals \$5,618,587 and includes funds from the National Agroforestry Center and USDA Ag Marketing.

Farmer Rancher grants have funded a variety of research topics, including alternative grain crops as food or animal feed, holistic management, pest and disease management, crop production, education or outreach, networking, quality of life issues, energy, livestock production, marketing, soil quality, waste management, water quality and more.

NCR-SARE Grant Proposals

The Call for Proposals is issued in August, proposals are due in early December, and funding for successful proposals is available in the spring.

To request the Farmer Rancher Grant Call for Proposals, contact the NCR-SARE office at

800-529-1342 or e-mail ncrsare@umn.edu . Follow the directions in the Call for Proposals carefully.

Visit the NCR-SARE website for a list of resources to help you write your proposal.

Before you write the grant proposal, determine a clear project goal and explore sustainable agriculture research on your topic. You can view reports from funded projects on the national SARE website (click on the "Project Reports" tab at the top of the page to see the reports). It can be helpful to contact Extension educators, local agriculture groups, and the Natural Resources Conservation Service to share ideas and invite participation.

For additional information on SARE grants and grant writing, contact Dale R. Mutch or Dean Baas , Michigan SARE co-coordinators. Visit the SARE website to get more information on SARE grants in Michigan.

If you have questions, contact the NCR-SARE Office 800-529-1342, or Joan Benjamin , associate regional coordinator, at 573-681-5545.

FARM 2011 TAX SEMINARS

Farm Seminars: Half day, 4 CPE Hours

Registration and pickup of materials will begin at 8:00 am. Instruction runs from 8:30 am to noon. Please note on registration form if you will stay for lunch (no extra charge).

Registration fee: \$85 if received 14 days before the start of class; \$100 if received later.

Call (517) 432-9803, if you have any registration questions. Please register to reserve your space in the following Fall 2011 Farm Seminars.

Days	Dates	Location	Address	
Wednesday	Nov 9	Escanaba (No Lunch)	Delta County Extension Office	Map
Friday	Nov 18	Grand Rapids	Conf. Centers at WMU (2333 E. Beltline Ave SE)	Map
Tuesday	Nov 22	Frankenmuth	Bavarian Inn Lodge One Covered Bridge Lane	Map
Wednesday	Nov 23	Kalamazoo	Holiday Inn West 2747 S. 11th St. west of U.S.-131 north of I-94, off Stadium Drive	Map
Friday	Dec 2	Clare	Doherty Hotel 604 North McEwan	Map
Wednesday	Dec 7	East Lansing	MSU Kellogg Center Harrison Road at Michigan Avenue	Map
Friday	Dec 16	Cadillac	Cadillac Sands Resort M-55 at M-115	Map

TAX MANAGEMENT FOR SMALL & MEDIUM SIZED FARMS

Tax management looks at consequences of cash income and expenses for income tax planning when faced with both yield and price risk in agriculture. Anyone interested is welcome to attend this class.

Sessions run from 1:00 to 3:00 pm. Registration is not necessary. No lunch or snacks will be provided. There is no charge for this session and no CPE credits. These seminars are in the afternoon following the morning 4 -hour class.

Days	Dates	Location	Address	
Tuesday	Nov 22	Frankenmuth	Bavarian Inn Lodge One Covered Bridge Lane	Map
Wednesday	Dec 7	East Lansing	MSU Kellogg Center Harrison Road at Michigan Avenue	Map

NAP CROP INSURANCE COVERAGE DEADLINE

Due to changes in program provisions it is even more important for producers to purchase insurance on their crops. The Non-Insured Crop Disaster Assistance Program (NAP) is available for 2012 crops for which catastrophic level crop (CAT) insurance is not available through FCIC. CAT is available for the following crops: Apples, Barley, Corn, Oats, Snap Beans, Sweet Cherries, and Wheat. All other crops are insurable under NAP. NAP must be purchased by September 30th for alfalfa, canola, other forages, and rye. NOVEMBER 20th is the deadline for 2012 perennial crops. Contact the office for a complete list of NAP closing dates. The application fee for NAP crops is \$250 per crop; or \$750 per producer per county.

March 15th is the NAP and FCIC application closing date for most 2012 annual crops. If you carried NAP coverage on your crops for crop year 2011, please remember to provide your production records to the FSA office as soon as possible.

FSA MOVING TO ELECTRONIC INFORMATION

The USDA Farm Service Agency offices are moving toward a paperless operation.

