HUBERT J. KARREMAN PO Box 6 Saxapahaw, NC 27340

EDUCATION

- 2007-2008 University of Pennsylvania, School of Medicine, Certificate: Clinical Research <u>www.cceb.med.upenn.edu</u>
- 1991-1995 **University of Pennsylvania**, School of Veterinary Medicine, **V.M.D.** <u>www.vet.upenn.edu</u>
- 1990-1991
 West Chester University, Post-Baccalaureate medical program

 www.wcupa.edu
 www.wcupa.edu
- 1980-1984 **University of New Hampshire**, College of Life Science and Agriculture. **B.S.** Major: Soil Science <u>www.colsa.unh.edu</u>

EXPERIENCE

2016-present REVERENCE FARMS, LLC (co-owner) www.reverencefarms.com

► Pasture-based, 70-cow, A2A2 Jersey cow dairy farm where calves are

raised on cows and cows are milked once daily for commercial production.

► Grain-free, grass-fed, diversified pasture.

► Also raise sheep, pigs and layers on pasture, mainly for ecological balance for land fertility. Fed certified organic feed even though we are not certified organic.

2010-present DR. KARREMAN'S VETERINARY SOLUTIONS www.drkarremans.com

Natural treatment products for non-antibiotic treatment of infectious disease
 Consulting for medical treatment of certified organic cattle using non-antibiotic treatments against infectious disease and non-hormonal treatments against infertility via botanical derivatives, biological immuno-modulation, acupuncture, low dose therapeutics and hands-on physical therapy.

► Educational seminars for veterinary schools & organizations, farmer organizations, with optional in-barn instruction

- ► Certified Cow Signals[®] trainer (1st person in the US) <u>www.cowsignals.com</u>
- Pasture nutrition consulting to comply with organic pasture rule

2013-2015 RODALE INSTITUTE (part-time) www.rodaleinstitute.org

- Conduct organic veterinary animal health classes
- ▶ Responsible for Rodale Institute animal research projects
- Conduct research studies with organic dairy farms in region
- Partner with collaborators on pasture projects

1995-2015 VETERINARY PRACTITIONER, Lancaster County, PA

► Responsible for all emergency, routine and preventive medicine, surgery, reproduction and obstetrics on 100 +/- certified organic dairy farms.

► Integrative medicine techniques applied daily: botanicals, biological immunomodulation, acupuncture, low dose therapeutics and conventional approaches as each case requires.

► Analyze trends and associated management on organic farms using DHIA

1993 SUMMER RESEARCH: Bovine Immunology. <u>School of Veterinary Medicine</u>, <u>Utrecht, the Netherlands</u> (See Publications)

Conduct field observations of inflammatory conditions, draw bovine blood

	 samples, gather production data and interview Dutch dairy farmers for government funded research regarding environmental farming methods. ▶ Determine absolute values of bovine Serum Amyloid A, Haptoglobin C via ELISA; quantify IgM and IgG using HPLC; analyze leukograms. ▶ Statistically measure the strength of veterinary observations of lactating dairy cows with and without inflammatory processes in relation to acute phase protein levels across herd management systems (grazing and confinement).
1992	 SUMMER RESEARCH: Dairy Herd Nutrition. School of Veterinary Medicine, University of Pennsylvania/ Seven Stars Farm, Kimberton, PA. ▶ Set-up, document and analyze the management and economic efficiency of an intensive, rotational grazing system for a 60 cow dairy herd. ▶ Evaluate nutritional quality and dry matter quantity within 40 grazed paddocks. ▶ Integrate knowledge of inherent soil fertility and erodibility with planting of appropriate pasture species for optimal interaction between cattle and land.
1990-1991	 RESEARCH: Bovine Immunogenetics. School of Veterinary Medicine, University of Pennsylvania, New Bolton Center. Prepare bovine pedigrees (1968-1990) to analyze for possible vertical transmission of Johne's disease (<i>Mycobacterium paratuberculosis</i>) Evaluate environmental factors that affect the viability of the <i>M. paratuberculosis</i> to persist in the soil and water on infected farms. Isolate, culture, stimulate bovine lymphocytes and harvest subsequent IL-2 for assay with MTT. Sterile technique, micro pipetting, cell counting, immuno-diffusion assays, media preparation for tissue and fecal culture.
1988-1990	 HERDSMAN: Seven Stars Farm, Kimberton, PA. <u>www.sevenstarsfarm.com</u> Daily health care, feeding and milking of a 60 cow Jersey and Guernsey herd. Administer vaccinations, vitamins, probiotics, natural therapies and antibiotics for treatment of mastitis, milk fever and peri-partum disorders. Operate all tractors in conservation tillage for 200 acres of organic barley, oats, wheat, soybeans, corn and mixed hays; compost used for soil vitality.
1984-1988	 SOIL SCIENTIST: southeastern New Hampshire Classify and map soil (USDA SCS method) for landowners in towns with land- use regulations based on soil-type and wetland setbacks i Evaluate soil test pits for explicit descriptions of soil color, texture, structure, consistence, slope, impervious layers and seasonal high-water table.
1983-1984 <u>PUBLICATIOI</u>	 SOIL CONSERVATION AIDE: USDA Soil Conservation Service, Dover, NH. ▶ Survey land elevations for layout of surface and subsurface drainage, manure storage facilities, ponds and woodland access roads. ▶ Prepare drafting designs and topographic maps for conservation practices.
	AUTHORED BOOKS

