

AGRABILITY QUARTERLY

Promoting Success in Agriculture for People with Disabilities and Their Families

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The national Grant Program of the AgrAbility Project is a joint effort of

The USDA Cooperative, State, Research, Education and Extension Service

University of Wisconsin - Cooperative Extension

Easter Seals

An Illinois Grain Farmer's Story

In October 1998, Mark Anderson, an Illinois grain farmer, was transporting the grain platform from one farm to the home place when a semi truck rear-ended his vehicle. The ligaments in Anderson's neck were severely torn. After months of rehabilitation his neck improved, but he was still unable to do many of the things he had always taken for granted.

For a year, Anderson tried doing activities much as he had done them in the past, but he had to call on his dad more than he wanted and employ a new hired man. Even with this help, he continued to have problems getting things done, and his stamina was much diminished. If he over-exerted himself, he developed a migraine headache. Despite this, Mark kept going because, as he puts it, "in farming you can't just shut down for four hours in the middle of the day to get over a headache." To help Mark reach his goal of remaining an active farmer, his therapists at the University of Iowa Medical Center told him about the AgrAbility Project.

Anderson contacted Mike Brokaw, Program Manager for Illinois' AgrAbility Unlimited (AU) program. Through several site visits, they identified the activities which caused the most trouble for Anderson. Machinery and power tool vibration and repetitive turning to observe tractor implements caused the most problems. In addition, he noticed that looking up while climbing bin ladders caused his arms to go numb, making it difficult for him to grip the rungs.

Brokaw helped identify and locate the resources necessary to help Anderson with these issues. He also involved Illinois' Office of Rehabilitation Services (ORS) early in the process. The



Anderson's new "Active Seat" has a vibration dampening system, which reduces stress on his ligaments and nerves.

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Focus**Grain Handling****An Illinois Grain Farmer's Story**

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first issue they tackled was equipment vibration. After trying many combinations of vibration dampening materials for gloves and pads and seats for the tractor without success, Anderson began discussing a new tractor with his local dealer. This new John Deere has an optional "ActiveSeat" seat, which can swivel 20 degrees right and 15 degrees left. This new seat has a vibration dampening system that should sense and remove the bumps before they are transmitted to the operator through the seat. ORS did not buy the tractor but they did help pay for the extra cost of the seat (an \$800 option). In addition to the seat, the tractor is also equipped with state of the art electronic controls that allow one-touch control of the tractor and implements, which reduce the flurry of operator activity at the end of the field. These features should lessen the stress on Anderson's damaged ligaments and nerves.

The other area Anderson and Brokaw addressed was that of access to the grain bins. They consulted with bin manufacturers and decided the most effective way to accommodate Anderson's limitations was to install a set of stairs on one of the bins and then construct a short catwalk to the adjoining bin. This arrangement allows access to two bins with one set of stairs and allows Anderson to monitor both bins at the same time. ORS funded these modifications.

For more general information on grain handling and storage systems, a good web site to visit is: <http://www.grainfeedequipment.com/>. Other good sources of information regarding grain handling and storage systems are listed in the reference section at the end of the next article.

Issues with Grain Handling and Storage Systems

The proper setup, operation and maintenance of grain handling and storage systems can be challenging. In today's farm economy, farmers/ranchers cannot afford to lose any grain crops due to handling, bin overflow, spoilage or contamination. From the combine to the storage bin, the agricultural equipment and grain handling and storage manufacturers working with farmers/ranchers have fine-tuned the harvest process. At this time, everything on the farm/ranch seems to be getting bigger, more automated and less dependent on physical labor. For farmers/ranchers with a mobility impairment, back injury, amputation or respiratory condition, however, the proper operation and maintenance of grain handling systems and bin storage may be especially difficult.

