

## What's in a Name? Revisited

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To cite this article: Kelley J. Donham MS, DVM, DACVPM , John R. Wheat MD, MPH , William Simpson Jr. MD & Paul James MD (2005) What's in a Name? Revisited, Journal of Agromedicine, 10:1, 5-11, DOI: [10.1300/J096v10n01\\_02](https://doi.org/10.1300/J096v10n01_02)

To link to this article: [https://doi.org/10.1300/J096v10n01\\_02](https://doi.org/10.1300/J096v10n01_02)



Published online: 25 Sep 2008.



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What's in a Name?  
Revisited:  
Terms Used to Describe Activities Related  
to the Health and Safety  
of Agricultural-Associated Populations and Consumers

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**ABSTRACT.** The fundamental role of an academic journal is to facilitate a dialogue among scholars to advance the knowledge and art of practice related to the journal's subject, and consequently, to raise the human condition. As the *Journal of Agromedicine* begins to chart a course under new management and to enlarge the numbers of contributing scholars and sustaining subscribers, the editor has discovered a variety of concepts, historical developments, and terms used by scholars and practitioners in pursuit of health and safety of agriculture-associated populations and consumers. Each of these concepts, developments, and terms reflect the interests of different scholars and practitioners, who represent a surprisingly broad set of disciplines committed to this large endeavor. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2005 by The Haworth Press, Inc. All rights reserved.]

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Journal of Agromedicine, Vol. 10(1) 2005

<http://www.haworthpress.com/web/JA>

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Digital Object Identifier: 10.1300/J096v10n01\_02

**KEYWORDS.** Agromedicine, agricultural health and safety, agricultural medicine, occupational medicine

In seeking to establish a dialogue among its editorial board, which represents many of the different disciplines committed to the health and safety of agriculture-associated populations and consumers, the Editor discovered the attachment that various scholars have to the terminology under which they launched their careers. The question arose: Is the term “Agromedicine” sufficient to retain the interest of these several groups and to thus effectively stimulate the scholarly dialogue that brings their contributions to a common forum?

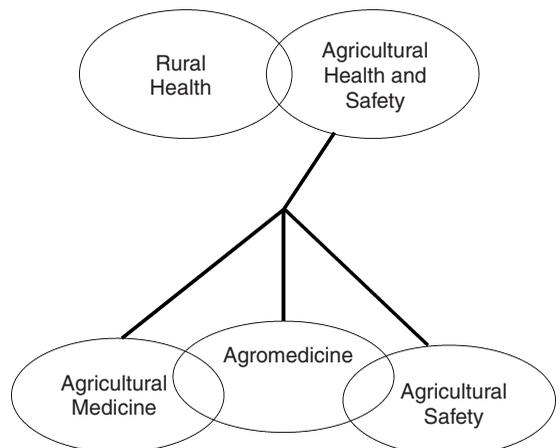
The Journal owes much to its founding editor, Stanley Schuman, MD, DrPH, whose vision for collaborative efforts among the medical and health-related disciplines, on one end of the continuum, and the agricultural and safety-related disciplines, on the other, consolidated the term, “Agromedicine.” It is in the spirit of this vision that the editorial board has invited the following article to revisit “What’s in a name” in order to start a discussion that will facilitate an optimal forum for continued academic dialogue among the many salient disciplines.

***DEFINITIONS, HISTORY, CONCEPT, AND TERMINOLOGY OF THE FIELDS OF AGRICULTURAL HEALTH AND SAFETY (AGRICULTURAL MEDICINE, AGROMEDICINE, RURAL HEALTH, AND AGRICULTURAL SAFETY)***

Several terms have been used to describe fields of endeavor aimed at improving the health of our rural and agricultural communities. Paul James took on the task to define these terms in an article entitled, “Agromedicine: What’s in a name?”<sup>1</sup> As the field of agricultural safety and health has grown, there is still confusion in terminology. This article revisits the terminology issues, with the hope that a consensus will evolve, which is important as the field of agricultural safety and health matures as a recognized professional endeavor. The above terms are often used interchangeably, and errone-

ously, in regards to their rather distinct history and original intent. Figure 1 illustrates the various terms used, and their relationships. The two primary terms used to describe health-related activities in rural areas are “rural health” and “agricultural health and safety.” Rural health is a term used to describe a field of endeavor aimed at the development and support of health care services (providers and facilities) that are accessible, and appropriate for all rural residents (National Rural Health Association, <http://www.nrharural.org>).<sup>2</sup> The field of rural health does not focus on any particular health problem, occupation, ethnic group, or prevention, but rather provision of services to take care of usual illnesses of rural residents.<sup>3</sup> Agricultural health and safety on the other hand is a broad term that is used to describe a field of practice and associated endeavors aimed at reducing occupational injuries and illnesses in agricultural populations. Underneath this latter umbrella term, there are several interrelated subfields with associated terms (agricultural medicine, agromedicine, and agricultural safety). Although each term is associated with activities aiming to decrease injuries and illness in

FIGURE 1. Terminology/Fields of Endeavor Addressing the Health of Rural Residents, Owners/Operators, and Workers in Production Agriculture



agricultural populations, each term has a slightly different associated history, concept, focus, professional makeup, and culture.

