

Animal Agriculture in South Carolina: A Fact Book

M. L. Warner, Ph.D., Research Assoc./Assis. Prof., Ag and Applied Economics
H. Harris, Professor, Ph.D. Ag and Applied Economics
B.J. Vander Mey, Ph.D. Assoc. Prof., Sociology
J. Allen, Director, SC Water Resources Center
C. M. Sieverdes, Ph.D. Professor, Ag and Applied Economics
C. Mobley, Ph.D. Asst. Prof., Sociology
P. Skewes, Ph.D. Professor, Animal and Veterinary Sciences

Table of Contents

Introduction	1
Current Status of Animal Agriculture in South Carolina: Comparison with Adjacent States	5
Adult South Carolinians' Opinions about Animal Agriculture	10
Depicting Trends in South Carolina Animal Agriculture	26
Spatial Relationships of Polluted Streams, Animal Agriculture, and Human Populations in South Carolina Watersheds	29
Economics of Regulating Animal Agriculture	41
How Governments Are Responding	44
South Carolina's New Regulations	44
What the Federal Government Is Doing	46
What's Happening in the States	47
What's Happening at the County and Local Levels	49
The Changing Structure of Animal Agriculture	50
Problems and Solutions	53
What Can Be Done?	53
Good News	54
Bad News	55
Other Sources of Nonpoint Pollution	56
Sources of Funding for Farmers	58
Websites of Interest for Agriculture and the Environment	61
Endnotes	65

Endnotes

- ¹ B. J. Vander Mey, Dept. of Sociology, Box 341513, Bracket 132, Clemson University, Clemson, SC, 29634-1513. Tel: 864.656.3821. Fax: 864.656.1252. E-mail: vanmey@clemson.edu
- ² Respondents could list up to 4 organizations.
- ³ The most important point here is that there was at least adequate representation of people most likely to be affected by animal agriculture. Problems with how the Census defines “rural” and “urban” and how critiques of surveys envision rural versus urban places are not really addressable in this report. It is recognized that respondents self categorized.
- ⁴ This pattern is not unusual in survey research. Less educated people tend to be less inclined to participate in surveys while more educated people tend to be more inclined. It should be noted that the bi-modal split between High School Diploma and Some College/Technical Training in this survey (53.5% of the respondents) is similar to the Census figures for adults in South Carolina (48.5%).
- ⁵ For a discussion see Roe, Terry L. and Munisamy Gopinath. “The ‘Miracle’ of U.S. Agriculture.” *Minnesota Agricultural Economist*, No. 691, Winter 1998.
- ⁶ Porter, Michael E., and Claas van der Linde. “Toward a New Conception of the Environment-Competitive Relationship.” *Journal of Economic Perspectives*, Vol. 9, No. 4. Fall 1995, pp. 97-118.
- ⁷ Wohlgenant, Michael K. “Demand for Farm Output in a Complete System of Demand Functions.” *AJAE*, Vol. 71, No. 2, May 1989, pp. 241-252.
- ⁸ *The Baltimore Sun*. May 26, 1998.
- ⁹ Sundig, David L. “Measuring the Marginal Cost of Nonuniform Environmental Regulations.” *AJAE*, Vol. 78, No. 4, November, 1996, pp.1098-1107.
- ¹⁰ Sharpley, A.N. and J.R. Williams, eds., 1990. EPIC—Erosion/Productivity Impact Calculator: 1. Model Documentation. USDA Technical Bulletin No. 1768.
- ¹¹ Larson,
- ¹² Shortle, James S., and James W. Dunn. “The Relative Efficiency of Agricultural Source Water Pollution Control Policies.” *AJAE*, Aug. 1986, pp. 668-677.
- ¹³ Griffen, Ronald and Daniel Bromley. “Agricultural Run-Off as a Nonpoint Externality.” *AJAE*, Vol. 64 (1982), pp. 547-52.
- ¹⁴ Jacobson, Elaine Mullaly, Leon E. Danielson, and Dana L. Hoag. “The Tar-Pamlico River Basin Nutrient Trading Program.” ARE94-1-April 1994, NCSU. <http://www.bae.ncsu.edu/bae/programs/extension/publicat/arep/tarpam.html>.
- ¹⁵ *The Augusta Chronicle*. June 22, 1998.
- ¹⁶ Palmquist, Raymond B., Fritz M. Roka, and Tomislav Vukina. “Hog Operations, Environmental Effects and Residential Property Values.” *Land Economics*, February 1997, Vol 73 (1) pp114-24.
- ¹⁷ *Chicago Tribune news service*. May 6, 1998.