Hubert Karreman. <u>Four Seasons Organic Cow Care</u> Acres, USA, Austin, TX, 2016. (Soft cover, 235 pgs.)

Hubert J. Karreman. <u>The Barn Guide to Treating Dairy Cows Naturally</u> Acres USA, Austin, TX, 2011. (Soft cover, 191 pgs.) Hubert J. Karreman. <u>Treating Dairy Cows Naturally: Thoughts and Strategies</u> 2nd ed. Acres USA, Austin, TX, 2007 (Hardcover, 412 pgs.)

PUBLISHED TEXTBOOK CHAPTERS

Improving Animal Welfare, 3nd edition (Chapter 12) Animal well-being on organic farms. (Temple Grandin, ed.) CABI, 3rd edition, 2021)

<u>Current Veterinary Therapy, Food Animal Practice (Chapter 100)</u> Therapeutic options in organic livestock medicine (Anderson and Rings, eds.) Elsevier, 2008

<u>Veterinary Herbal Medicine (Chapter 23)</u> Phytotherapy for Dairy Cows (Wynn and Fougere, eds.) Mosby, 2007.

<u>Global Development of Organic Agriculture</u> Sustainable veterinary medical practices in organic farming: a global perspective. (Halberg, Alroe, Knudsen and Kristensen, eds.) CABI, 2006.

<u>Alternative Livestock Health Practices (Chapter 9)</u> Livestock Treatments Links from the Past to Holistic Alternatives of the Present (Morrison and Kielty, eds.) Blackwell Scientific, 2005.

JOURNAL ARTICLES

U.S. Sorge, A. Bastan, H. Karreman Interest of Bovine Practitioners in Complementary and Alternative Veterinary Medicine in 2006 and 2010. ARAVS Vol 2 [1 and 2] 2015.

Tunick, Michael & Paul, Moushumi & Ingham, Elaine & Karreman, Hubert & Hekken, Diane. (2015). **Differences in milk characteristics between a cow herd transitioning to organic versus milk from a conventional dairy herd.** International Journal of Dairy Technology. 68. 10.1111/1471-0307.12255.

Cross AS, Karreman HJ, Zhang L, Rosenberg Z, Opal SM, Lees A. (2014) Immunization of cows with novel core glycolipid vaccine induces antiendotoxin antibodies in bovine colostrum. Vaccine. 2014 Oct 21;32(46):6107-14.

<u>Pinedo P, Karreman H, Bothe H, Velez J, Risco C</u>. (2013) Efficacy of a botanical preparation for the intramammary treatment of clinical mastitis on an organic dairy farm. Can Vet J. 2013 May;54(5):479-84.

Karreman, H J. (2010) **Disease control on organic and natural cattle operations.** Animal Health Research Reviews 10(2); 121–124.

Karreman, Wentink, Wensing (2000) **Using Serum Amyloid A to Screen Dairy Cows for Sub-clinical Inflammation**. Veterinary Quarterly; 22: 175-8.

Graczyk, Evans, Shiff, Karreman, Patz. (2000). Environmental and Geographical Factors Contributing to Watershed Contamination with Cryptosporidium parvum Oocysts. Environmental Research; 82, 263-271.

PEER-REVIEWED ABSTRACTS

Griswold, K., H. Karreman, S. Dinh, and J. High. (2008) Effects of nutrition and feeding management on production, health and culling by organicallymanaged dairy herds in Southeastern Pennsylvania. JDS 91(E-Suppl.1):134.