Producers are asked to enroll in the new GovDelivery system which will provide notices, newsletters and electronic reminders instead of a hard copy through the mail.

FSA, like many other organizations, is trying to work smarter and be more efficient. Moving to electronic notifications via email will help conserve resources and save taxpayer dollars.

County Committee ballots will continue to be mailed to all eligible producers.

Interested producers may subscribe to receive e-mail updates by going to the USDA GovDelivery sign-up page found at the following web address:

<http://www.fsa.usda.gov/subscribe>

WINTERIZING YOUR SPRAYER

Now is the time to get your sprayer properly winterized and ready for next spring.

Published November 8, 2011, MSU-E News for Agriculture - Fruit

Christina Curell, Michigan State University Extension

All summer you have diligently maintained, calibrated and cleaned out your sprayer. Good winterizing and storage of your sprayer can ensure that next year when you pull it out of your shop it will function properly. Here are a few tips that you can use to make winterizing easy.

Rinse

Prior to storing a sprayer for the winter it needs to be thoroughly rinsed of all pesticide residues. It is better to rinse the sprayer several times with a small amount of clean water than to fill it up only once. Dispose of the rinsate in a field that has proper setbacks from all water sources. Do not allow the rinsate to accumulate into puddles. It is preferable to rinse the sprayer on an impervious surface where the rinsate can be collected and taken to a Clean Sweep site. At this time make sure that all water is drained out of the sprayer so no damage is caused by water freezing. Once the inside of the tank is cleaned out do not forget about the outside of the sprayer. The outside should be rinsed with clean water and if at all possible on an impervious surface and the rinsate collected. Always remember to read the label of the pesticide used and use appropriate personal protective equipment when cleaning.

Clean

Once you have the tank properly rinsed the next step is to decontaminate it. You can purchase commercial cleaning agents or you can clean your system with some common household products. For a chart of the product and amount that you should use consult **“Maintenance, Cleaning and Storage of Ground Sprayers”** Montana State University Extension Bulletin number MT198917AG. Remember to run the cleaning solution through the entire system including agitation and return lines. Rinse clean water through the system after it has been thoroughly cleaned opening up the nozzles and running the water until only clean water is coming out.

Maintenance

Now that your sprayer is rinsed and cleaned carefully inspect the system making note of any maintenance concerns and repairing them. Look at nozzles, screens, hoses, valves, pumps, boom, as well as the tank. Now is a good time to check for tank integrity. [See How to check poly tank condition using three different methods.](#) Now is also the time to make any modifications that you need to make. Please remember that even though the system has been cleaned you still need to be cautious and wear all labeled personal protective equipment.

Storage

The final step is to properly store the system. Any removable parts should be removed to ensure that there is no damage during storage. For example nozzles, filters, tips, check valves, screens, pressure gauges. If at all possible store these in an area that will not freeze. Clean filters with soapy water before storage. The last step is to circulate antifreeze throughout the system including the boom's hoses. Cap the boom nozzles, one or two nozzles may need to be left open to ensure total circulation remember to cap them when the system is filled, to make sure that antifreeze is in the entire system.

Your system is now ready for storage. If you have foam markers and flowmeters don't forget to clean these also. To clean them follow the manufacturers suggestions. For more information please consult **“Maintenance, Cleaning and Storage of Ground Sprayers”** Montana State University Extension Bulletin number MT198917AG.

GREAT LAKES FRUIT, VEGETABLE & FARM MARKET EXPO

**December
6-8, 2011**

DeVos Place Convention Center

and the

**Amway Grand Plaza Hotel
Grand Rapids, Michigan**

The **PREMIER SHOW** for
Fruit and Vegetable Growers, Farm Marketers and Greenhouse Operators!

On-line registration is now available.

Over **4000** people from 41 states and 10 Canadian provinces registered for the 2010 EXPO.

- [Informative education program](#) for fruit, vegetable and greenhouse growers, and for farm marketers - 64 sessions and workshops over 3 days!
 - Fruit and vegetable commodities
 - [Greenhouse production and marketing](#)
 - Farm marketing ideas and issues
 - General topics of special interest to growers
- [Trade show](#) with 400 exhibitors covering four acres of exhibit space in one hall! See our [list of exhibitors](#)
- [Bus tour](#) on Monday for farm marketers
- Download the [2011 EXPO pre-registration brochure](#) with complete educational session information (PDF format - 4,397 kb).

View the [education session summaries](#) from the 2010 EXPO, and from previous years.

You won't want to miss this year's EXPO!