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*The National  
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University of Wisconsin-  
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Easter Seals, Inc.

## Back Injury Motivates Wisconsin Man's Move to Farming

Jeff Purvis and his family moved to Wisconsin to be closer to family and for the hunting, but it was an auto accident that ultimately motivated him towards his dream to farm. Purvis grew up on his family's hobby farm in Indiana, where he was involved in 4-H and FFA. After high school graduation, Purvis spent four years in the army. For a majority of his working years, he was employed in the heavy construction field.

In the summer of 1998, he was working in residential construction when he was injured in an auto accident on the job. This caused back problems and a tingling sensation in his legs, which restricted him to light duty work and a lifting limitation of no more than 15 to 20 pounds with occasional bending. Realizing that his work in construction could be no more, Purvis sought assistance from the Wisconsin Division of Vocational Rehabilitation (DVR).

### **Developing Partnerships**

With his back problems making it difficult to work for more than a three-hour stretch without a break, Purvis explored the idea of starting his own business and utilizing the empty buildings currently on his Spencer, Wisconsin farm. With this in mind, his DVR counselor brought the AgrAbility of Wisconsin program into the mix.

Paul Leverenz, Director of the Easter Seals Wisconsin's FARM Program and AgrAbility partner, recalls Purvis needing to work through two stages: first, determining what would be a viable agricultural operation given his disability; and second, determining what changes would need to be made based on the selected operation. To help with this decision-making process, AgrAbility of Wisconsin made Purvis aware of various options and coordinated involvement from Purvis' local county extension agent. In the end, it was ultimately up to Purvis to decide what to do.

### **Making the Decision**

Taking the ideas presented to him, Purvis continued to peruse the newspapers searching for a job that would fit his skills and abilities. That is where he found an advertisement by a national agricultural cooperative about custom calf raising opportunities.



*Jeff & Debbie Purvis,  
Premier Calves,  
Spencer, WI*

## Client Feature

Changes were needed before Purvis could begin raising calves. First, his barn was modified from a freestall housing design to individual calf housing. Removal of a bunk feeder and installation of a feed room for preparing and mixing calf milk replacer was also necessary. In May 1999, Purvis and his wife, Debbie, began raising 80 calves with a 100% success rate for the national agricultural cooperative. But, in November 2001, they began contract raising calves for area dairy farms on their own.

As of April 2003 Jeff and Debbie raise calves for six different dairy operations and have over 450 calves on the farm at any one time. They expect to be raising upwards of 1,000 calves by June 2003. Debbie left work at the Marshfield Clinic and became an important part of the business' success, taking care of the bookwork and the tasks that had caused Purvis difficulty. Debbie reports, "I'm really glad to be working alongside Jeff and I love working with the calves."

Purvis makes use of several items that help him complete his daily tasks with more ease.

- ◆ A skid steer with a fork is used to move pallets of feed, bales of hay and straw, and calf hutches around the operation. He is currently looking into acquiring a skid steer with a heated cab and side-entry door for ease of entry and exit.
- ◆ A feed cart with bicycle tires is used for moving smaller items around the farm.
- ◆ A grain bin is used for storing calf starter. Purvis is looking into obtaining a second bin for additional feed needs of older calves. Use of the grain bin reduces the need for moving, lifting, and overall managing 50-lb bags of feed.
- ◆ A calf cart is used for moving calves from one location to another.
- ◆ A pig scale is used for weighing calves up to 13-14 weeks of age. Calves older than 13-14 weeks are weighed at the squeeze chute. Purvis has found that keeping accurate records of the calves' growth rates helps him to better manage his business.

*Adapted from Winter 2002 Plowing Ahead, AgrAbility of Wisconsin's newsletter.*

### **Working With AgrAbility**

"Some people we work with are farming better because of our involvement, while Jeff is farming because of our involvement," Leverenz proudly noted. He expressed further gratification in helping individuals change their mindsets so that they work to incorporate their disability into the continuous planning process. This is something that Purvis has demonstrated over and over as he and his wife have developed their business into what it is today.



*Purvis explains how an old water heater he mounted to the Kawasaki Mule makes for easy hauling of water and milk replacer to the calf hutches.*

"I used to worry so much about Jeff working outside alone. They [AgrAbility staff] have made me more comfortable having Jeff doing things by himself," says Debbie. Working together, Leverenz and Purvis discussed his limitations and talked about ways to prevent further injuries.

