



State of Wisconsin
Jim Doyle, Governor

Department of Agriculture, Trade and Consumer Protection
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Impacts of the August 2007 flooding on organic and conventional vegetable farmers; Issues to address for recovery support and technical assistance

A report by the Wisconsin Organic Advisory Council



Executive Summary

Fresh market vegetable growers in southern Wisconsin were hit hard by record rains during August of 2007. The Organic Advisory Council was involved in assisting several prominent organic producers in the area and has analyzed both the short term and long term issues brought to light by the flooding. Many acres had to be discarded due to contamination by flood waters. Many crops rotted in the field and further losses were incurred when farmers were unable to plant fall crops in the wet soils. We estimate that total losses may exceed \$15 million from over 400 fresh market vegetable farms in the 14 counties. This growing sector of Wisconsin's agricultural economy that touches most directly the non-farming public can benefit from a cooperative effort among agencies to address these issues.

While a number of issues came to light, the three most significant issues were:

- **The limitations of crop insurance options and the need for risk management education for vegetable growers.**
- **The need for grower education in food safety and post-harvest handling of food crops.**
- **A need for agencies operating in the state to analyze our response to this disaster in hopes of being able to better address the needs of these farmers in the event of future disasters.**

Crop Insurance and Risk Management. We welcome the opportunity to work with agencies to identify ways to improve crop insurance effectiveness and accessibility for fresh market vegetable growers. The primary challenge is that most fresh market vegetable growers do not buy crop insurance. We believe that the utilization of risk management tools by vegetable growers could be increased by two means: program improvements and grower education.

Food Safety Education. We recommend that private sector and public sector organizations work together to establish educational programs in the area of food safety for vegetable growers in Wisconsin. One of the lessons learned from the flood event is that Wisconsin's fresh market vegetable industry is in a position of unnecessary risk if our growers do not have adequate knowledge and expertise in post-harvest handling of their crops. An existing program called GAP (Good Agricultural Practices) could provide the training needed by vegetable growers to ensure the safety of their products and enable them to work with national companies like Whole Foods and Chipotle Restaurants that are beginning to require GAP certification.

Assessing our response. Finally, an assessment of how our agencies responded to the flood disaster—what went well and what we could improve on—is recommended. The Organic Advisory Council encourages agencies to review our collective response and seek new means of communicating and sharing resources in the event of future disaster situations.

Agriculture generates \$51.5 billion for Wisconsin

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Wisconsin is home to a vibrant fresh market vegetable industry, including a rapidly growing organic vegetable sector. Our state is second in total number of organic farms in the nation and eighth in the number of organic vegetable farms. Our direct market vegetable sales are among the highest in the nation, with many growers utilizing multiple venues such as community supported agriculture (CSA), farmers markets, roadside stands, produce auctions, and direct sales to restaurants and grocers.

The fresh market vegetable sector of our agricultural economy was hit hard by the heavy rains during August of 2007. This report summarizes the losses experienced and identifies issues to explore and resolve in order to support southern Wisconsin's vegetable growers as they recover from the impacts. We also identify broader issues brought to light by this disaster and propose actions to initiate needed changes.

Weather patterns in August 2007 brought record rains in Southern Wisconsin totaling more than 20" in the first two weeks of the month, coming primarily in heavy downpours of 3" to 9" in several hours. The counties of Crawford, LaCrosse, Richland, Sauk, and Vernon Counties were hit hardest by the immediate damage of flooding, but a larger region was impacted significantly. In addition to the five original counties, Columbia, Dane, Green, Grant, Jefferson, Kenosha, Iowa, Racine, and Rock Counties.

