

March 2003
Vol. 3, No. 4

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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

A Fourth-Generation Rancher's Success Story

Charles "Bill" Morgan, 66, owns and operates a fourth-generation ranching operation in central Utah. The 800-acre operation includes over 125 head of Columbia sheep and 320 acres of alfalfa and additional acres of corn and barley. He uses all the corn and barley and approximately half of the alfalfa for feedstuffs. The remainder of the alfalfa is sold. His lamb crop last year was 175% (approximately 75% of the ewes had twins), with less than a 0.5% death loss. He attributes his success to his homemade colostrum supplement he gives lambs that do not take to the ewe.

Like his father and brothers, Bill graduated from Utah State University. He earned a degree from the School of Engineering and went on to become a high school drafting and industrial arts teacher in Bountiful, Utah for 13 years. Initially, he helped out on the home farm on weekends and during the summer. Bill and his wife, Helen, a registered nurse, relocated to the home farm in 1978. Five years ago, after 15 years of teaching in Juab, Utah, he retired and began ranching full-time.



Charles "Bill" Morgan on his sheep ranch in Central Utah.

In 1995, Bill was diagnosed with Multiple Sclerosis (MS). The type of MS Bill has is rare and progressive and has affected his leg strength and mobility. At this time, no medication is available to treat it.

Since Helen's retirement, she has become more involved in the operation. She says, "I'm Bill's legs...I help get tools for him, help with the irrigation system, and help him when he's stuck in the field." Whenever Bill is out on a tractor or four-wheeler, he and Helen use two-way radios to keep in contact. During lambing season, Bill employs a high school student and during the summer a hired man assists with fieldwork. Both of the Morgans' daughters also pitch in on the weekends.

Client Feature

Bill currently uses crutches and a four-wheel drive Honda Foreman ES to get around his ranch. When Bill is in town, he uses an electric wheelchair. He has found that since MS has limited the strength and mobility of his legs, he has become more efficient, “Because I take fewer steps now, I make each step count!”

Before retiring in 1998, Helen was the Director of Nursing at the Central Valley Medical Center for 20 years. While working at the medical center, two of her colleagues attended a conference where they learned about the AgrAbility Project and told her about the program. Around the same time, Bill saw an article about the program in a newsletter from Utah State University. Together, these referrals prompted Bill to contact John Mussler at the AgrAbility of Utah Project in November 2001.

Prior to contacting AgrAbility of Utah, however, Bill had engineered a few ways to accommodate the physical changes resulting from the MS. For example, he designed and built a portable shooting bench for his pickup truck. The shooting bench fits in the bed of the truck and fits over the horse trailer receiver. It swivels 180° and has a bullet holder. He says this allows him to continue hunting elk and deer.



Bill Morgan at his portable shooting bench that is attached to the bed of his pickup truck.



Bill Morgan on his Honda Foreman ES with the grain dispenser.

As a result of his consultations with AgrAbility of Utah staff, Bill has made a number of additional changes. One of the changes was to add hand controls on his tractor. Helen reports that the hand controls, “have been a big help for Bill.” In addition, they are currently investigating the addition of a tractor lift to make it easier for Bill to get in and out of the tractor. The plan is that Bill will provide the funds for the materials and the University staff will assist with the design and installation of the lift.

Bill has also fabricated a grain dispenser that fits on the back of his Honda Foreman ES and an attachment for the tractor to make feeding alfalfa to the animals easier. Neither of these items is commercially available, but Bill is willing to share his drawings. With his limited mobility, these modifications have allowed him to continue to feed his sheep without additional assistance. To irrigate the cropland, the operation was initially set up with irrigation ditches. Recently, however, Bill has added a sprinkler system on some of the land that has made it easier for him and Helen to manage the irrigation.

Bill’s opinion about the AgrAbility of Utah staff is, “They are excellent!! They bend over backwards for you.” And Bill’s advice to others in his position is, “You need to keep moving. You can’t let MS get the better of you, because if you do, it will.”