Purvis himself says, "There isn't enough good things to say about DVR and AgrAbility [of Wisconsin]. If it wasn't for them, I would probably be collecting unemployment right now." ❖



*A portable calf restrainer holds calves for dehorning or giving medicine.*



*A squeeze chute is used to hold the animals while they are weighed and given shots safely.*

## Back Injuries

According to the Center on an Aging Society, “back pain is the leading cause of work limitations among adults ages 18 to 64,” and back pain is the sixth most expensive health care condition in the United States.<sup>1</sup> Back injuries are the second most common disability reported by farmers/ranchers receiving services from AgrAbility.<sup>2</sup> Pain resulting from a back injury frequently limits an individual’s ability to perform everyday work activities. On the farm, where everyday activities are often dictated by crop conditions and weather, having time pressure in addition to a back injury can place a farmer/rancher at a higher risk for acquiring secondary injuries.

*“Back pain is the leading cause of work limitations among adults ages 18 to 64.”*  
- Center on an Aging Society

Preventing back injuries is acknowledged as the nation’s number one workplace safety problem.<sup>3</sup> Back injuries, however, are just one type of “work-related musculoskeletal disorders” (WMSDs) that are common when there is repeated exposure to physical tasks like those present in many farm/ranch environments.<sup>4</sup> Many times, the implementation of proper ergonomic principles (e.g., redesigning the work process, tools, etc.) can greatly help to reduce the incidence of WMSDs.

The National Institute for Occupational Safety and Health (NIOSH) website<sup>5</sup> publishes information on ergonomic principles as well as related resources that explain proper lifting, bending, and carrying techniques targeted at preventing back injuries. The *Work Practices Guide for Manual Lifting*<sup>6</sup> was developed, in part, to provide one unified set of lifting recommendations. Employers can evaluate their lifting tasks against this NIOSH guide and implement steps to control lifting-related back injuries. For example, if your client’s job required lifting and carrying 50 pound feedbags on a loading dock over an eight hour day, then the Work Practices Guide could help you determine if this activity was within acceptable limits. The Work Practices Guide

was revised in January 1994. Another NIOSH resource targeted at improving ergonomics for farm workers is titled *Simple Solutions*.<sup>4</sup> This document includes several simple ergonomic solutions that could be applied for any size farm/ranch.

The U.S. Department of Labor Fact Sheet<sup>7</sup> suggests other ways for employers and employees to work together to help prevent back injuries. The Fact Sheet suggests developing controls from both administrative and engineering perspectives for tasks that require lifting. For example, administrative controls include such things as:

- ◆ understanding a workers’ strength and not exceeding it,
- ◆ proper training on how to perform lifts, and
- ◆ stretching and conditioning programs related to work tasks.

Engineering controls include such things as:

- ◆ reducing the size and weight of the object to be lifted,
- ◆ proper positioning (between knee and shoulder height) of objects to be lifted, and
- ◆ replacing “manual lifting” with mechanical devices when possible.

The old adage “prevention is the best medicine” holds equally true for back injuries. Everyone should take the time to review the ten simple steps towards back injury prevention published on the AgSafe<sup>7</sup> website ([www.agsafe.org](http://www.agsafe.org)). ❖

*The NIOSH Work Practices Guide for Manual Lifting* (NTIS PB 821-789-48) is available for purchase (\$17.50) from:

The National Technical Information Service  
5285 Port Royal Road  
Springfield, VA 22161

## Back Saving Assistive Technology Solutions

### Assistive Technology Solutions for Lifting

As outlined in the NIOSH guide and other guides, a simplified series of steps to proper lifting usually includes: plan the lift; get assistance if necessary; proper positioning (or proper body mechanics); and lift with your legs, not your back. A similar multistep process is used to release the lifted object. While some lifting tasks require a human, many others can be more easily and safely done with a mechanical or electric/hydraulic lifting device. The AgrAbility Assistive Technology Database

([www.agrabilityproject.org/search/index.cfm](http://www.agrabilityproject.org/search/index.cfm))

includes examples, such as chain hoists, cable winches, shop lift tables, hydraulic jacks, electric actuators, and other industrial material handling platforms.



*An example of poor (on the left) versus proper (on the right) lifting body mechanics.*

Remember, storing heavy objects on platforms that are at or above the knee height from the ground eliminates the need to lift them from ground level – the most difficult lifting movement.