Within the broader term of agricultural safety and health, the term agricultural medicine has been used for at least 50 years, describing an informal sub-specialty discipline of the broader field of occupational medicine and occupational health. Bernardo Ramazzini (1633-1714), a physician in Modena, Italy has been generally recognized as the father of occupational medicine. His book, "De morbis artificum diatribe," describes in detail many occupational-related diseases he observed in his farm patients, many of which we still recognize today. The history of occupational medicine and health and agricultural medicine can be traced to his efforts.

In more modern times, a physician named Toshikazu Wakatsuki in Japan developed a strong outreach program to his farming patients following World War II (Table 1). Wakatsuki began his tenure at Saku Central Hospital in the Nagano Prefecture of central Japan in 1945. He spent his professional lifetime transforming the care of the rural farming community from what may have been considered benign neglect to a world model outreach and prevention program. He established the Japanese Rural Medicine Association, and was a principal in the founding of the International Association of Agricultural Medicine and Rural Health. His humble, dedicated, humanitarian approach to his mission earned him the Ramon Maysaysay Award (the Asian version of the Nobel Peace Prize) in 1997.<sup>4</sup>

Modern efforts in the area of occupational medicine and health in agriculture were led out of several institutes in Europe. The Institute for Rural Occupational Health was initiated at Lublin, Poland in 1951, which changed its name to the Institute of Agricultural Medicine in 1984. This Institute exists today, with a multidisciplinary team of some 150 scientists studying occupational health and care of Poland's rural and farming community (<http://www.imw.lublin.pl/historia/historia-e.html>).<sup>5</sup> The Institute at Lublin founded a new journal in 1994 titled the *Annals of Agricultural and Environmental Medicine*, which publishes peer-reviewed scientific arti-

cles on a wide variety of occupational and environmental health problems among agricultural workers (<http://www.aaem.pl/>).<sup>6</sup> The term agricultural medicine was used in North America in 1955 with the founding of the Institute of Agricultural Medicine within the College of Medicine at the University of Iowa. This institute was organized with a multidisciplinary team including a physician, an industrial hygienist, a veterinarian, a microbiologist, an anthropologist, a safety engineer, and a toxicologist.<sup>7</sup> Existing initially as a research institute, in 1974 a training program in agricultural medicine and rural health was initiated for health care professional students and graduate students in occupational health specialties. This institute exists today as the Institute for Rural and Environmental Health within the College of Public Health at the University of Iowa, where the research, training programs, and outreach have a principal focus on occupational health problems of the agricultural community. The term and concept of agricultural medicine became more sanctioned with the founding of the International Association of Agricultural Medicine and Rural Health in 1961 at Tours, France (<http://www.iaamrh.org/>).<sup>8,9</sup> This organization is a multidisciplinary group of medical, health and agricultural professionals whose aim is to identify and control health and environmental problems in rural and agricultural communities. The organization has regional meetings and a major congress every three years. It also has connections with the World Health Organization, International Labour Organization, and other international health organizations.

As recognition of the importance of health care and prevention among the agricultural community spread, different, but related, terms were added. A variant on the theme of agricultural medicine was used with the founding of the National Farm Medicine Center in 1981 at Marshfield, Wisconsin. This research and outreach group to the farm community was developed within a private multispecialty physician group, but has evolved into a multidisciplinary group, focusing on occupational illnesses in the farming community (<http://research.marshfield>

