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## GREENHOUSE CLUSTER IN NORTHWEST OHIO

By Neil Reid, Ph.D., and Michael C. Carroll, Ph.D.



Bedding plants are a staple crop of the northwest Ohio greenhouse industry.

### INTRODUCTION

Increasing numbers of communities around the world are adopting a cluster-based approach as the central focus of their economic development efforts. Communities from St. Louis, Missouri (Bezold, 2004) to Sialkot, Pakistan (Nadvi, 1999) are utilizing cluster-based economic development to retain their competitive edge in an increasingly competitive world. Implementing a successful and sustainable cluster-based economic development program is challenging (Bongiorni, 2005; Meagher, 2005). The purpose of this article is to outline some of

the challenges that economic development practitioners might face in implementing a cluster-based economic development initiative and to suggest possible solutions to overcoming these challenges.

The context for this article is the greenhouse nursery industry in northwest Ohio. In 2003 we (the authors) received funding from the U.S. Department of Agriculture (USDA) to conduct an assessment of the economic challenges facing northwest Ohio's greenhouse nursery industry. Based on this assessment, we recommended that the industry organize itself as an industrial cluster<sup>1</sup> and use a cluster-based approach to address the competitive challenges it was facing. Subsequent funding from the USDA allowed us to

implement the cluster-based strategy that we had recommended<sup>2</sup>.

### THE NORTHWEST OHIO GREENHOUSE INDUSTRY

The greenhouse industry has a strong historical presence in northwest Ohio. The industry dates back to European immigrants who settled in the region in the late 19th and early 20th centuries. The core of the region's industry is in Lucas County. Lucas County ranks 4th in the state and 94th in the nation in terms of dollar value of greenhouse nursery crops sold. These rankings place Lucas County in the top 5 percent statewide and top 4 percent nationwide. There are 82 greenhouses in the five-county northwest Ohio region

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### OVERCOMING THE CHALLENGES

Faced with competitive challenges that threaten its economic viability, northwest Ohio's greenhouse industry recently organized as an industrial cluster. The cluster was established to enable the industry to respond to these competitive challenges. By coming together and identifying collaborative solutions to common problems the goal is to enable these family-owned businesses to survive and thrive. For the cluster to be successful, key challenges have to be addressed. These include a lack of experience with cluster development, convincing competitors to engage in collaborative efforts, and establishing the appropriate support infrastructure for the cluster. This article outlines these challenges, describes how they were overcome, and assesses the current status of the cluster.

(Figure 1). The industry is responsible for over 750 jobs and has an economic impact of almost \$100 million in the five-county region (Reid and Carroll, 2005).

Like many other industries, northwest Ohio's greenhouse growers are facing significant competitive challenges. Major threats to the economic security of the industry are international competition (particularly from southern Ontario), Big Box store purchasing contracts, and high and rising utility costs. The industry also exhibits a number of significant weaknesses, including dated production technology, old greenhouse buildings, heavy reliance on traditional sources of fuel, and naiveté in the marketing of its products.

**Figure 1. Geographic Distribution of Northwest Ohio Greenhouses**



## CHALLENGES TO STARTING A GREENHOUSE CLUSTER

In starting a greenhouse cluster, we faced a number of significant challenges. Ironically, money was not one of these challenges. The project was funded by the U.S. Department of Agriculture<sup>3</sup>. The challenges that we did face, however, were significant. These were lack of past experience in cluster development, potential resistance to the development of a greenhouse cluster on the part of the growers themselves, and the lack of an infrastructure to support an operational cluster. The rest of this article details the nature of these challenges and outlines how we overcame and continue to overcome them.

### Lack of Past Experience in Cluster Development

We had no experience in starting and running an industrial cluster. While we were well versed in the academic literature on the topic, we had no knowledge of what it would take to get an industrial cluster up and running and to maintain it once it was established. We did not know what type of infrastructure, especially in terms of personnel, would be required. Furthermore, there was no history of cluster-based economic development in the local region and we could not, therefore, turn to local economic development agencies for implementation assistance.



*Migrant workers are an important part of the greenhouse labor force in northwest Ohio.*

### Selling the Cluster Concept

A major challenge that we faced was convincing the growers that a cluster-based development strategy could help them. Cluster-based economic development requires members of an industry to think differently about how to respond to competitive challenges. It requires them to think of their small greenhouse as part of a larger regional network of greenhouses. Cluster-based economic development also requires them to think of competitors as potential partners. It requires them to think of a culture of collaboration coexisting beside a culture of competition. Perhaps most importantly, this type of development requires members of an industry to realize that their economic destiny is increasingly tied to the economic destiny of their neighbors and that, working collaboratively, they can become empowered to shape a prosperous economic future.