Several large, successful organic vegetable farms were significantly impacted. Examples include:

- **Harmony Valley Farm with losses of over \$800,000.**
- **Driftless Organics with losses of over \$270,000.**
- **Avalanche Organics with losses of over \$150,000.**

The economics of fresh market vegetable production are not well understood by mainstream agriculture. These vegetable growers may produce up to 50 different crops in a season with multiple plantings of each. Fresh market vegetables are high value crops, bringing the producer from \$1000 up to \$50,000 per acre in gross revenue. The high returns per acre come with very high input costs, including substantial labor. These farms often have significantly higher net returns per acre than conventional crops and they contribute significantly more in terms of providing jobs in the community.

The August flooding came at a time when some of the highest value crops, such as tomatoes and peppers, were at the peak of their harvest. Many acres of these crops had to be discarded due to contamination by flood waters. In addition, the flooding and waterlogged soils caused disease problems, rotting of root crops such as beets, carrots and potatoes in the field, and reduced the storability of winter squash, potatoes, and onions. Further losses were incurred when farmers were unable to plant fall crops in the wet soils.

We estimate that total losses may exceed \$15 million from over 400 fresh market vegetable farms in the 14 counties.

Assessing the losses. The total impact of these losses is difficult to quantify. To develop estimates, we conducted an informal survey by phone and email, sampling 18 of the 61 vegetable farms listed on the SavorWisconsin website. Several other farms were surveyed via the WI Fresh Market Vegetable Growers Association. A total of 25 farms were surveyed. While this sample is too small to result in statistically significant results, it does provide a sense of the seriousness of this event to many growers.

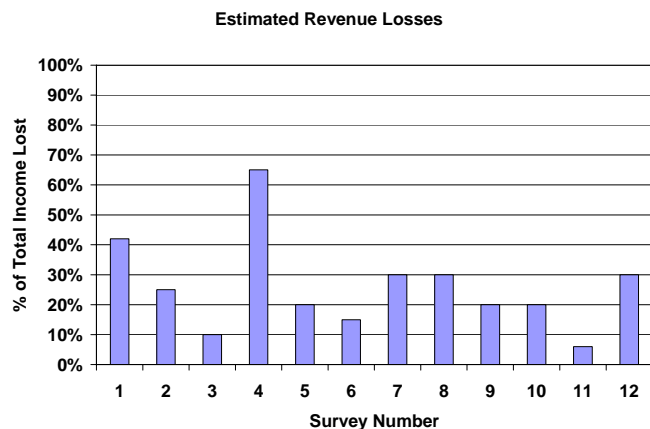
Among the surveyed farms, 17, or 68%, reported damage to their crops from the flooding and/or waterlogged soils. These farms were located throughout the region, from farms with floodplain fields in the Kickapoo and Bad Axe watersheds that received the most direct flooding impact, to farms on muck soils in Jefferson County, to farms on normally well-drained soils in Dane, Columbia, and Dodge Counties.

The farms also varied dramatically in size and income, ranging from a large wholesale vegetable grower with nearly 5000 acres to direct market growers with as few as 2-15 acres. The median farm acreage was 80 acres. The average proportion of farm acreage affected by flooding was 38%.

Financial losses.

Reflecting the diversity of farm sizes in the survey, the financial losses varied dramatically from over \$2 million for the large wholesale grower to \$280 for the smallest reported loss. The median loss was \$10,000. Among the 17 farms reporting losses, four farms reported losses over \$100,000 and four farms reporting losses between \$8200 and \$35,000, six reported losses between \$280 and \$4000, and three did not share financial

loss estimates. Losses averaged about \$3400 per acre. The estimated average loss among those reported was 26% of the farm's annual income.