### Assistive Technology Solutions for Bending

Any amount of bending can be painful for people with a back injury. For lighter objects, an assortment of commercial reachers can be used to help individuals reduce the need to bend. As an option, some of these reachers are designed or can be fitted with different “grabbers” (e.g., magnetic grabbers commonly used in automotive repair shops to pick up small parts that may drop into engine compartments, pinching grabbers used to grasp smaller items off shelves and benches).

Fresh market farmers might use a Garden Scoot to reduce the need for repetitive bending



*The Garden Scoot can reduce the need for repetitive bending.*

while working from one plant to the next. A simple home-built garden cart may also reduce the amount of time spent bending over small plants. Another popular adaptation, especially for those experiencing back or arthritic joint pain, is to raise the garden bed.<sup>8</sup> For gardening or yard work, extended handles can be added to shovels, rakes, or hoes, which may reduce the user’s need to bend. In addition, some shovel and rake handles are bent to further reduce the need for the user to bend.

For farmers milking in traditional stanchion barns, portable milking stools allow him/her a seated position rather than having to stand and bend over while handling and monitoring the milking machines. Some swine facilities have been adapted to use raised decks that allow farmers to access the smaller pigs without bending (or bending as far). Poultry producers might consider automating their feeding systems to avoid lifting heavy bags of feed.

When objects can be worked on in the farm shop, having a height-adjustable workstation or powered table to eliminate the need for a person to bend over is advantageous. Likewise, around the farm home, proper ergonomic principles should be applied to common work areas, such as a computer workstation and sewing or laundry-folding tables.

### Assistive Technology Solutions for Carrying Objects

Transporting objects while using poor body mechanics (e.g., being bent or slumped over, twisting from side to side to balance a heavy load, holding the object extended away from the body) can put unnecessary strain on the back and other parts of the musculoskeletal system. Often the simple solution is to not transport the object manually (by hand). If the object must be transported, and using some sort of wheeled or powered cart to transport the object is not feasible, the next best solution to prevent back injury is to limit the weight of the object by taking smaller loads and making more trips.

Assistive Technology Notes

Back Saving Solutions

Gates will swing easily with this easy to install gate wheel from Gempler's Inc. It adjusts to any height up to 24" in diameter for those areas where the gate is on an incline or uneven ground.



When available, use a wheeled or powered cart to transport smaller objects. Many options are

available for indoor and outdoor use around the farm/ranch. Sometimes, easy solutions are the best, like adding a gate wheel to the end of a sagging gate allowing a person to roll the gate open and closed versus carrying it. Likewise, rather than carrying a ladder from site to site, the addition of a wheel allows the ladder to be rolled there. In fact, adding wheels to everything from panel toters to wheelbarrows has become a popular idea for standard commercial items. Several companies even manufacture specialized drum dollies for transporting and pouring oil and for fuel barrels.



Using a powered wheelbarrow, such as the DR Powerwagon from Country Home Products, may reduce back strain associated with carrying heavy loads.

To transport medium sized/weight objects around the farm/ranch, the tool of choice is either a utility vehicle or a four-wheel drive pickup truck. Utility vehicles, such as the Kawasaki Mule or the John Deere Gator, are available with helpful options, such as dump box or winch. Utility vehicles are also offered with 4- and 6-wheel drive, to allow them to navigate rough/muddy terrain, and to handle the hauling tasks for many remote or hard to access areas of the operation. Pickup trucks can be fitted with dump beds, powered lift gates, or bed cranes and may be easier to adapt if hand controls are necessary.

Finally, for larger and/or heavier objects that are difficult to handle, the ultimate transport tool for most farmers/ranchers is either a skid steer or a farm tractor equipped with a loader. Several companies offer skid steer models that can be operated with hand controls, and JCB even offers a model with a side-entry door, for ease of entry and exit.

**Assistive Technology Solutions for Seating**

Assuming the seat has been properly fit to the user, the two most important things farmers/ranchers can do to prevent back pain or injury when seated are to maintain proper position and not sit for too long.