### Establishing the Infrastructure

Critical to a successful greenhouse cluster is the establishment of the necessary personnel support infrastructure. Based upon four days we spent examining cluster-based economic development in Wolverhampton, England (see next section) and our knowledge of other cluster initiatives elsewhere in the world, we believed that establishing an advisory board and hiring a project manager and cluster champion would be required. We also had strong ideas as to the composition of the advisory board and the skills and experiences needed for those holding the project manager and cluster champion positions. The real challenge would be finding individuals who had the desired skills and experiences.

### Engaging the Growers

Once the key growers had agreed to adopt the cluster-based approach, we were faced with engaging a sufficient number of growers to generate the critical mass necessary to make the cluster viable. A fundamental challenge

that we faced in engaging a sufficient number of growers revolved around the issue of trust. Lack of trust operated at a different number of levels. As academics, we were eyed with suspicion. We were viewed as coming from an environment that generated ideas and theories that had little applicability to “real-world” issues. Not only did the growers not trust us, but in many cases, did not trust each other. Years of fierce competition had resulted in growers eyeing each other with suspicion. Furthermore, the northwest Ohio greenhouse industry is one in which old inter-family feuds are passed down from generation to generation.

## OVERCOMING THE CHALLENGES

### Lack of Past Experience in Cluster Development

We decided that the best way to overcome our lack of practical experience in cluster implementation and development was to spend some time with individuals who had experience in cluster-based economic development. In August 2004, we spent four days in Wolverhampton, England. The West Midlands region of England had been engaged in cluster-based economic development for several years. An emerging relationship between the University of Toledo and the University of Wolverhampton helped facilitate our visit. More importantly, there was a simultaneously emerging relationship between the two regions’ major economic development agencies – the Regional Growth Partnership in northwest Ohio and Black County Investment in the West Midlands Region of England<sup>4</sup>.

In Wolverhampton, we met with approximately 35 individuals involved in cluster-based economic development. These included meetings with the cluster strategy team leader, the director of the Wolverhampton Telford Science and Technology Corridor, the executive director of the Wolverhampton Science Park, the champion of the Advanced Engineering Cluster, and representatives of a number of companies participating in the region’s cluster program.

While the Wolverhampton trip was extremely informative, we recognized the danger of trying to replicate the Wolverhampton model in northwest Ohio. Therefore, we supplemented our Wolverhampton experience with information about cluster initiatives in other parts of the world. This additional knowledge was primarily gleaned from government reports, cluster initiative websites, and academic journals. In fall 2004, we introduced the concept of cluster-based economic development to northwest Ohio’s greenhouse industry and offered this as a strategy for helping the industry retain its competitive edge.

### Selling the Cluster Concept

One of the first challenges that we faced was identifying growers to whom we should pitch the concept of cluster-based economic development. Fortunately, the university had strong relationships with a number of Toledo-based agents from the Agricultural Research Service<sup>5</sup>. The ARS representatives were able to identify the region’s most respected and innovative growers. It seemed best to present the cluster-based strategy to a small group of forward-thinking growers. If they saw merit in the concept, we could address the broader community of growers.

In October 2004 at a meeting with eight of the region’s growers, we made a two-part presentation. The first half of the presentation outlined the current economic challenges facing northwest Ohio’s greenhouse industry. In particular, we focused upon the issues of Canadian competition, high energy costs, Big Box store purchasing contracts, lack of technological sophistication,

outdated physical infrastructure, and low levels of marketing expertise. We also presented what we believed would be the industry’s future if it failed to address these competitive challenges.

Having made the growers aware of the potential consequences of inaction, we presented the concept of cluster-based economic development and the possibilities that it offered for their industry. In outlining the cluster concept, we provided a very simple definition whose central focus was

the need for growers to come together and engage in collaborative problem identification and collaborative problem solving. In particular, the focus was on the large industry-wide problems (e.g., high energy costs) that individual growers had dealt with for years and were incapable of solving as individual businesses.

The presentation emphasized that the cluster-based strategy could help the region’s greenhouse industry, however the growers themselves had to see value in the approach. If the growers were willing to implement the strategy, then we would help them. However, the growers themselves would be expected to take ownership of the strategy and take a leadership role in all aspects of the cluster, including strategic visioning and decision-making. In other words, this would be their cluster. Our responsibilities would be to acquire funding for the cluster<sup>6</sup>, provide a connection to university resources when required, and assist in strategic visioning for the cluster.