A Better Way

Even with all the advances in harvesting equipment and grain handling and storage systems automation, many times the simple tasks that still require the individual attention of the farmer/rancher go overlooked. For farmers/ranchers with a disability, the *simple* tasks, like climbing the bin ladder or stairs to open the cap when filling or aerating the bin, may be difficult or impossible. Everyday handling of the dusty grain crops while loading or unloading them could be aggravating to farmers/ranchers with respiratory problems. Also, the operation and maintenance of grain bin storage may require working around powered augers, elevators or conveyors, which are naturally dangerous. Working with such equipment may be even more dangerous for farmers/ranchers who have disabilities.

The next section on Assistive Technology outlines some of the *better ways* to handle these simple tasks that benefit everyone working with grain handling and storage systems, not just farmers/ranchers with a disability. Each section has a short discussion followed by examples of products/companies in that particular area.

Assistive Technology Notes

Grain Handling

Grain Hauling:

Based on the size of the grain farm, the farmer/rancher may transport grain from the field to storage by traditional transport methods ranging from gravity boxes and farm trucks for smaller operations to semi grain trailers for larger operations. Many times the farmer/rancher needs to view the grain level in the gravity box or truck. An integrated ladder mounted to the truck provides one safe and easy way to climb up to do so. Additional methods for viewing the grain level include using a site glass or plastic built into the side of the grain tank or gravity box, or even an old mirror glass attached to a broom handle. If the grain must be hauled from field to storage over a long distance, it may be beneficial to use some sort of tarp to cover the grain during transport. Several companies make auto-rollup tarps, which greatly simplify the task of covering the grain.

SKAILIT FOLDING LADDERS FOR TRUCKS

Fabco, Inc.
P.O. Box 347
Havana, IL 62644
(309) 543-3879

SHUR-LOK ROLLUP TARP

Shur-Co
2309 ShurLok Street
Yankton, SD 57078
Phone: (605) 665-6000
Toll: (800) 474-8756
Fax: (605) 665-0501
E-mail: info@shurco.com
Web: <http://www.shurco.com>

Bin Level Indicators, Bin Level Sensors, Level and Temperature Monitors:

The various grain bin storage level indicators, sensors and controls allow the farmer/rancher to determine grain level while staying safely on the ground and still prevent costly overfilling. Temperature monitors can alert the farmer/rancher to potential problems prior to grain spoilage.

The level indicators can be relatively simple contact sensors, like the EZ Eye, which uses a simple color change mechanism to indicate grain level without requiring any wiring or batteries. Another style of indicator, such as the LevALERT, can be wired to activate horns and flashing lights or to turn on or off an electric motor. Other indicators, such as BinMaster's SmartBob, are capable of detecting the continuous level of solids, liquid or slurry, and can be networked together with a computer and software to offer large scale monitoring. Other styles of level indicators available use non-contact monitoring methods like sound (e.g., ultrasonic), infrared or capacitance changes to measure grain level.

Grain bin temperature can be recorded on simple handheld instruments or by more complex means, like specialized hardware connected to a personal computer running dedicated monitoring software. Regardless of recording device, most systems for measuring the grain temperature in storage bins rely on some sort of thermocouple cable placed inside the grain bin to actually measure the grain temperature. Spot changes in grain temperature inside the storage bin can be an indicator of problems, such as mold or insect activity. Please refer to the product literature for instructions on where and how many thermocouple cables should be used based on the diameter of your grain bin.

Assistive Technology Notes

Grain Handling

Bin Level Indicators

SAF-T-FIL BIN LEVEL INDICATOR

Avonlea Farm Sales Ltd
P.O. Box 45
Domain, Manitoba,
Canada R0G 0M0
Phone: (204) 736-2893
Toll: (888) 736-2467

EZ EYE & LEVALERT BIN INDICATORS

Lockhart Industries, Limited
3308 67th Street
Camrose, Alberta,
Canada T4V 3N8
Phone: (708) 672-4999
Toll: (888) 545-1228
Fax: (780) 672-2383
Web: <http://lockhart-industries.com/>

Bin Level Sensors

AGTRON ENTERPRISES INC.