However, if someone does not maintain the proper seating position or take frequent breaks from sitting, even the many ergonomically designed chairs equipped with lumbar support and adjustable armrests cannot prevent back pain or injury. When appropriate, all



An example of proper seating mechanics.

seating should be selected and adjusted for the individual user and machine, including tractor and other self-propelled farm/ranch equipment. (Note: For further information on tractor seating, please refer to the *Proper Seating and Positioning for Tractor Operators Affected by Spinal Cord Injuries* Tip Sheet which can be found at: [www.agrabilityproject.org/assistivetech/tips/tractorseat.cfm](http://www.agrabilityproject.org/assistivetech/tips/tractorseat.cfm)) ❖

**Contact Information**

Gate Wheel from Gempler's Inc.  
1-800-382-8473  
[www.gemplers.com](http://www.gemplers.com)

DR Powerwagon from Country Home Products  
1-800-687-6575  
[www.countryhomeproducts.com](http://www.countryhomeproducts.com)

Garden Scoot from Hydro-Gardens  
1-888-693-0578  
[www.hydro-gardens.com](http://www.hydro-gardens.com)

Deskalator from Ergonomic Design, Inc.  
303-452-8006  
[www.ergodesign.com](http://www.ergodesign.com)

## Collaboration Leads to Success

### ***Strong Partnerships Provide Unmatched Service***

AgrAbility of Wisconsin (AAW), a partnership between University of Wisconsin-Extension Cooperative Extension and the Easter Seals Wisconsin Farm Assessment and Rehabilitation Methods program (FARM), formerly known as the Resource Center for Farmers with Disabilities (RCFD), has learned the value partnerships and teamwork play in having a successful program.

Since 1991, the collaborative efforts of these two organizations have allowed AAW to provide services to over 1,000 Wisconsin farmers. Using the strengths of each organization, Easter Seals staff is responsible for direct client services while Extension is tapped for its ability to provide outreach and education. A strong line of communication ensures that clients are receiving unmatched service provision in an efficient manner. This model of teamwork and partnering doesn't stop there. As opportunities to team up with other organizations or individuals arise, AAW staff makes every effort to follow through, resulting in a variety of positive outcomes.

### ***Easter Seals Enters Agreement with DVR***

This past fall, Easter Seals and FARM program staff entered into an agreement with the Wisconsin Division of Vocational Rehabilitation (DVR) to provide training to DVR staff, outreach to potential consumers, and services to DVR consumers. Under this agreement, FARM staff will provide up to 72 farm site assessments this year with the expectation that the program will expand even more in the years to come. Through a series of trainings for DVR counselors, FARM staff will also be providing information on issues farmers are facing and the cultural aspects of farm family life. Among other things, these trainings will identify some of the special challenges counselors may face when working with farmers. "The DVR staff has had great success with farmers," says Paul Leverenz, FARM Director. "With this training we can add the benefit of AgrAbility's experience of having worked with more than 1,000 farmers to help them continue to farm and achieve success in their farm operation."

The change from RCFD to FARM, coupled with the DVR agreement, has allowed the program to triple in size. These changes benefit everyone involved, including AgrAbility consumers, because more clients

can be served more quickly and with more resources. Three full-time positions have been added at Easter Seals Wisconsin, a technical assistant and two rural rehabilitation specialists. Future development of a computer database will also help match clients to community resources best able to help them, along with making more technical information available to clients and service providers.

The agreement also calls for outreach to the agricultural community to provide a better understanding of the services DVR offers. The FARM program is working in collaboration with the Wisconsin Farm Center, which performs farm financial feasibility studies for clients, along with some outreach. FARM extends its successful, long-time partnership with UW-Extension Cooperative Extension as they continue to provide consumer outreach and evaluation services for FARM.

### ***Outreach Efforts Help Professionals Make Farming Connection***

This winter 15 occupational therapy (OT) students left their university classroom behind to spend an afternoon out on the farm. With a majority of her OT students heading to rural areas for work, Prof. Deborah Dougherty saw the value in introducing her class to AAW and Rick Schmitz, a past program participant. Their visit to his Monroe County dairy farm provided students with information on assistive technology (AT) available for farmers, such as a hand truck, bedding chopper, feed cart, additional tractor steps, and personal utility vehicle. All of these items allow Schmitz to complete farm tasks with more ease. The "connections" didn't stop with the AT. With only 3 of the 15 students ever having been to a farm before - one of whom had grown up on a farm - the introduction of basic farming practices and daily tasks was invaluable for these future rural professionals.

Along with this hands-on learning, AAW staff "brought the farm" to other professionals, including DVR counselors, OTs, and technical college human services students. Participation in nearly a dozen Assistive Technology Seminars across the state sponsored by DVR with coordination through independent living centers and the UW-Stout Vocational Rehabilitation Institute allowed staff to share more about AAW and its services through a

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## AgrAbility of Wisconsin Staff



**Tricia Behn** joined AAW as a Rural Rehabilitation Specialist at the Easter Seals Wisconsin FARM Program in November 2002. She has a B.S. degree in occupational therapy, and is currently enrolled in a master's program in health care administration. Behn worked for 11 years as unit supervisor in a county health care center; before that she worked for 13 years as an occupational therapist. She grew up on her family's 365-acre dairy and livestock farm.