TABLE 1. History of Agricultural Medicine

- 1945: Dr. Toshikazu Wakatsuki established the Rural and Agricultural Medicine outreach program out of Saku Central Hospital, Nagano Prefecture, Japan.
- 1945-1949: Establishment of the roots of the National Institute for Farm Safety, Inc.
- 1951: Institute of Agricultural Medicine, Lublin, Poland.
- 1955: Institute of Agricultural Medicine, University of Iowa.
- 1961: Founding of the International Association of Agricultural Medicine and Rural Health in Tours, France.
- 1965: Founding of the Journal of the International Association of Agricultural Medicine and Rural Health.
- 1973: Institute of Rural Environmental Health (Occupational Health and Safety Section), Colorado State University.
- 1973: The term "Agromedicine" is first used by John Davies.
- 1974: Beginning of the Agricultural Medicine Training program at the University of Iowa.
- 1976: Peer-reviewed article outlining the didactic areas of Agricultural Medicine, "The Spectrum of Agricultural Medicine."<sup>14</sup>
- 1979: Article published in the Journal of the Royal Society of Medicine, first definition of Agricultural Medicine.<sup>8</sup>
- 1981: Establishment of the National Farm Medicine Center, Marshfield, Wisconsin.
- 1982: Article published that offered a more detailed definition of Agricultural Medicine, and differentiated it from the field of Rural Health, "Agricultural Medicine: The Missing Component of the Rural Health Movement."<sup>16</sup>
- 1984: Establishment of the first Agromedicine Program as a consortium of the Department of Family Medicine at Medical University of South Carolina, and Clemson University.
- 1986: Establishment of the Centre for Agricultural Medicine, University of Saskatchewan, Canada. (Renamed Institute of Agricultural Rural and Environmental Health in 2001).
- 1988: Founding of the North American Agromedicine Consortium.
- 1988: "Agriculture at Risk: A Report to the Nation," published proceedings of the National Coalition for Agricultural Safety and Health.
- 1990: Establishment of the CDC/NIOSH Centers for Agricultural Disease and Injury Research, Education, and Prevention.
- 1994: Journal of Agromedicine first published.
- 1994: Founding of the Annals of Agricultural and Environmental Medicine.
- 1995: Journal of Agricultural Safety and Health first published.

*clinic.org/nfmc/*).<sup>10</sup> The University of Saskatchewan developed the Centre for Agricultural Medicine in 1986, which since 2001 has been known as the Institute of Agricultural Rural and Environmental Health (<http://iareh.usask.ca/index.php>).<sup>11</sup> The National Coalition for Agricultural Safety and Health held a landmark scientific conference in Iowa in 1988 to assess the state of agricultural health and safety in the United States. The proceedings of this conference, which focused upon agricultural occupational and environmental health, were published as the landmark report, "Agriculture at Risk: A Report to the Nation."<sup>12</sup> This report in 1989, and the Surgeon General's Conference on Agricultural Safety and Health in 1991, facilitated development of The Agricultural Safety and Health Program within the National Institute for Occupational Safety and Health

(NIOSH). There are now 10 NIOSH agricultural centers.

A published article by Top in 1962 set out the didactic basis of agricultural medicine, which included the importance of understanding the processes and work environment of agriculture, acute injuries, sanitation, allergies, farm chemicals, zoonoses, social and mental health.<sup>14</sup> Rasmussen expanded on Top's comments and further established the didactic content of agricultural medicine.<sup>15</sup> Berry in 1971 and 1979 established the first references regarding the peculiarities of agricultural employment relative to occupational health, and a research agenda.<sup>7,16</sup> Elliott published the first attempt at a definition of agricultural medicine, which used a variant of the definition of industrial hygiene.<sup>8</sup> Donham (1982) refined and updated Elliott's definition of agricultural medicine as follows: Agricultural medicine is, "... the anticipation, recognition, diagnosis, treatment,

prevention, and community health aspects of health problems peculiar to agricultural populations.<sup>17</sup> Agricultural medicine is a discipline, a sub-specialty area of occupational medicine and health and public health. It is multidisciplinary in its approach and involves professionals from all the clinical and basic health sciences and veterinary medicine. As there is not an official designation by the American Board of Preventive Medicine of agricultural medicine as a subspecialty, it may be more appropriate to categorize agricultural medicine as a special application of Occupational Medicine to agricultural populations and environments. Agricultural medicine has a research base, and has a core of didactic information. This didactic core information serves as the basis for training programs for health or safety professionals to work in the area. There is an international professional organization and two journals that have agricultural medicine in the title (the *Journal of the International Association of Agricultural Medicine and Rural Health*, and the *Annals of Agricultural and Environmental Medicine*).

Agromedicine, another term similar to the term agricultural medicine was first seen in 1973 and defined in more detail in 1978.<sup>18</sup> Dr. John Davies expressed concern for the public and agricultural workers regarding health and environmental effects of pesticides, especially as they were affecting the health of native farm workers in Latin American countries. He felt that there was a need for the medical and agricultural health communities to work more closely together on this issue, and called this partnership the “agromedicine approach.” Pesticides were clearly a boon for agricultural production, but the occupational and environmental (and the public’s) concern created problems for their use and expansion with fear rather than science driving regulatory efforts. Dr. Stanley Schuman at the Medical University of South Carolina expanded on the agromedicine concept to encompass these concerns. He observed how the Cooperative Extension Service of Clemson University, the South Carolina land grant university, had agricultural specialists in every county of the state to disseminate information from the research campuses to the farmers in the countryside. Extension agents in rural areas also assist with problem solving that