242 Robin Crescent
Saskatoon, SK,
Canada S7L 7C2
Phone: (800) 667-0640
Fax: (306) 668-7666
E-mail: sales@agtron.com
Web: <http://www.agtron.com>

Level Controls

BINMASTER

7201 North 98th Street
Lincoln, NE 68507
Phone: (402) 434-9102
Toll Free: (800) 278-4241
Fax: (402) 434-9133
E-mail: info@binmaster.com
Web: <http://www.binmaster.com>

Grain Temperature Monitor

OPI-ONE

Custom Marketing Company, Inc.
1126 West Main Avenue
West Fargo, ND 58708-1311
Phone: (866) 883-6472

BOONE CABLE WORKS AND ELECTRONICS, INC.

1773 219th Lane, P.O. Box 369
Boone, IA 50036
Phone: (515) 432-2010
Fax: (515) 432 5262
Toll: 800-265-2010
Web: <http://www.boonegroup.com>

TSGC

TSGC, Inc.
P.O. Box 468
Spirit Lake, IA 51360
Phone: 712-336-0199
Fax: 712-336-0299
Toll: 800-438-8367
E-mail: tsgc@tsgcinc.com
Web: <http://www.tsgcinc.com>

Bin Remote Lids/ Caps

Remote-controlled grain bin caps or lid openers allow the farmer/rancher to remain on the ground when opening bin caps or lids to fill or aerate smaller grain bins.

EZ COVER REMOTE BIN CAP

Tough-T Manufacturing
Box 79
Glenfield, ND 58443
Phone: (701) 785-2555

REMOTE LID

Farmers Union Oil Co., Machine Sales
102 Industrial Avenue
Mohall, ND 58761
Phone: (888) 391-6814
E-mail: fuoil@mohall.ndak.net
Web: <http://www.mohallcenex.com/equipment.htm>

Assistive Technology Notes

Grain Handling

Bin Stairs, Rails, and Manholes:

Grain bin storage sidewall and roof stairs with rails make climbing the bin much easier and safer than when using storage bin ladders. If ladders are installed on a grain bin, remember that for safety, the lower portion of the ladder should be hinged up at a height that only an adult can reach.

GREENE WELDING & HARDWARE, INC.
 Box 191
 East Lynn, IL 60932
 Phone: (217) 375-4244
 Fax: (217) 375-4245

LAMBTON CONVEYOR
 1247 Florence Road
 Florence, Ontario
 Canada NOP 1R0
 Phone: (519) 695-2316
 Fax: (519) 695-2529

LARGEST MANHOLE IN THE INDUSTRY
 Sukup Manufacturing Co.
 1555 255th Street, Box 677
 Sheffield, IA 50475-0677
 Phone: (641) 892-4222
 Fax: (641) 892-4629
 E-mail: info@sukup.com
 Web: <http://www.sukup.com>

Handling Grains:

Unloading and handling grains can place the farmer/rancher in the proximity of dangerous augers and conveyors and in a very dusty, dirty environment. Using either low profile portable augers and/or ramp over augers can potentially locate augers in less dangerous positions. Remote-controlled end gates or chutes would allow a farmer/rancher to stand clear of the dusty/dirty grain while unloading it. For smaller operations where farmers/ ranchers use gravity boxes, attaching an unloading auger to the gravity box may make unloading easier. Bucket conveyors reduce the

danger to injury with all the moving parts of the conveyor being completely enclosed, but they are more costly because a drive-over pit with an auger to move the grain to the base of the bucket conveyor is needed. Bucket conveyors are cost effective on large installations having grain dryers and three or more bins.

If farmers/ranchers cannot stand totally clear of the unloading grain, they may wish to use simple dust masks or masks with filters to protect their lungs. Controls for conveyors should be placed to minimize farmer/rancher risk to injury, dust and other risks. This will be especially true when systems have two or more conveyors.