Griswold, K., H. Karreman, and J. High. (2008) Effect of calving scheme, seasonal vs. year-round, on production, reproductive performance, and culling by organically-managed dairy herds in Southeastern Pennsylvania. J. Dairy Sci. 91(E-Suppl. 1):469.

Griswold, K., H. Karreman, and J. Mylin. (2007) **Best management practices to improve milk quality and udder health in organically-managed dairy herds in Southeastern Pennsylvania.** J. Dairy Sci. 90(Suppl. 1):164.

Griswold, K., H. Karreman, and J. Mylin. (2007) Effect of management type, conventional versus organic, on production, health and culling in Southeastern Pennsylvania dairy herds. J. Dairy Sci. 90(Suppl. 1):582.

POPULAR PRESS

Griswold, K. E. and Karreman, H J. **Make the Most of Your Organic Milk Quality Tool Box** (Hoard's Dairyman, 2008)

Karreman H J. **Can Cows on Organic Dairy Farms Compete?** (Hoard's Dairyman, 2003). WD. Hoard & Sons, Co. Vol. 148, No. 12 p.453.

Many articles in the organic dairy popular press (NODPA, GRAZE, etc).

INVITED LECTURES AT CONFERENCES (with printed Proceedings)

Southwest Veterinary Symposium, San Antonio, TX) (October 2019) Wisconsin DATCP (Madison, WI) (April 2017)

World Buiatrics Congress (Dublin, Ireland) (July 2016)

Eco-Ag University Acres USA pre-conference (Columbus, OH) (Dec. 2014)

Wisconsin Veterinary Medical Association (Madison, WI) (Oct. 2013)

1st Organic Congress of the East Black Sea (Kelkit, Turkey) (June 2013)

Eco-Ag University Acres USA pre-conference (Louisville, KY) (Dec 2012)

2nd IFOAM Organic Animal Husbandry Congress (Hamburg, Germany) (Sept 2012)

AHVMA Annual Conference Veterinary Botanical Medical Association track (Aug 2011)

10th International Herb Symposium (Norton, MA) (June 2011)

American Association of Bovine Practitioners (Albuquerque, NM) (Aug 2010)

Bovine Respiratory Disease Symposium (Colorado Springs, CO) (Aug 2009)

Western Veterinary Conference (Las Vegas Nevada) (Feb 2009)

Doalnara Certified Organic Korea (South Korea) (Feb 2009)

Wisconsin Department of Agriculture (Madison) (Feb & Dec 2008)

Understanding Organics (Auburn, NY) (Oct 2008)

Boundary Waters Veterinary Conference (Ely, MN) (July 2008)

Maryland Veterinary Medical Association (Frederick) (March 2008)

Northeast Pennsylvania Grazing Conference (March 2008)

Organic Research Symposium, (La Crosse) (Feb 2008)

Vermont Veterinary Medical Association (Burlington) (June 2007)

Minnesota Dairy Health Conference (Minneapolis) (May 2007)

16th Annual Northeast Dairy Production Medicine Symposium (Syracuse) (March 2007)

American Holistic Veterinary Medical Association (Louisville) (Oct 2006)

American Veterinary Medical Association (Honolulu) (July 2006)

International Federation of Organic Agricultural Movements (Minneapolis) (Aug 2006)

University of New Hampshire (Durham) (Sept 2004, March 2007, April 2008)

Maine Veterinary Medical Association (Waterville) (March 2006)

New York State Veterinary Medical Society (West Point) (Oct 2005)

INVITED SEMINARS FOR VETERINARIANS and/or FARMERS (no printed proceedings)

Cal Poly Tech San Luis Obispo (May 2019) SUNY Delhi Dairy Conference (January 2019) NOFA-NJ (January 2019) Owego Faith-Farming-Food Forum (November 2018) Kansas State School of Veterinary Medicine (September 2018, 2019, 2020) Sterling College (June 2017 & June 2018) **Cornell School of Veterinary Medicine** (March 2018) Cornwall Ontario Eco-Farm Days (January 2018) NCSU School Of Veterinary Medicine (November 2017) Indiana Grazing Conference (February 2017) Alfred State College Grasstravaganza (summer 2016) **Delaware Valley University** (November 2015) FDA Pre-INAD Meeting (August 2015) Maple Hill Creamery CowSignals® Workshop (Fort Plain, NY) (April 2015) UVM Extension CowSignals® Workshop (Shoreham, VT) (March 2015) Tufts Veterinary School (North Grafton, MA) (March, 2015) Rodale Institute Cow Class & full CowSignals® workshop (Kutztown, PA) (March, Nov. 2014 & March 2015) MOSES Organic University (LaCrosse, WI) (Feb. 2015) BioDynamic Winter Intensive (Harlemville, NY) (Feb. 2011, 2013, 2015)