The big picture. We do not have an accurate report of the total financial losses that the region's vegetable producers may have experienced. Because these losses are not covered under FEMA or the Small Business Administration programs, there is no incentive or requirement to report losses at the time of the disaster. A rough estimate can be calculated using our sample and US Census data. The 2002 Census of Agriculture reports a total of 653 fresh market vegetable farms representing 16,537 acres in the 14 county region affected by the flooding. While we cannot assume that

the surveyed farms represent the region, we can calculate what the total financial losses

One large wholesale grower of potatoes, onions, carrots and sweet corn in Jefferson and Waukesha Counties reported over \$2 million in damage. Some of his crops are insured using multiperil crop insurance with catastrophic coverage, but he is uncertain how much of his loss will be covered. He is concerned about further losses from mold and quality problems while his potato and onion crops are in storage. His final comment was, "It has been one of the most difficult times in the history of the farm."

would have been if they were representative. We can extrapolate the dollar values and acreages reported in our survey to the larger total. Sixty-eight percent of our sample reported losses on an average of 38% of their acreage, and an average value of \$3400 per acre. Extrapolating to the entire 14 county region this calculates out to an estimated loss of over \$15 million. Some of the larger fresh market and processing crop producers do have crop insurance to help cover their losses.

Other damage. Additional losses reported by respondents included damaged greenhouses and packing sheds, vehicles, and other equipment, with

one farm reporting over \$50,000 in damage to infrastructure. Other losses were incurred due to erosion and deposition of silt and gravel from upstream onto production fields. Some of these losses may be covered on a 75%-25% cost share basis under the USDA Emergency Conservation Program.

One issue of particular concern to organic growers is the potential that some of these soils have been contaminated by substances not approved for organically certified farms. Certifiers are determining if testing will be needed to verify that these fields can remain certified for organic production. The likelihood of this type of contamination is small and in most cases is not a concern. However, an example of how this issue could impact these growers occurred immediately after the flooding. Several wholesale buyers dropped contracts with all vegetable growers in the affected region whether or not they had direct flood damage. Retaining wholesaler confidence in organic products from the region hinges on assuring practices are in place to safeguard continuing organic certification of these farms.

Issues

Issue 1.

Crop Disaster Support Program. After evaluating the losses suffered by both organic and conventional fresh market vegetable producers in the region, we realize that the current system of disaster declarations does not always provide assistance where needed, particularly when a disaster is small in scale but devastating to those impacted. We encourage policy makers to explore alternatives to the Stafford Act that would allow small farmers to be considered small businesses and thus be eligible for programs offered by FEMA and the Small Business Administration at the national level. In this flood incident we are aware of at least three growers who sell at the Dane County Farmers Market who may go out of business because of the flooding and current disaster assistance mechanisms do not provide assistance that will help them.

Fresh market vegetable growers differ significantly from the majority commodity, dairy, and livestock farms. Many are young businesses with little or no equity accumulated and with little experience with risk management. Their high value crops are not adequately covered by standard crop insurance and the insurance programs available for vegetable crops are often complicated and expensive resulting in a fairly small proportion of vegetable farmers having crop insurance. Specific issues regarding crop insurance will be covered in more depth later in this report.

Issue 2.

Identify appropriate State and Federal agencies that could provide technical assistance to Organic Certifiers as needed to address organic certification issues.

As mentioned above, some organic farms impacted directly by the flooding have issues with potential deposition of contaminants into the soil from flood waters. In addition to vegetable farms, some organic livestock farms could also suffer feed losses due to contaminated soils. The risk of this was lessened by the fact that the flooding occurred late in the season several months after most pesticide and fertilizer applications to conventional farm fields in these watersheds were completed for the year.

The National Organic Standard places the responsibility for testing for unallowed substances with the certifier. This testing is not a standard part of the certification process and there are no pre-flood baseline data to refer to. While the circumstances of the flood are unprecedented in the 30 year history of organic certification in Wisconsin, growers need to know how to respond to future events of this nature. The Advisory Council sees a need to identify state and federal agencies that can provide advice and technical assistance to both certifying agencies and growers. Building relationships with those agencies and identifying key players who can offer assistance in a future emergency will be important in supporting organic farmers.

Long-term Issues

This disaster brought to light a number of challenges faced not just by organic vegetable growers, but by the entire fresh market vegetable industry.

Issue 3.