No matter how well one plans, some grain will get spilled, which will then require manual shoveling. To ease the burden on his or her back, a farmer/rancher may wish to use a shovel with a modified handle for improved leverage.

GRAVITY BOX AUGER
 Remlinger Manufacturing Company, Inc.
 P.O. Box 299, 16394 United States Highway 224
 Kalida, OH 45853
 Phone: (419) 532-3647
 Toll: (800) 537-7370
 Fax: (419) 532-2244
 E-mail: webmaster@remlingermfg.com
 Web: <http://www.remlingermfg.com>

WESTFIELD SELF-LEVELLING &
 RAMPOVER HOPPERS
 Westfield Industries Ltd.
 Box 39
 Rosenort, Manitoba,
 Canada R0G 1W0
 Phone: (204) 746-2396
 Fax: (204) 746-2679
 Web: <http://www.grainaugers.com>

Assistive Technology Notes

State Feature: Illinois

DUST MASKS,

Mask with Filters, etc.

Gempler's, Inc.

P.O. Box 270, 100 Countryside Dr.

Belleville, WI 53508

Phone: (608) 424-1544,

Toll: (800) 382-8473

Fax: (800) 551-1128

Email: techserv@gemplers.com

Web: <http://www.gemplers.com>

ELECTRONIC GRAIN CHUTE OPENER

Daleco-Built Products, Limited

P.O. Box 266, 201 Main Street

St. Brieux, Saskatchewan,

Canada S0K 3V0

Phone: (306) 275-2177

Fax: (306) 275-4511

Email: daleco@sk.sympatico.ca

D-GRIP AND T-GRIP HANDLES

Motus Inc.

39 Nanton Avenue

Winnipeg, MB, Canada R3P 0N1

Phone: (204) 489-8280

Fax: (204) 489-0450

Email: gklassen@motus.mb.ca

Web: <http://www.motus.mb.ca/>

References:

MWPS-13. *Grain Drying, Handling and Storage Handbook*, Second Edition. Iowa: MidWest Plan Service, Iowa State University. 1987

McKenzie, Bruce A. "AED-20 Managing Dry Grain in Storage" *Agricultural Engineers' Digest*. Iowa: MidWest Plan Service, Iowa State University. Rev. 1987, Copyright 1980.

MWPS-29. *Dry Grain Aeration Systems Design Handbook*, Revised First Edition. Iowa: MidWest Plan Service, Iowa State University. Rev. 1999, Copyright 1997.

**"Ambassadors" Conduct
Illinois AgrAbility Unlimited Outreach**

Illinois AgrAbility Unlimited Program (AU) staff has developed a way to enhance the program's local community presence: the AgrAbility Unlimited Community Ambassadors Program (CA). CA has proven to be a practical way to overcome the challenges of limited financial and staff resources and potential clients' hesitance to seek the services offered. Although local Extension office staff has promoted AU from time to time, the need to promote many other programs as well means AU gets limited attention. In an effort to enhance AU's local presence, the staff decided to develop a corps of local volunteers to assist with program promotion. Thus, about three years ago they developed and initiated the AgrAbility Unlimited Community Ambassadors Program.

The CA volunteers enhance AgrAbility presence in the local rural community through their strong interest in the program and in helping local farm people. Community Ambassadors are highly motivated individuals who are recruited and trained to act as program liaisons in their local communities. They come from various backgrounds, including farming, nursing, rehabilitation, vocational agricultural education and farm finance. They act as the local point of contact and disseminate program information through a variety of venues. Ambassadors take on additional duties based on the amount of time they have available and their desire to perform these duties. These duties include making presentations to local service, civic or community organizations; developing local peer networks and support groups; maintaining a supply of promotional materials at local businesses and health care facilities; and, most importantly, acting as the local referral agent for potential consumers of AU services.