might arise regarding production issues. Dr. Schuman thought that medical and health information and problem solving could and should be disseminated in a similar manner, but in full collaboration and in context with agricultural production information. The South Carolina Agromedicine Program was initiated in 1984, as a joint collaboration between the Division of Family Medicine at the Medical College of South Carolina and the Agricultural Extension Service of Clemson University (<http://www.musc.edu/oem/ahome.html>).<sup>19</sup> Dr. Schuman also initiated the publication of the *Journal of Agromedicine* to facilitate a dialogue among interested professionals in research and practice. The program grew, gaining first regional then national interest, and in 1988, the National Agromedicine Consortium (NAC) was established. Renamed the North American Agromedicine Consortium (NAAC), this organization (<http://www.agromedicine.org>)<sup>20</sup> holds annual professional conferences and sponsors a scientific, peer-reviewed journal, the *Journal of Agromedicine*.

Agromedicine arose as a new approach to farm populations. Agricultural medicine had its roots in academic occupational medicine and was somewhat removed from the health delivery system found in rural communities that depended on primary care providers. The partnership envisioned by early agromedicine leaders was more transdisciplinary than multidisciplinary. Agricultural, medical and public health experts were to develop relationships and methods of communication that studied, anticipated, and informed their respective communities about the potential health problems encountered by farming populations. More importantly, it emphasized the expertise of those who encountered medical conditions on the front line in rural communities, primary care doctors and agricultural extension agents. Agricultural medicine assumes a medical model and reductionistic approach to problem solving that may be perceived as paternalistic by rural providers and agricultural producers. Agromedicine developed approaches that were more participatory and experiential.

In 1994, Wheat and colleagues in Alabama contributed a paper to this journal using “agromedicine” to reflect the merits found in both Iowa’s “agricultural medicine” program and

South Carolina's "agromedicine" approach.<sup>21</sup> The thrust of the paper was to link the efforts to produce rural physicians with both content knowledge of agricultural medicine and the outreach approach of agromedicine. Later, while again discussing education for agricultural health and safety, colleagues from Alabama, Iowa, and South Carolina co-authored another paper in the *Journal of Agromedicine*,<sup>22</sup> noting:

Physicians for agricultural health and safety must have special knowledge relative to the occupational and environmental hazards of the agricultural community and skills in outreach to the population at risk. Thus, occupational and environmental medicine relative to agriculture (i.e., agricultural medicine) is a core discipline for these physicians, as is agromedicine, the process of forming partnerships with other health professionals, agricultural scientists, and extension agents to conduct prevention programs acceptable to the farming community. (p. 91)

The differences between agricultural medicine and agromedicine in their beginnings were rather significant. However, both areas have moved toward one another, and in general the similarities are greater than the differences. Both are fields of agricultural health and safety, with the objective of controlling or preventing agricultural occupational and environmental illnesses and injuries. They are both multidisciplinary in their approach. An understanding of agriculture and the culture of its people are important. The basic difference is that agricultural medicine is a health/medical discipline (a subspecialty of occupational and environmental health), and agromedicine is a process linking the medical school faculty (usually Family Medicine) with interested medical professionals, patients, and the agricultural college (Extension). In fact, the two are complementary and, taken together, provide a more holistic approach to the health and safety of populations related to agriculture. An important next step for improving agricultural safety and health is to link the expertise and research methods of the discipline of agricultural medicine to the applied approaches of agromedicine and bring

improved health services and prevention to populations that continue to be underserved.

Agricultural safety has a longer history, than either agromedicine or agricultural medicine starting in North America during the 1940s. Those who became interested and involved included extension agents, agricultural engineers, insurance loss control professionals, and Farm Bureau representatives, among others. The methods have focused on promoting awareness of safety problems resulting in acute injuries in the farm community, utilizing primarily education and engineering design control methods. The National Institute for Farm Safety, Inc., which developed from a series of meetings beginning in 1945, is the primary professional organization for this group of professionals (<http://www.ago.ohio-state.edu/~agsafety/NIFS/nifs.htm>).<sup>23</sup>

Although the terms described above have different histories, cultures, and professional make-ups, they are tied together by the common goal of reducing illnesses and injuries among agricultural populations. Furthermore, there is a great deal of interplay between the professional journals and societies of these groups. For example, professionals working in any of the three areas of agricultural health and safety may publish in any of the agricultural health and safety journals mentioned above. It is the goal of the authors of this article to establish an inclusive dialogue that draws commentary and collegial contributions from an ever-expanding group of persons and disciplines committed to improving the health and safety of the agricultural community.

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