The discussion following the presentation was critical. If we had not convinced the growers that a cluster-based approach was worth pursuing, we would have had to



*Geraniums are a popular plant with northwest Ohio residents.*

walk away from that meeting and rethink our strategy. Fortunately, there was sufficient interest among the growers and they agreed that a follow-up meeting was warranted in several months to further discuss the cluster-based approach. At that meeting, we agreed to provide a detailed description of how a cluster-based approach could be operationalized, including the infrastructure (particularly personnel) that would be required.

In December 2004, we met with the same eight growers again. This time, the discussion focused on the specifics of what it would take to get a greenhouse cluster up and running in northwest Ohio. As noted previously, based upon the experience in Wolverhampton and our knowledge of cluster-based initiatives in other parts of the world, we advocated that the cluster be managed by an advisory board and that it be staffed by a project manager and cluster champion. The respective roles of each of these was discussed and agreed upon. Meeting participants discussed and agreed upon the composition of the advisory board and qualifications for both the project manager and cluster champion positions were also discussed and agreed upon. It was also agreed that the idea of a greenhouse cluster had to be presented to a larger number of the region's growers. The upcoming winter conference of the Toledo Area Flowers and Vegetable Growers Association (TAFVGA) provided the perfect venue to reach a larger number of growers with the concept (Carroll and Reid, 2005).

### Establishing the Infrastructure

Following a presentation to TAFVGA, we started putting in place the infrastructure that was necessary to get the cluster up and running. In January 2005, we hired a project manager and established an advisory board.

The composition of the advisory board was critical. In keeping with the promise that the growers would have a leadership role in the cluster, eight of the advisory board's members were growers. The other six represented the academic, economic development, and government communities (Table 1). Also, in keeping with the idea of grower control, it was determined that only growers would have voting rights on the advisory board. In a subsequent meeting, it was agreed that a grower did not have to be a member of the advisory board to vote at meetings. Simply being in attendance at a meeting entitles a grower to vote at that meeting. This is in keeping with the bottom-up philosophy of the cluster, to encourage broad participation by growers, and to discourage the possible criticism of the advisory board being an exclusive group. The advisory board agreed to meet

**Table 1. Northwest Ohio Greenhouse Cluster Advisory Board**

Name	Title	Organization
Dick Bostdorff	Owner	Bostdorff Greenhouse Acres
Bill Dearing	Owner	Dearing Greenhouse
Mark Hecklinger	Owner	Hecklinger Greenhouse Inc.
Tony Keil	Owner	Louis Keil & Sons
Walt Kruger	Owner	Lakewood Greenhouse Inc.
Don Schmidlin	Owner	Schmidlin Greenhouse Inc.
Alan Schmidt	Owner	Schmidt Brothers Inc.
Tom Wardell	Owner	Wardell's Farm Market
Michael Carroll	Director	Center for Regional Development, Bowling Green State University
Beth Fausey	Floriculture Program Manager	Ohio State University Agricultural Business Enhancement Center
Joe Perlaky	Project Manager	University of Toledo
Lindsay Potts	Special Assistant	Congresswoman Kaptur's Office
Neil Reid	Director	Urban Affairs Center, University of Toledo
Lee Springer	Director, International Development	Regional Growth Partnership

monthly, with meetings taking place at the Toledo Botanical Gardens (TBG). The TBG had long been a preferred meeting place for many grower meetings and was considered neutral territory by many of those in the industry.

One of the advisory board's first decisions was to hire a project manager. Ideally, the project manager needed the following skills and experience:

1. Experience as a small business owner. This allows the project manager to have a good understanding of the challenges facing northwest Ohio's family-owned greenhouses.
2. Experience in the area of economic development. One of the overarching goals of the greenhouse cluster is to contribute to the economic development of northwest Ohio. A project manager with economic development experience gives the cluster a better chance of meeting this larger goal.
3. Excellent networking, brokering, and communication skills. The project manager's principal job is to ensure that the various parts of the cluster infrastructure (advisory board, cluster champion, cluster ambassadors, and hired consultants) are working together efficiently and effectively towards the common goal of advancing the cluster. The project manager is also responsible for serving as a liaison between the cluster and the media.