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State Project Feature

Illinois - AgrAbility Unlimited

“Ambassadors” Conduct Illinois AgrAbility Unlimited Outreach

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Managing and motivating this corps of volunteers requires a great deal of time. To facilitate this activity, two part-time field coordinators have been recruited and trained to assist the AU program manager with these activities. One field coordinator is Jim Williams, who is retired but worked for the state’s largest farm insurance company for over 30 years. The other coordinator is Brenda Besse, who operates a purebred dairy farm in northwestern Illinois and a former AU client. Williams’ and Besse’s duties include recruiting new CAs in areas not served, conducting initial training for new CAs, keeping CAs supplied with program materials and resources, assisting CAs with local events, assisting the AU program manager with outreach and education events, and identifying new partnering opportunities in the communities they visit. They have been a vital part of developing and maintaining the program.

The CA has grown from three ambassadors to over 50 located throughout the state. CAs attend a one-day training program each year. They are provided with or have access to a variety of program promotional materials, including the program video, brochures and displays. Ambassadors



AgrAbility Unlimited Community Ambassadors promote the program in their local communities, helping it to better serve Illinois’ farmers.

have their own AgrAbility Unlimited business cards to assist in promoting program recognition within the community. This year they will also be provided with an AU shirt to wear when promoting the program.

AU is starting to see a significant increase in referrals as a direct result of the Community Ambassadors’ efforts. The time and resources spent in developing the program has and will greatly improve the AU staff’s ability to identify and serve farm people who can benefit from AgrAbility.



Community Ambassadors attend a training session once a year. The skills they learn help them increase referrals to AgrAbility Unlimited.

To join the Community Ambassadors program, or for more information, please contact:

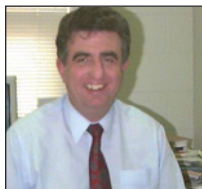
Mike Brokaw, Program Manager
 Ph: 1-800-500-7325
 E-mail: mikeb@agrabilityunlimited.org

Or see <http://www.agrabilityunlimited.org>

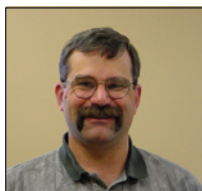
State Project Feature

Illinois - AgrAbility Unlimited

**AgrAbility Unlimited
Staff Bios**



Bob Aherin, Project Director – With over 15 years of experience in guiding agricultural safety education efforts in Illinois, Dr. Aherin directs the administration of Illinois’ AgrAbility Unlimited Project. He provides the guidance and leadership necessary to keep the statewide project on track, develops educational materials and keeps U of I Extension personnel informed of project efforts.



Mike Brokaw, Program Manager – Beginning his fourth year with AgrAbility Unlimited, Brokaw brings an extensive agricultural background and first-hand knowledge of the changes a disabling injury can cause in a person’s career path. He is responsible for the day-to-day activities of the project: providing case management and client services, supervising and coordinating the project’s corps of local volunteers, and managing the outreach and education efforts.



Jim Williams, Field Coordinator – Williams, a retired Country Companies Community Relations Professional, is responsible for recruiting and retaining volunteers for the AgrAbility Unlimited Community Ambassador Program in southern Illinois. The Community Ambassador is AgrAbility’s eyes and ears in the local community.

Picture not available

Elizabeth Burns, Program Assistant – Burns, with a strong background in agricultural safety education, assists with the development of educational and outreach materials, plans conferences and seminars, and helps with coordinating outreach and education efforts.

Picture not available

Brenda Besse, Field Coordinator – Besse, a grain and dairy farmer, scratch golfer and former AgrAbility client, coordinates the efforts of the AgrAbility Unlimited Community Ambassadors in northern Illinois. The combination of Besse’s first-hand knowledge of program services and winning personality makes her a natural in recruiting and motivating volunteers.

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

<http://www.agrabilityproject.org>

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