BioDynamic Association Conference (Louisville, KY) (Nov. 2014) Chico State University – full Cow Signals® workshop (Chico, CA) (Oct 2012) 4th Annual UC Davis Veterinary Practitioners Seminar (Davis, CA) (Oct 2012) British Cattle Veterinary Association (Telford, UK) (Nov 2012) MOFGA Common Ground Fair (Unity, Maine) (Sept 2012) Dr/ Paul's/Organic Valley Veterinary Workshop (Viroqua, WI) (Sept 2012) Vetvice / Cow Signals teaching center (Bergharen, NL) (May 2012) U of Penn School of Veterinary Medicine 3rd year elective course: Complementary & Alternative Medicine (2006-2011) Guest Lecturer University of Minnesota School of Veterinary Medicine (Nov 2011) University of Minnesota / Morris (Rochester, MN) (Feb 2011) Vermont Technical College (Randolph, VT) (Jan 2011) University of Guelph, Animal Welfare Panel, (Guelph, Ontario) (Oct 2010) University of Utrecht, School of Veterinary Medicine, the Netherlands (Dec 2009) University of Calgary School of Veterinary Medicine, Alberta (Feb 2009) University of Edmonton, Dept of Animal Science, Alberta (Feb 2009) FDA CVM Staff College (Rockville, MD) (June 2008) University of Guelph, Campus d'Alfred (Alfred) (April 2008) University of Guelph College of Veterinary Medicine (Guelph) (Feb 2008) University of Wisconsin School of Veterinary Medicine (Madison) (Feb 2008) Virginia-Maryland Regional College of Veterinary Medicine (Blacksburg) (Jan 2008) North Carolina State University College of Veterinary Medicine (Raleigh) (Nov 2007) Cornell University Dept. of Animal Science (Ithaca) (Oct 2007) The Atlantic Veterinary College, Prince Edward Island (Charlottetown) (Sept 2007) Penn State Dairy Production Medicine Course (State College) (Aug 2007) University of Pennsylvania School of Veterinary Medicine (2006 - 2010) Alfred State College, NY (April 2006, Feb 2008) University of Kentucky (Lexington) (Oct 2006) Cornell University QMPS Extension Service (Richfield Springs and Dryden) (Dec 2004) Tufts School of Veterinary Medicine (North Grafton, MA) (July 2004, Oct 2005)

University of Connecticut (Storrs) (Sept 2000)

INVITED PRESENTATIONS FOR AGRICULTURAL ORGANIZATIONS

Global Organic Alliance (Bellefontaine, OH) (March 2015) Agri-Dynamics (Penn Yan, NY & LaGrange, IN) (March 2015) Netherlands Organization for Phytotherapy (Wageningen & Utrecht, NL) (Oct. 2014) Dimela Veta Latvija (Riga, Vieste, Jelgava & Stende, Latvia) (Jan. 2014) North Carolina Organic Commodities and Livestock Conference (Feb 2013) Harmony Organic Farmer meeting (May 2012) Organic Valley Co-op Farmer meetings (ME, VT, NY, PA, MD, VA, WV, NC) with full CowSignals[®] workshops in WA & OR (Aug 2011 – September 2013) **NOFA-NY** (Nov 2011) Harmony Organic with Temple Grandin (Ontario) (March / 2011) Midwestern Bio-Ag (Reedsburg, WI) (Dec 2010) Acres USA (Indianapolis, IN) (Dec 2010) Midwestern Bio-Ag Field Days (Blue Mounds, WI) (Aug 2010) Cornell Extension Field Day (Pavilion, NY) (July 2010) Cold Hollow Veterinary Service (Sheldon, VT) (April 2009) Pro-Cert Organic of Canada (Little Falls, NY) (April 2009) Organic Meadow (Holstein, Milverton, & Kemptville, Ontario) (April 2009) Harmony Organics (Kincardine, Ontario) (March 2009) Dairy Marketing Service (Bird-In-Hand, PA) (Jan 2009) Natural Acres (Millersburg, PA) (Jan 2009) Middlebury, Indiana (Dec 2008) Alberta Organic Conference (Camrose, AB) (March 2008) Going Organic Network of Alberta (various farms) (March 2008) Upper Midwest Organic Farming Conference (La Crosse) (Feb 2008) Montana Organic Association Annual Meeting (Big Falls) (Dec 2007) Carolina Farm Stewardship Association (Raleigh) (Nov 2007) The Organic Dairy Club (Prince Edward Island) (Sept 2007) Homestead Nutrition (New Holland, PA) (Feb 2007) Laurelville Mennonite Church Center (Laurelville, PA) (Jan 2007) Lancaster Organic Farmers Cooperative Producer Meeting (Bird-In-Hand, PA) (Jan 2007) Organic Valley Producer Meeting (Dryden, NY) (Jan 2007) Oregon Tilth Certified Organic (Salem) (Nov 2006) Dairy Marketing Service (Bird-In-Hand, PA) (Jan 2006, Jan 2007) MOFGA (Unity, Maine) (March 2006) New Hampshire Grazing Conference (Manchester) (Feb 2006) Jefferson County Extension, NY (Oct 2005) Ecological Farming Association Conference (Asilomar, CA) (Jan 2005) Heifer Project (Lookout Farm, MA) (Nov 2004) SARE, Vermont (Burlington, Fairlee) (March 2004, April 2006)