The individual chosen to be project manager, Joe Perlaky, has all of the requisite skills and attributes. He had previously owned his own retail and industrial dry-cleaning businesses and had extensive experience in economic development, having served as commissioner of economic development for the city of Toledo. Mr. Perlaky had also held positions as a business development specialist and as a technology and commercializa-

tion specialist with the Regional Growth Partnership. In his most recent position as program director of an alternative energy system grant at the University of Toledo, he honed his networking, brokering, and communication skills. Initially, the position of project manager was ten hours per week. As the cluster increasingly moved from concept to implementation, the time dedicated to the position was increased to 30 hours per week in October 2005.



*U.S. Congresswoman Marcy Kaptur attends a meeting of the Maumee Valley Growers Advisory Board at the Toledo Botanical Gardens.*

With the advisory board and project manager in place, the next task was to identify and hire a cluster champion. The role of the cluster champion was to spend time in the field, visiting growers and identifying collaborative opportunities. The skill set required of the champion is quite different than that required of the project manager. Ideally the cluster champion has the following skills and experience:

1. Extensive experience working in and knowledge of the greenhouse nursery industry. Knowledge of the industry is a critical attribute for choosing a champion. Being able to speak the language of the growers and to understand the intricacies of the industry are vital.
2. Ability to think innovatively and to move growers to think and act innovatively. The cluster-based approach requires that growers be willing to think and act in new and different ways. Old, failed approaches to solving problems will not deliver the desired results. A key responsibility of the cluster champion is to convince growers that collaboration will play a central role in their future economic prosperity.
3. High level of trust and respect from the growers. If the growers are going to be asked to think and act in new and different ways, it is critical that the individual (i.e., the champion) asking them to do so be trusted and respected by the growers. The champion is the face of the cluster to the growers.
4. Excellent networking, brokering, and communication skills. Being able to effectively communicate the cluster's overall vision to the growers in language that resonates with them is a key champion skill.

Furthermore, he or she must be capable of ensuring that the growers understand the value-added that will come from their participation in the cluster.

Given that the champion has frequent and regular interaction with the growers and has prime responsibility for engaging growers in the cluster-building process, the advisory board felt that it was critical that the growers decide whom to hire for this position. The hiring of the champion took longer than expected. The original candidate, a retired Ohio State University Agricultural Extension Agent, decided, at the last minute, to decline the offer. It took several months for the growers to regroup and identify another champion candidate.

The second candidate identified by the growers was Dr. Dean Krauskopf, the Agricultural Extension Agent for Michigan State University (MSU),



*Jeff Creque provides a tour of his greenhouse in Sylvania, Ohio, to staff members of U.S. Senator Mike DeWine.*

which has a service area that includes southeastern Michigan. This choice presented both challenges and opportunities. On the one hand, this raised the issue as to whether Dr. Krauskopf would be permitted by the MSU Extension Office to divide his time between the geographically contiguous southeastern Michigan and northwest Ohio. On the other hand, Dr. Krauskopf's appointment could represent a future opportunity to extend the northwest Ohio greenhouse cluster into southeastern Michigan, which would help break down a historical political barrier to collaborative economic development efforts. The MSU Agricultural Extension Service approved Dr. Krauskopf filling the position for the northwest Ohio greenhouse cluster and he was appointed in May 2005.

Dr. Krauskopf holds a Ph.D. in horticulture from North Carolina State University and has over 20 years experience working in the greenhouse industry. He also

understands the nature of the competitive challenges facing the greenhouse industry and recognizes that local industry practices have to change if the industry is to prosper. Most importantly, however, Dr. Krauskopf is trusted and respected by local growers.

### Engaging the Growers

With the cluster infrastructure in place, it was time to operationalize the cluster. The first step was to bring together the advisory board and identify the first cluster project. This occurred at the June 2005 advisory board meeting. The first project had to meet a number of key criteria:

1. It had to have a strong collaborative element and have high potential to engage a large number of growers.
2. It had to bring demonstrated value to the growers.
3. It had to have a high probability of being successful.

In the ensuing discussion, two potential first projects quickly emerged as the preferred choices of the growers. Those projects were marketing and energy costs. The growers admitted that their marketing efforts were unsophisticated, fragmented, and generally ineffective. Sixty-five percent of growers who had responded to our survey had identified marketing naiveté as a barrier to market expansion. With regard to energy costs, the region suffered from having some of the highest utility rates in the state. The fact that during the summer of 2005 energy costs seemed to be in an upward spiral added to the urgency of dealing with this issue.

By the end of the meeting, the growers had agreed that marketing should be the focus of the first cluster project. The critical factor that resulted in marketing being chosen over energy costs was the relative chance of success. Successfully addressing the energy cost issue is complex and difficult. The growers felt that the infant cluster was not yet equipped to take on such a task.