- ¹⁸ Thanks to Joy Sherman of DHEC for providing a copy of “Standards for the Permitting of Agricultural Animal Facilities: R.61-43. Bureau of Water, SCDHEC, June 1998 and other fact sheets.
- ¹⁹ Clean Water Action Plan. U.S. Government Printing Office. ISBN 0-16-049536-9.
- ²⁰ S 1323 IS, 105th Congress, 1st Session. October 28, 1997.
- ²¹ Fretwell, Sammy. The State. May 1, 1998.
- ²² The Greenville News. May 8, 1998.
- ²³ The Greenville News. July 3, 1998.
- ²⁴ The Greenville News. July 6, 1998.
- ²⁵ Goodman, Peter S. The Washington Post. April 11, 1998.
- ²⁶ Goodman, Peter S. The Washington Post. June 20, 1998.
- ²⁷ Goodman, Peter S. The Washington Post. June 24, 1998.
- ²⁸ Goodman, Peter S. The Washington Post. July 3, 1998.
- ²⁹ The Baltimore Sun. July 6, 1998.
- ³⁰ <http://leg1.state.va.us/cgi-bin/legp504?981+sbj+003>
- ³¹ UPI, April 21, 1998.
- ³² Eddy, Mark. Denver Post June 16, 1998.
- ³³ Presswire. June 16, 1998.
- ³⁴ The Columbus Dispatch. June 17, 1998.
- ³⁵ <http://www.lsb.state.ok.us/house/98ovview.htm>
- ³⁶ Tulsa World. April 15, 1998.
- ³⁷ Tulsa World. March 20, 1998.
- ³⁸ UPI Farming Today. August 25, 1997
- ³⁹ St. Louis Post-Dispatch. November 6, 1997
- ⁴⁰ Reuters. March 5, 1998
- ⁴¹ The Fresno Bee. March 2, 1998
- ⁴² Ward, Clement E. “Vertical Integration Comparison: Beef, Pork and Poultry.” WF-552. Oklahoma Cooperative Extension Service
- ⁴³ 100,000+

- ⁴⁴ Ward, Clement E. “Vertical Integration Comparison: Beef, Pork and Poultry.” WF-552. Oklahoma Cooperative Extension Service
- ⁴⁵ DiPietre, Dennis. “Reflections on the Role of Knowledge in the 21st Century Pork Industry..” <http://www.nppc.org/PROD/knowledge.html>.
- ⁴⁶ 2000+ head
- ⁴⁷ Ward, Clement E. “Vertical Integration Comparison: Beef, Pork and Poultry.” WF-552. Oklahoma Cooperative Extension Service.
- ⁴⁸ Ward, Clement E. “Structural Changes in Cattle Feeding and Meat Packing.” WF-553. Oklahoma Cooperative Extension Service.
- ⁴⁹ Ward, Clement E. “Packer Concentration and Its Impacts.” WF-554. Oklahoma Cooperative Extension Service.
- ⁵⁰ 100+ head
- ⁵¹ 500+ head
- ⁵² Manchester, Alden C. and Don P. Blayney. “The Structure of Dairy Markets: Past, Present and Future.” USDA Agricultural Economic Report No. 757. September 1997.
- ⁵³ 100+ head
- ⁵⁴ No endorsements of any product or system mentioned in this report are to be inferred. All references are informational only.
- ⁵⁵ Chastain, John P. and Larry D. Jacobson. “Site Selection for Animal Housing and Waste Storage Facilities.” AEU-6. Minnesota Extension Service.
- ⁵⁶ Nicolai, Richard E. “Managing Odors from Swine Waste.” AEU-8. Minnesota Extension Service.
- ⁵⁷ Reuters. February 19, 1998.
- ⁵⁸ PRNewswire. March 2, 1998.
- ⁵⁹ BW Healthwire. May 18, 1998.
- ⁶⁰ United Press International. November 12, 1997.
- ⁶¹ United Press International. September 3, 1997.
- ⁶² Jones, Don D. “Constructed Wetland for Treatment of Animal Wastes. Purdue University.
- ⁶³ “From Pig Manure to Bamboo Forests: Turning the Animal Waste Problem Into a Resource.” October 28, 1997. <http://www.ecological-engineering.com/bamboof/html>
- ⁶⁴ Progressive Farmer. “Manure Beats Fertilizer.” April 16, 1998.
- ⁶⁵ Pork Report, October, 1997. National Pork Producers Council.

- ⁶⁶ Progressive Farmer, "Survey: Young Farmers Quick to Innovate," <http://progressivefarmer.com/today/newsfile/afbsurvey.html>. Accessed March 24, 1998.
- ⁶⁷ Jacksonville Daily News. November 12, 1997.
- ⁶⁸ Reuters. May 8, 1998.
- ⁶⁹ Blum, Justin. Washington Post. May 9, 1998. Page B07.
- ⁷⁰ U.S. Water New Online. February 1997.
- ⁷¹ Florida Today. November 9, 1997.
- ⁷² Hayes, Sharon, Leo Newland, Ken Morgan, and Kirk Dean, "Septic Tank and Agricultural Non-Point Source Pollution within a Rural Watershed," *Toxicological and Environmental Chemistry*, Vo. 14 (1990), pp 137-56.
- ⁷³ Business Wire. May 4, 1998.
- ⁷⁴ Yahoo Finance, "ADVISORY/Pets to Take Pollution Prevention Pledge on Behalf of Owners," http://biz.yahoo.com/bw/980604/la_dept_pu_1.html. Accessed June 4, 1998.
- ⁷⁵ Washington Post. June 8, 1998. Page C01. Dan Eggen, Staff Writer.
- ⁷⁶ Washington Post. June 8, 1998. Page C01. Dan Eggen, Staff Writer.
- ⁷⁷ Nonpoint Source News-Notes, Issue #48, March/April 1997. Technical Notes.
- ⁷⁸ Dishneau, David, Associated Press Writer. Washington Post. November 30, 1997.
- ⁷⁹ The San Diego Union-Tribune. May 18, 1998
- ⁸⁰ Sun-Sentinal-Ft. Lauderdale. May 27, 1998.