**T Ellenbecker** works part-time with the Easter Seals Wisconsin FARM Program as a Rural Rehabilitation Case Manager. With a B.A. degree in progress, she comes to the program with 11 years experience as a vocational rehabilitation case manager for the Wisconsin DVR and nine years experience in human resources. Ellenbecker has been with AAW since May 2001.



**Christine Fessler**, MSW, is President/CEO of Easter Seals Wisconsin and has served as the administrator of Easter Seals Wisconsin's FARM program for nine years. Fessler has a M.S. degree in social work with a specialization in developmental disabilities and has 30 years of experience in public and non-profit administration for organizations serving people with disabilities.



**Judith Guttman** has worked as a Technical Assistant for the Easter Seals Wisconsin FARM Program and AAW since 1996. Guttman has M.A. degrees in education technology and English literature.



**Sheri Hicken** has worked for Cooperative Extension as Outreach Specialist for AAW at the University of Wisconsin-Madison since September 2000. Hicken has a B.S. degree in agricultural education and returns to the program following a one-year leave to serve as Wisconsin's Agricultural Ambassador through the Wisconsin Department of Agriculture.



**Paul Leverenz** serves as the director of the Easter Seals Wisconsin's FARM Program. He has a M.S. degree in vocational rehabilitation counseling and is a Certified Professional Counselor with a background in dairy and swine production. Leverenz has been with AAW since 1992.



**Ronald T. Schuler**, Ph.D., P.E., is an Extension agricultural engineer with a farm machinery specialization, and a professor of biological systems engineering at the University of Wisconsin-Madison. Dr. Schuler has directed AAW since its origin in 1991 and has 31 years of teaching, research, and extension experience at four universities.



**Brooke Welch** joined the AAW program as a Technical Assistant for the Easter Seals Wisconsin FARM Program in November 2002. Growing up on her family's dairy farm, she shouldered many farm responsibilities. Following high school, her off-farm employment taught her various computer skills. Excited to share those skills and many other talents, Welch proudly says, "I am part of a team that isn't just helping people keep their current jobs, we are helping preserve a way of life."



**Bruce Whitmore** joined the AAW program as a Rural Rehabilitation Specialist at the Easter Seals Wisconsin FARM Program in November 2002. He has a B.S. degree in technical agriculture and a M.A. degree in education with a vocational emphasis. He has been an owner and operator of a family dairy, crop, and beef farm; taught vocational agriculture; and served as the farm and grounds manager at St. Coletta of Wisconsin, a nationally recognized provider of services to adults with developmental disabilities.

References

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Continued from page 6

presentation and exhibit space. These one-day seminars were intended to inform consumers about services and technology available to them and provided a number of networking opportunities for AAW staff.

**Rural Volunteers Tell AgrAbility's Story Best**

Word of mouth can be a tool that is often overlooked; however, AAW continues to realize the impact that a farmer talking with another farmer or an equipment dealer talking with a farmer can play in getting the word out about the program. The level of trust and sense of assurance that develops during these informal communications can't be matched. A Speakers' Bureau and Farmer Network, as well as Neighbor-to-Neighbor gatherings, has provided a vehicle for such interactions. Teaming up with past clients and rural professionals can make the difference between a farmer simply hearing about the program and a farmer actually making that first call for help. ❖

**Websites of Interest**

- AgrAbility of Wisconsin: <http://bse.wisc.edu/agrability/>
- Easter Seals Wisconsin FARM Program: <http://www.wi-easterseals.org/RCFD/Default.htm>
- UW-Stout Vocational Rehabilitation Institute: <http://www.svri.uwstout.edu/>
- Wisconsin Farm Center: <http://datcp.state.wi.us/core/agriculture/farm-center/>

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The **AgrAbility Project** promotes success in agriculture for individuals with disabilities and their families through on-site assistance and educational resources. For additional information on the **National AgrAbility Project** or for a current list of state project sites, addresses and telephone numbers contact:

**University of Wisconsin - Cooperative Extension**  
**460 Henry Mall**  
**Madison, WI 53706**  
**866-259-6280 or 608-262-5166**

**Easter Seals, Inc.**  
**700 Thirteenth St., NW, Suite 200**  
**Washington, DC 20005**  
**800-914-4424 or 202-347-3066**

<http://www.agrabilityproject.org>

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