With marketing identified as the first cluster project it was imperative that the momentum and enthusiasm of the group be kept going. The relationship that we had with the growers was very fragile. Their level of trust in us and the cluster concept was increasing. However, to maintain and increase the trust level we had to move quickly onto the marketing initiative. The growers were extremely busy, action-oriented people. All the activity up until now had been building towards making things happen and providing demonstrated value to the industry.

In keeping with the cluster philosophy of solving problems with local expertise, the advisory board agreed that a local company should be hired to provide marketing expertise to the cluster. The growers chose a local

company that specializes in branding and marketing, Thread Incorporated. Again, the process of identifying and choosing Thread provided an opportunity for growers to come together and collaborate. The cluster hired Thread in August 2005.

Representatives from Thread started attending monthly advisory board meetings. They suggested that the greenhouse industry should first develop a brand identity and then use that brand identity as the framework for developing and implementing a comprehensive marketing strategy. A marketing sub-committee, comprised of advisory board members, was formed and also met

**Figure 2.**  
Maumee Valley Growers:  
Logo and Positioning Statement



Wardell's Farm Market in Waterville, Ohio.

monthly. The sub-committee worked with Thread to develop a brand identity. To better understand the nature of the local greenhouse industry, representatives from Thread accompanied the cluster champion on a number of his field visits to greenhouses. These visits also provided Thread with an opportunity to explain the concept of branding to growers and to encourage their participation in the process. The visits also

allowed Thread to start building a relationship of trust with the growers.

During the months of September and October 2005, Thread worked on developing a brand identity for the northwest Ohio greenhouse industry. The potential names, logos, and positioning statements associated with the brand identity were tested with both growers and consumers. Grower participation in the brand development process was particularly critical. Developing a brand was as much about bringing the growers together under a common identity as it was about providing the consumers with a brand with which they can identify. By November 2005, the brand identity process was complete. Northwest Ohio greenhouse growers now had a common identity – Maumee Valley Growers' (Figure 2). The positioning statement, "Choose the Very Best," emphasized the high quality of the products that were grown in northwest Ohio greenhouses.

With the brand established, it was essential that as many growers as possible adopt and identify with the brand. To facilitate the process of grower buy-in, we rec-

ognized the need to engage the assistance of growers beyond those on the advisory board. Thus was born the Maumee Valley Growers Ambassador Program. Five non-board growers were identified to serve as ambassadors, using three main criteria.

1. Ambassador growers are not members of the advisory board. This increases the number of growers actively involved in the cluster. Involving more growers in an active role increases grower commitment to the success of the cluster.
2. Ambassador growers have to be committed to the concept of the cluster and be willing to commit the time necessary to the position.
3. Ambassador growers are evenly spread geographically throughout the five-county region.

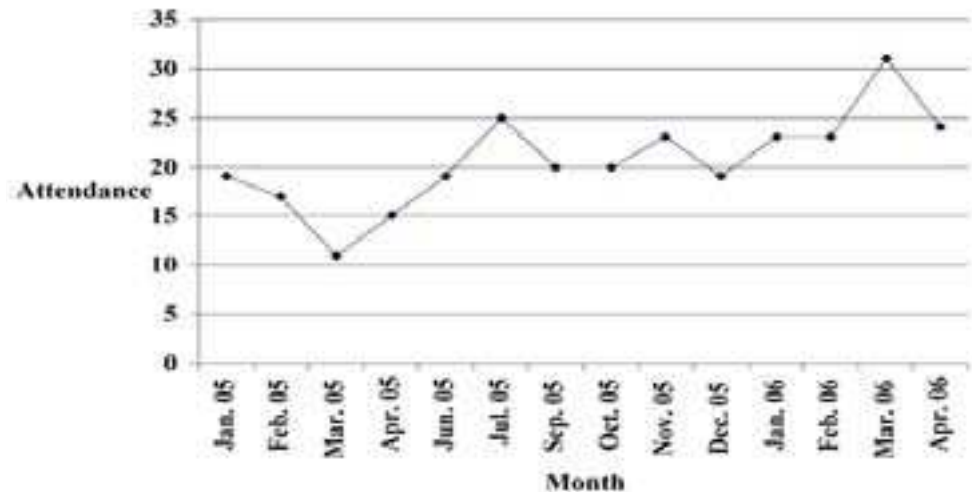
Ambassadors are an addition to the cluster personnel infrastructure of advisory board, project manager, and champion. The role of ambassadors is to function as a liaison between the advisory board and the growers. As such, their job is to promote the brand and cluster activities to growers within their geographic area, to supplement the work of the champion when needed, and to be the eyes and ears of the advisory board with regard to identifying collaborative opportunities that might arise.