Identify ways to improve crop insurance effectiveness and accessibility for fresh market vegetable growers.

There are two existing crop insurance programs for vegetable growers, NAP and AGR-Lite. The primary challenge we have is that neither is widely used—most fresh market vegetable growers do not buy crop insurance. Even though the premiums for these crop insurance programs are federally subsidized, the cost to growers is still extremely high and the coverage is limited. We believe that the utilization of risk management tools by vegetable growers could be increased by two means: program improvements and grower education. We propose working with policy makers to help evaluate both crop insurance programs, NAP and AGR-Lite, to identify and recommend ways they could be modified to better meet the needs to vegetable growers. Issues related to each program are described in more detail in the following:

NAP. The USDA Noninsured Crop Disaster Assistance Program (NAP) program is a low cost insurance that provides risk management for producers of crops not covered by the USDA's standard crop insurance programs. The goal is for NAP to provide coverage equivalent to multiperil crop insurance with catastrophic coverage (CAT) for crops that are not covered under conventional crop insurance programs. Like CAT, it is reasonably priced with premiums of \$100 per crop per year up to a maximum of \$300; however, the coverage is limited. NAP only pays for losses that exceed 50%, i.e. the farmer covers the first 50% of all losses. For example, if a grower lost 49% of her sweet corn crop, there would be no payment. If she lost 70%, she'd receive compensation for the 20% above the 50% deductible.

Limited payment percentage. For losses triggering payment, NAP pays 55% of the average wholesale market price for the specific commodity as established by the State FSA. This means that, for a farmer suffering a total crop loss, NAP would pay 27.5% of the loss; for a grower selling direct to consumers at retail prices (usually 37.5% higher than wholesale), the NAP maximum payment effectively drops to 20%. For organic direct market growers with even higher value crops, the NAP maximum payment for a total loss may result in only about 15% of the crop's value.

Crop planting periods. The NAP program can use crop planting periods to address the issue of multiple successive plantings of a single crop throughout the season. At this time planting periods have been set for just a few of the dozens of crops that are grown. For example, planting periods are set for broccoli, so that if a grower was unable to get their fall crop of broccoli in the ground this season, he could be paid for a complete loss of that crop. In contrast, no planting periods have been set for cauliflower. Without planting periods, if a grower had a 100% crop of cauliflower from a spring planting and completely lost a late summer planting, that would likely average out to a 50% loss and no payment could be made.

The NAP program has provisions for establishing planting periods for vegetable crops, but currently, the individual grower is required to personally work with their local FSA County Committee to set them. This gives each grower the option of either using or not using planting periods. However, this places an undue burden on individual vegetable growers to work with their local FSA County Committee to put planting periods in place. To address this problem we encourage the FSA to work with the fresh market industry to establish state level planting periods.

Follow Up on NAP Issues

A. We request that the Wisconsin FSA State Office work with the Advisory Council and vegetable growers to develop planting periods for all major vegetable crops that could be applied uniformly across groups of counties with similar growing seasons. These would be reviewed and revised as necessary. Based on the experience of the Advisory Council, it is anticipated there will probably need to be 2 to 4 sets of planting periods to cover the state from south to north. This

level of uniformity should streamline application and record-keeping for growers who choose to use the NAP program.

B. If possible we encourage FSA to establish these more uniform planting periods retroactively to cover as many crops as possible lost during the 2007 flooding. This will allow growers who have NAP insurance to collect some level of compensation for their losses this season.

C. We encourage FSA to explore a modification of the NAP program that would allow crop values to be set based on the growers' actual sales prices. Currently, because crop values are based on conventionally grown vegetable prices they are significantly less than what organic farmers receive for their premium product. FSA has allowed farmers to establish yields based on their own production, and the Advisory Council requests they also work with farmers to set crop values based on organic prices. We encourage FSA to consider this change be adopted to cover losses suffered in 2007.