For more information about the fabricated grain dispenser and tractor feeding attachment contact AgrAbility of Utah. ❖

Facts About Multiple Sclerosis (MS)

- ◆ Most people with MS are diagnosed between the ages of 20 and 50.
- ◆ Women are more likely to develop MS than men by a ratio of 2:1.
- ◆ Worldwide, MS occurs with much greater frequency in higher latitudes (above 40° latitude) away from the equator, than in lower latitudes, close to the equator.
- ◆ MS occurs more commonly among Caucasians with northern European ancestry, than people of African, Asian, and Hispanic ancestry.
- ◆ Studies indicate that genetic factors make certain individuals more susceptible than others, but no evidence indicates that MS is directly inherited.
- ◆ MS is not contagious.

According to the National MS Society, approximately 400,000 Americans acknowledge having MS, and every week about 200 people are diagnosed. Worldwide, MS may affect 2.5 million people.

Definition of MS

MS is a neurological disease which affects the brain, optic nerves, and spinal cord in the central nervous system causing intermittent, fluctuating, and progressive loss of functioning. MS believed to affect the immune system causing damage to the myelin, a substance that serves to insulate nerve fibers. Myelin is essential for nerves to conduct electricity and carry out their function.

Causes

The most prevalent theory is that an environmental trigger, such as an infection by an unidentified organism, causes MS. Genetic susceptibility may account for different racial prevalence. MS, however, may not be caused by a single factor and may not even represent a single disease. More research into causes may lead to better treatments.

“Every week about 200 people are diagnosed... Worldwide, MS may affect 2.5 million people.”

Diagnosis, Symptoms, and Types

Diagnosing MS can be problematic because symptoms may occur intermittently and vary in severity from mild tingling sensations to severe paralysis. The disease often takes years to clearly manifest itself and then to be diagnosed.

MS usually begins with an exacerbation or an intensification of neurological symptoms and then resolves or partially resolves over 6-12 weeks.

Typically, where the myelin is affected or scarred (sclerosis) determines the nature of the symptoms that occur. Symptoms may include difficulty walking; abnormal sensations like numbness in limbs; pain and loss of vision due to inflammation of the optic nerve; tremors; coordination difficulties; paralysis; slurred speech; changes in thinking, reasoning, and remembering; depression; heat sensitivity; bowel, bladder, and sexual dysfunction; and fatigue.

Many people with MS experience depression. It is important to note that depression can be caused by the diagnosis of MS and how it changes one's life, by the medications used to manage symptoms, by the disease itself and where it manifests itself, or

by a combination of these factors. Once the cause of the depression is understood, the medical professional can develop appropriate treatment plans.

MS can be categorized into five types based on the course of the symptoms; relapsing-remitting, secondary-progressive, primary-progressive, progressive-relapsing, and benign.

Medical Treatment

Two main pharmacological approaches are being used to treat the symptoms and reduce relapse rates. Immunomodulatory drugs (e.g., Copaxone or Avonex) are used to decrease the activity of the immune system in an attempt to reduce frequency and severity of symptoms. Immunosuppressive drugs (e. g.,

mitoxantrone or methotrexate) are designed to ‘suppress’ the immune system to slow the disease progression and reduce relapse rates. Like any drug intervention, there may be side effects. Currently, researchers are looking at ways to treat the disease specifically rather than suppressing the whole immune system.

Health and Wellness Practices

People with MS know their body and symptoms better than anyone else. Each person can exert control over how he/she manages the symptoms in daily life. For example, exercise is one activity that may improve heat tolerance and overall muscle and skeletal tone. Exercise may also reduce fatigue and decrease spasticity. Meditation or yoga-type activities may help manage stress, decrease depression, or stabilize emotions.

Taking care of overall health is very important in optimizing the ability to perform independent activities and eliminating secondary conditions, such as back pain, stiffness, or urinary tract infections. The following are a few examples of symptom management that may improve daily functioning:

- ◆ Pacing activity to save energy
- ◆ Controlling sensitivity to temperature
- ◆ Scheduling rest breaks
- ◆ Exercising
- ◆ Participating in aquatherapy
- ◆ Meditating
- ◆ Practicing yoga or other stretching exercises
- ◆ Eating a proper diet with adequate fiber intake
- ◆ Maintaining proper posture and positioning
- ◆ Planning adequate fluid intake
- ◆ Working smart and efficiently

Support Groups

Being able to talk to others who share the MS experience may be beneficial in providing support and tips on managing the disease. The National MS Society has a number of resources, including local chapters with self-help or peer counseling groups. Contact a local state MS chapter for groups in your area.