As the 18-month mark approaches after the inception of the northwest Ohio greenhouse cluster, grower engagement in the cluster is at a healthy level. Attendance at advisory board meetings generally numbers in the 20-25 range (Figure 3). Despite the early success, there are a number of significant challenges ahead if the Maumee Valley Growers are going to prosper.

### CONCLUSIONS AND CHALLENGES AHEAD

In this article, we have outlined the genesis and evolution of the northwest Ohio greenhouse cluster, especially identifying the major challenges faced in creating and developing this cluster. Overcoming lack of experience in cluster development, selling the cluster concept to the growers, establishing the proper infrastructure and staffing it with the appropriate people, and engaging the growers to a satisfactory level have been the key challenges faced in establishing the northwest Ohio greenhouse cluster. Most of these challenges have been satisfactorily overcome. The toughest challenge was, and still remains, engaging growers. This is a challenge we

**Figure 3. Attendance at Advisory Board Meetings January 2005 – April 2006**



As the 18-month mark approaches after the inception of the northwest Ohio greenhouse cluster, grower engagement in the cluster is at a healthy level. Attendance at advisory board meetings generally numbers in the 20-25 range.

are gradually winning, however, as shown by the increasing attendance at advisory board meetings.

The northwest Ohio greenhouse cluster is a living project. No one knows the long-term success of the initiative. In May 2006, northwest Ohio's greenhouse industry was in the middle of its peak sales for the season. To increase market awareness of the Maumee Valley Growers, a media campaign was in full swing. This included traditional media advertising (paid newspaper and television spots) and newspaper articles about the fledgling organization (e.g., see McKinnon, 2005; *Toledo Business Journal*, 2006). A web-site, oriented towards both growers and consumers, has also been launched

([www.maumeevalleygrowers.com](http://www.maumeevalleygrowers.com)).

There are still a number of challenges ahead. The primary challenges are:

1. Increase growers' commitment to and engagement in the northwest Ohio greenhouse cluster via their participation in the Maumee Valley Growers.
2. Develop a plan to address the high energy costs facing the Maumee Valley Growers. This is a primary goal during the fall and spring of 2006-2007.
3. Develop a plan to wean the Maumee Valley Growers off of their dependency on USDA funding.<sup>8</sup> While the Maumee Valley Growers are currently funded by the USDA, it is necessary that a funding plan be developed that does not depend upon federal funds.

Successfully addressing these challenges during the coming months will be critical to solidifying the foundation that has been established for a successful greenhouse cluster in northwest Ohio. 🌐

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## FOOTNOTES

- 1 An industrial cluster is a geographic concentration of businesses in a particular industry that cooperate with each other to overcome business challenges that they cannot overcome as individual business units. A mature cluster also includes supporting infrastructure such as universities and economic development agencies.
- 2 This project is funded by U.S. Department of Agriculture grants CSREES 2003-06230, CSREES 2004-06222, and CSREES 2005-02216. The project team comprises faculty and staff from Bowling Green State University, Indiana State University, Ohio State University, University of Toledo, and Toledo Botanical Gardens.
- 3 For fiscal year 2003-04, the project team received a grant from the USDA in the amount of \$139,307. For fiscal year 2004-05 an additional grant of \$667,153 was received from the USDA. An additional \$679,671 was received from the USDA for fiscal year 2005-06.
- 4 More information about the West Midlands' cluster program can be found at [www.ae-cluster.co.uk](http://www.ae-cluster.co.uk) and <http://www.advantagewm.co.uk/>.
- 5 The Agricultural Research Service is the U.S. Department of Agriculture's chief scientific research agency ([www.ars.usda.gov](http://www.ars.usda.gov)).
- 6 Eventually, the growers will take over the responsibility for funding the cluster.
- 7 The appellation, Maumee Valley, refers to the valley of the Maumee River that starts in Fort Wayne, Indiana, and flows through northwest Ohio before draining into nearby Lake Erie.
- 8 On Tuesday, May 23, 2006, Representative Jeff Flake attempted to remove funding for the Maumee Valley Growers through an amendment to the Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2007. The amendment failed to pass. See Congressional Record, 2006 Daily Digest ([www.gpoaccess.gov/record/](http://www.gpoaccess.gov/record/)).



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