D. The Advisory Council recommends that NAP record keeping be modified so that the program uses grower field numbers to identify crop fields and allows grouping of similar crops with the same planting periods and pay categories.

AGR-Lite. AGR-Lite is a crop insurance sold in Wisconsin for the first time in 2007 as part of a pilot program. Like all federally-endorsed crop insurance policies, AGR-Lite is sold by private insurance companies with premium subsidies provided by the USDA. In Wisconsin, AGR-Lite was most actively marketed in 2007 by FARM-CO. The value of AGR-Lite is that it is a whole farm revenue insurance policy similar to the Crop Revenue Coverage (CRC) program that has been available to commodity producers for a number of years. This program has the potential to account for the price premium organic farmers receive in the market place. It utilizes the last 5 years' IRS tax forms to develop a farm's revenue guarantee and incorporates all crops into one coverage. It provides for several coverage levels and payment rates.

FARM CO provided us with an example of how the program works:

5-year average adjusted gross income:	\$100,000
Coverage level choice	65% (other options are 75% and 80%)
Payment rate	90% (other option is 75%)
Premium (depends on crop mix)	\$1295

In this scenario, a claim could be made if adjusted gross revenue fell below \$65,000 (\$100,000 x 65%). If adjusted gross revenue (AGR) was \$50,000, the insured would receive a payment of \$13,500 (90% of the \$15,000 difference between \$65,000 and \$50,000).

If this grower chose the highest available coverage and payment rate, payments would be triggered when AGR fell below \$80,000. Continuing the example, with AGR at

\$50,000, the payment would be 90% of \$30,000 which equals \$27,000. In this example, the premium for this higher level of coverage would be \$3070 per year.

Based on discussions with growers and the FARMCO, while a few vegetable growers investigated this option for the 2007 growing season, none took out a policy. Most of the AGR-Lite policies sold in Wisconsin in 2007 were for tree fruit growers. We are aware of two growers who looked into AGR-Lite. One was not qualified to purchase insurance because he did not have 5 years of tax statements accumulated (he had not been in business that long). Another was quoted a premium of over \$40,000 for one season's coverage, an amount that would have consumed the bulk of his profit for the year.

Follow up on AGR-Lite Issues. The newness of the program precludes a thorough assessment of its effectiveness. Based on this year's experience, one issue may be that margins may be so narrow in vegetable production that even a moderate premium may not be affordable for some growers. Potentially, larger premium subsidies may be needed. Another issue is that many new growers may not have the 5 years of records needed to qualify for the program, creating a barrier to those who are arguably most in need of crop insurance. For standard commodity crop insurance policies, the USDA Risk Management Agency (RMA) has developed county T yields for farmers who have very short yield histories. These T yields allow farmers to obtain some level of coverage with these policies while they establish a longer yield history. Potentially, the equivalent also could be created for AGR-Lite.

Grower Education Needs

Issue 4.

The Advisory Council encourages state and federal agencies to work with grower associations to identify ways to deliver educational programs for vegetable growers in the area of risk management.

This disaster has made it clear that many vegetable growers are not aware of their insurance options or of the importance of risk management for their businesses. Many growers do not maintain the kinds of records that are required to be eligible for these programs and some are at an income level where even the lowest premium levels are out of reach. Grower education regarding specific insurance options and record keeping requirements is highly desirable. In addition, general education for growers on the need/value for crop insurance and risk management in general would also be appropriate.

Before the flood, the DATCP Farm Center recognized a broader need among Wisconsin farmers for managing risk. In 2007, they obtained a grant from the USDA Risk Management Agency to provide risk management education for underserved populations, which may include some vegetable producers. More programs and efforts of this kind will help to meet grower educational needs.

Issue 5.

Identify ways to provide information, education and technical assistance for vegetable growers with regard to safe handling of food crops

Once flood waters receded and damage was assessed, one of the first questions that growers asked themselves was whether otherwise undamaged crops that had been under floodwaters were saleable after washing.