www.nationalmssociety.org/mycommunity/index.asp

A computer chat room where you can converse with others with MS is hosted by the International MS Foundation and can be found at www.imssf.org/aspinchat.shtml ❖

Organizations

The National Multiple Sclerosis Society

733 Third Avenue
New York, NY 10017
Phone: 800-344-4867
Website: www.nationalmssociety.org

Eastern Paralyzed Veterans Association (EPVA)

75-20 Astoria Boulevard
Jackson Heights, NY 11370
Phone: 718-803-EPVA (3782)
Email: info@epva.org
Website: www.epva.org

Brighter Tomorrow Grants

The MS Foundation offers individual Brighter Tomorrow grants up to \$1000 for equipment that will improve quality of life related to safety, self-sufficiency, and well being. Contact the MS Foundation at 1-888-673-6287 or www.msfacts.org/bwmg.htm.

References

Brandes, D. W. and L. J. Willmott. 2002. Multiple Sclerosis. In *Medical, Psychosocial and Vocational Aspects of Disability*, eds. M. G. Brodwin, F. Tellez, and S. K. Brodwin, 351-362. Athens, GA. Elliott & Fitzpatrick.

Blake, D. J. and C. Bodine. 2002. An Overview of assistive technology for persons with multiple sclerosis. *Journal of Rehabilitation Research and Development* 39 (Mar/Apr):299-312.

Assistive Technology Solutions for Farmers or Ranchers with Multiple Sclerosis

The disease process for individuals with MS can be highly variable. Changes in symptoms could be hourly, yearly, or longer. Because of this variability, the need for assistance in performing farm or home activities will also fluctuate. When assistance is needed, it may come in the form of changing the way things are done on the farm/home or by using technology to ease or accommodate tasks.

For many farmers/ranchers with MS it may be very important to conserve energy, pace work activities, and accommodate temperature sensitivity. Some common sense practices might include doing outdoor activities during the coolest part of day, ensuring limbs with sensory loss are adequately protected during extremely cold weather, shortening steps needed to do work by rearranging the work area, and planning frequent breaks to conserve energy.

Sensitivity to heat can be problematic when working outdoors is unavoidable. Air-conditioned cabs in farm equipment can help maintain a controlled, comfortable temperature. Cool Touch Comfort Cushions and SteeleVest® cooling vests use cooled gel-like substances to provide cooling for up to four hours.



SteeleVest® Cooling Vest can provide cooling for up to four hours.

Farmers/ranchers with MS may experience visual disturbances and/or visual fatigue. This could affect the ability to read anything from read outs on automated milking equipment to managing financial records on the computer. Visual fatigue caused by reading printed material may be reduced by using large print, off-white paper, magnifiers, or prism glasses. A portable magnifier like the Lighted Pocket Magnifier could be useful in reading



Lighted Pocket Magnifier by Mons International.

gauges and instructions or manipulating small hardware. A number of devices, ranging from magnifiers to computers designed to enlarge and/or read aloud text on the screen, are available and could assist people with visual acuity disturbances. Check www.lowvision.org for more information.

For the farmer/rancher who uses the computer to maintain agriculture records, adaptations are available for the computer to accommodate low vision, visual fatigue and blindness; such as screen magnification, voice output and input, and Braille. One source listing computer adaptive equipment for people with low vision or blindness is www.assistivetech.net.

A number of new technologies can assist a farmer in scheduling and remembering daily work activities. The WatchMinder special purpose wristwatch has a reminder mode. Multiple messages can be activated at specific times during the day to remind the wearer of tasks that need to be done. When activated, the displayed message is accompanied by a continuous vibration that lasts about four seconds. The farmer/rancher may use this device to remind him/her when to do specific work activities or take medications.

Being able to access the home, shop, grain storage sites, and livestock housing, and to use tractors, trucks, and combines is very important to agricultural operations. Suggestions for home modifications, independent living aids, and mobility equipment were presented in the Spring 2002 AgrAbility Quarterly on Strokes. Other home modifications ideas can be found in the Assistive Technology Database on the AgrAbility Project website. Accommodations related to tractors and machinery, utility vehicles, and livestock feeding and care systems are available in the Fall 2001 AgrAbility Quarterly on Arthritis. All documents can be found at www.agrabilityproject.org.