International Organic Inspectors Training (Millersville, Port Matilda, PA) (June 2000, 2006; Nov 2007) Northeast Organic Dairy Producers Alliance (Gap, PA; Durham, NH) (2001, 2006, 2009) Horizon Producer Meetings (OR, CA MN, WI, NY, VT, ME, PA, VA) (2006, 2009) Clover Stornetta Producer Meeting (Petaluma, CA) (Sept 2005) NOFA-NJ (Jan 2005) Virginia Extension Service (Harrisonburg) (March 2004) NOFA-NY (Dec 2000) Biodynamic Farming Assoc. (Burlington, VT) (Nov 2000) Pennsylvania Assoc. for Sustainable Agriculture (PASA) (2004, 2006, 2008) Western Organic Dairy Conference (Humboldt, CA) (2004, 2005, 2006) NOFA-VT (various dates beginning in 1999) PCO (various dates beginning in 2000)

ORGANIZATIONS / APPOINTMENTS/ TRAINING

- 2014-present American College of Veterinary Botanical Medicine, organizing member (bovine) <u>https://www.acvbm.org</u>
- 2010-present College for Integrative Veterinary Therapies (CIVT) <u>www.civtedu.org</u> webinar speaker
- 2001-present Veterinary Botanical Medical Association charter member www.vbma.org
- Spring 2012 International Veterinary Acupuncture Society course (IVAS) (Oregon)
- June 2011 International Herbal Symposium (IHS) VBMA-track course (Wheaton, MA)
- 2009-2011 **ECOA Animal Welfare Task Force**, Organic Agriculture Center of Canada, Truro, Nova Scotia
- 2005-2010 **USDA National Organic Standards Board**, Chair of Livestock Committee (2007-2010). Write recommendations for regulatory implementation by USDA <u>www.nop.gov</u>
- 2007-2009 Affiliate Assistant Professor, Dept of Animal and Nutritional Sciences, University of New Hampshire, Durham, NH (organic dairy health treatments)
- July 2004 VBMA course at Tufts University
- June 2001 Bovine Acupuncture for non-acupuncturists Colorado State University
- 1999-2001 **AVMA Task Force on Alternative and Complementary Medicine**, representing Food Animal sector to develop standards for CAVM within AVMA.

- 1996-present **Member**, American Association of Bovine Practitioners (AABP); Committee on Pharmaceutical & Biological Issues <u>www.aabp.org</u>
- 1995-present Member, American Veterinary Medical Association (AVMA) www.avma.org

CIVIC INVOLVEMENT

- 1/00-present **The Moo News**, monthly newsletter on organic health issues and other topics from a practical perspective; indexed and free and also published in the Country Folks (circulation in the northeast US).
- 6/97-2007 **Speaker, USDA Pequea-Millcreek Project**, give talks to local farmers in Lancaster County during field days regarding water quality and manure management in relation to cattle health and public water supplies.
- 2006-2007 Bart Township, Lancaster County, PA, Township Planning Commission.
- 1998, 1999 **Mentor, U. of Penn SVM Food Animal Fellow Program**, teach medical and surgical techniques for dairy cattle to summer students (2 summers); ongoing teaching of visiting veterinary students as requested.
- 1986-1987 **Health Officer**, Town of Epping, NH; established canine kennel ordinance.
- 1983 -1984 **Director, Alternative Energy Coalition** student group at University of New Hampshire
- **INTERESTS** Antiquarian veterinary textbooks; intuitive life connections; hands-on healing

CITIZENSHIP: U.S. & the Netherlands