Bonnie Wideman at MOSA and Laura Paine, Organic Agriculture Specialist at DATCP worked with Richard DeWilde and Jim Riddle of the University of Minnesota to determine that the federal Food and Drug Administration (FDA) is the agency that governs this situation. According to the FDA, any crop that has been subjected to flooding is considered an “adulterated commodity” that cannot be sold for human consumption. The definition of flooding that the FDA uses is “the flowing or overflowing of a field with water outside a grower’s control that is reasonably likely to contain microorganisms of significant public health concern and is reasonably likely to cause adulteration of edible portions of fresh produce in that field.”

The information that was gathered was shared with growers certified by MOSA, and with the public through news releases and on the DATCP and UW Extension websites, but it is not clear how many vegetable growers saw it during the aftermath of the flooding. In preparation for future disaster situations, the Advisory Council encourages agencies to work together to develop a more comprehensive approach that reaches growers with the information they need using other venues, e.g. newspapers, grower newsletters, extension newsletter, radio, etc. work with wholesalers and farmers market coordinators.

One of the lessons learned from the flood event is that Wisconsin’s fresh market vegetable industry is in a position of unnecessary risk if our growers do not have adequate knowledge and expertise in post-harvest handling of their crops.

Several growers and organizations have already recognized the need for this training. The Wisconsin Fresh Market Vegetable Growers Association offered a session on the Good Agricultural Practices (GAP) program that provides for a certification process for growers’ produce handling practices. Homegrown Wisconsin, a grower cooperative, has received a grant to train and certify their member growers for GAP. The Advisory Council encourages building on these opportunities to create a broader based approach that reaches as many growers as possible.

Issue 6.

The Advisory Council encourages federal and state agencies and educational institutions to develop and organize Good Agricultural Practices (GAP) educational programs to increase grower skills in safe handling of produce.

Agencies and organizations that could contribute to this effort include UW Extension and the WI Technical College System, DATCP’s Food Safety Division, FDA, the Midwest Organic and Sustainable Education Service (MOSES), and the Fresh Market Vegetable Growers Association. Educational venues for this training could include the FMFVG Conference, the Upper Midwest Organic Farming Conference, stand-alone

workshops for growers through Extension and technical colleges, newsletters, and newspaper articles.

Issue 7.

The Advisory Council sees a need for more trained and certified personnel to conduct GAP inspections and provide certification services for GAP. Currently one individual, employed by DATCP, covers the entire state. As the number of growers needing GAP certification grows, additional inspectors will be needed. The Council encourages exploration of ways this certification capacity may be increased, including the possibility of additional agency staff and through existing private sector certification agencies.

Additional Issues

Issue 8.

The Advisory Council sees a need for a registry and communication structure for organic certifiers doing business in Wisconsin and proposes working with DATCP to determine if the agency would be the appropriate entity to house this registry. If created at DATCP this would create a direct conduit between DATCP's Agricultural Development, Agricultural Resource Management, and Food Safety Divisions and the state's organic certifiers. Certifiers are the entities that have the most contact with organic growers and are an important group to enlist for information sharing when rapid communication is needed. The registry could also create a means for all certifiers to agree on a similar procedure to deal with situations like the flooding, ensuring that producers would receive uniform information and follow uniform procedures regardless of which organization certifies their farms.

Issue 9.

The Advisory Council encourages state and federal agencies involved with supporting and regulating agriculture to obtain additional information on alternative agriculture. Organic agriculture is a rapidly growing industry and not all federal, state and local ag-related agencies have had the opportunity to obtain cutting-edge information on its specialized needs. State agency staff, FSA staff and county committees and other government agents should be encouraged to attend the many training opportunities offered in the state by the University, MOSES, and other organizations. A better understanding of alternative production systems would equip these staff to better address the needs of organic farmers and other small scale and specialty crop growers who must access USDA programs through this local structure.