A new technology for manual wheelchairs promises to reduce the amount of effort to maneuver. The iGLIDE™ Manual Assist Wheelchair is designed to supplement the operator's natural effort with a smooth, motorized motion over a variety of terrains. ❖

Collaboration Leads to Success

AgrAbility of Utah has been federally funded since 1998. Since then AgrAbility of Utah project staff have worked hard to build a strong client base and develop a rapport with Utah agriculturists. AgrAbility of Utah is headquartered at Utah State University (USU) in Logan, Utah. USU has an excellent extension service with agents in nearly every county. Extension agents help locate and refer potential clients to AgrAbility of Utah project staff.

In addition to USU, AgrAbility of Utah partners include three Independent Living Centers (ILCs): Options for Independent Living in Logan (northern Utah); Active Re-Entry in Price (central Utah); and Red Rock Center for Independent Living in St. George (southern Utah). Due to the geography, climate, and size of Utah, it is essential that AgrAbility outreach staff are located throughout the state. The ILCs focus on helping persons with disabilities maintain their independence. This mission meshes well with the goals of AgrAbility of Utah. At least one person in each ILC is dedicated to AgrAbility activities. Many other specialists housed at the ILC are readily accessible to provide additional help.

AgrAbility of Utah also works closely with the Center for Persons with Disabilities (CPD) at Utah State University. The CPD is one of 63 other University Centers for Excellence in Developmental Disabilities, Education, Research, and Services located throughout the United States. AgrAbility of Utah looks to the CPD for advice and answers to technical questions.

The CPD also administers the Utah Assistive Technology Foundation (UATF) loan and grant program. This UATF program provides small grants and low-interest loans to Utah citizens with disabilities to purchase assistive technology. These loans and grants have proven to be an excellent asset for people after all other assistance programs have been exhausted.

AgrAbility of Utah also cooperates with Utah Farm Bureau. Utah Farm Bureau sponsors several farm conferences and workshops in Utah throughout the year. AgrAbility of Utah participates in these events to promote the services available to farmers/ranchers who have been injured or developed a disability.

Minority outreach is the newest area of emphasis for AgrAbility of Utah. Utah has a significant Hispanic and Native American populations employed in agriculture. Traditionally, these groups have been under-represented in the client base served. Both AgrAbility of Utah and the ILCs have set goals to improve their minority outreach.

AgrAbility staff strives to build a relationship with every client in order to better understand his or her situation. This personal relationship often develops slowly; sometimes taking several visits before a plan is put in place. The client and AgrAbility staff together build a list of goals along with a timeline for reaching these goals. AgrAbility of Utah takes pride in helping agriculturists reach goals that they may have felt would not be attainable. ❖

The Staff at AgrAbility of Utah



Rhonda Miller, Ph.D. has served as Project Director for AgrAbility of Utah since July 2001. She has been an Assistant Professor in the Dept. of Agricultural Systems Technology and Education at Utah State Univ. for over three years. Miller grew up on an irrigated cash grain farm in South-eastern Nebraska. She received her B.S. and M.S. from the Univ. of Nebraska and her Ph.D. from Iowa State Univ.

State Project Feature

AgrAbility of Utah



John Mussler has been the Assistive Technology Specialist for AgrAbility of Utah at Utah State Univ. since July 2001. Mussler grew up on a beef and crop operation near Preston, Idaho and continues to farm today in Idaho with his wife. While attending Utah State Univ., he studied agricultural mechanics, industrial technology, and welding engineering. This training has helped him design and make modifications to producers' equipment.



Richard D. Baer, Ph.D. has been the Director of Outreach, Development and Dissemination at the Center for Persons with Disabilities at Utah State Univ. for the past 22 years and has worked with AgrAbility of Utah for the past five years. His career has included work on numerous projects, including those focused on assessment of children with disabilities, behavior analysis and positive behavior supports, special education for Native American children, assistive technology, and family support.



David G. Ezola has been the AgrAbility Coordinator for OPTIONS for Independence for the past two years. Ezola grew up on a dairy farm and helped his uncle train racehorses. He currently raises alfalfa, barley, and wheat on an irrigated operation. Ezola has also worked at a local grain cooperative and was a certified EMT for his local rescue squad for 17 years. He still serves as a volunteer firefighter as he has for the past 24 years.



Shirley A. Weathers, Ph.D. is a consultant and co-owner of Walsh & Weathers Research and Policy Studies and has worked with AgrAbility of Utah since December 2000. Weathers received her Ph.D. in Latin American History from Utah State Univ. during which time she spent a year in Chile on a Fulbright Scholarship. She has previously worked on a program with Mexican-American and Navajo migrant farmworkers and was the Research Director and lead staff person at Utah Issues Information Program on welfare reform, public benefits, services to students at risk, and school fees.



Bill Walsh is a consultant and co-owner of Walsh & Weathers Research and Policy Studies and has worked with AgrAbility of Utah since December 2000. Walsh was previously the Executive Director at Utah Issues Information Program and was on the state's Medical Care Advisory Committee working closely with the Utah Dept. of Health. Walsh and his wife have a commercial llama packing business.



Terry Dan Hawks has been a Consumer Advocate for AgrAbility of Utah at Red Rock Center for Independence in St. George, Utah for over three years. He was raised on an alfalfa and dairy farm in Caldwell, Idaho. In his current position, he assists individuals in acquiring needed equipment. He also provides ADA advocacy. Hawks has also taught Life Skills classes and provided case management to people with severe disabilities. AgrAbility has been a good match, bringing together his farm background and his enjoyment of working with the disability community.



Louie Santillanes has been the Assistive Technology Coordinator for AgrAbility of Utah at Active Re-Entry Independent Living Center in Southeastern Utah for the past three years. Santillanes has been with Active Re-Entry Independent Living Center for 11 years in various roles, including an AgrAbility Coordinator, ADA Specialist, and Community Outreach Specialist. As an ADA Specialist in Eastern Utah, he works with county and city building inspectors to assure that new and existing facilities meet the accessibility guidelines.

Assistive Technology Notes	Resources
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Vision
<p>Illuminated Pocket Magnifier Mons International, Inc. 6595 Roswell Rd. NE, #224 Atlanta, GA 30328 800-541-7903 Email: sales@magnifiers.com Website: www.magnifiers.com</p> <p>Wide Angle Mobility Light Innovative Rehabilitation Tech., Inc. 13453 Colfax Highway Grass Valley, CA 95945 800-322-4784 Fax: 530-274-2093 Email: Info@irti.net Website: www.irti.net</p>

Heat Sensitivity
<p>SteeleVest® Cooling Vests Steele, A Division of Frisby Technologies, Inc. PO Box 7304 Kingston, WA 98346 888-783-3538 Fax: 360-297-2816 Email: ssteele@frisby.com Website: www.steelevest.com</p> <p>ISOPRO Head Vest Garment Life Enhancement Technologies 807 Aldo Ave., Suite 101 Santa Clara, CA 95054 800-779-6953 Fax: 408-330-6949 Email: info@2bcool.com Website: www.2bcool.com</p>
<p>Cool Touch Comfort Cushions Blue Star Trading, Inc. Monterey Park, CA 91755 626-457-7595 Fax: 909-624-7677 Email: BLUESTARtd@aol.com Website: www.cooltouch.net/cooltouch.htm</p> <p>Air-conditioned Cabs for Tractors Visionaire, Inc. 502 Jesse St. Grand Prairie, TX 75051 972-647-1056 Fax: 972-606-1076 Email: Gerald@Visionaire-Inc.com Website: www.visionaire-inc.com</p>

Fatigue and Mobility
<p>IGlide™ Manual Assist Wheelchair Independence Technology, LLC A Johnson & Johnson Company Warren, NJ Website: www.independencenow.com/index.html</p>

Memory
<p>IQ Voice Organizer Voice Power Technologies LLC 8 Terry Lane Burlington, NJ 08016 800-255-2310 or 609-386-8997 Fax: 609-239-5975 Email: info@voiceorganizer.com Website: http://voiceorganizer.com</p>
<p>WatchMinder™ Allied Technology 255 West 98th St. New York, NY 10025 212-222-5665 Fax: 212-222-5667 Website: www.biof.com/index.html</p>

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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>

The AgrAbility Project is administered by the U.S. Department of Agriculture CSREES. Funding for this document was provided under project number 00-41590-0932.