

Horizons

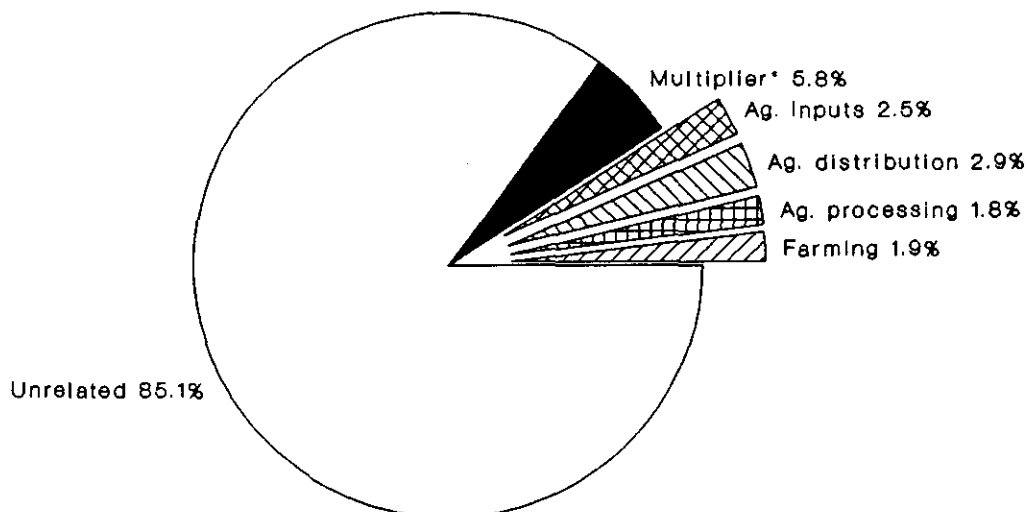
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Agriculture's Contribution to the Virginia Economy

Thomas G. Johnson

Agriculture-related employment as a percentage of Virginia total employment, 1991.



*Multiplier effects due to agriculture-related income

The Virginia agricultural system includes 44 thousand farms and 8.2 million acres of crops and pastures. But farms are really only the mid-point in a chain of economic activities. This chain begins with producers of farm inputs and ends with distributors who put agricultural products in the hands of consumers. The agricultural economic system includes not only farms and farmers, but also processors of

food, wine, and tobacco; transportation, wholesaling, and retailing activities that distribute processed and unprocessed products to consumers; and producers and suppliers of inputs to these farms, processors, and distributors. Just over nine percent of employment in Virginia in 1991 depended on these four components of the agricultural system (shown as the pulled-out "slices" in the figure above). In addition, nearly six percent of Virginia's 1991 employment (represented by the black slice in the figure above) resulted from multiplier effects of income generated by the agricultural system; that is, from the effects when agriculture-related income is spent in sectors outside of the agricultural system.

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Virginia's agricultural system, with its many linkages to other economic activities and products, affects practically every Virginian and contributes to every other major sector of the state's economy. But, up to now, that contribution has not been measured comprehensively, in a way that accounts for all components of the agricultural system and for the economic effects of those components both within and outside of the system.

The Department of Agricultural and Applied Economics at Virginia Tech, in cooperation with the Virginia Department of Agriculture and Consumer Services, undertook a study to determine the size and economic contribution of Virginia's agricultural system. The researchers--Ernie Wade, a research associate at Virginia Tech, and I--were aided by an advisory committee of industry representatives and experts on economic impacts. The committee helped define the agricultural system and refine the procedures used to measure it. State-of-the-art methods were used to measure linkages among system components and to estimate employment levels.

While this article presents only our findings on the *statewide* economic contribution of agriculture in Virginia, our study also considered economic contributions within various regions and by various commodities. The complete results of the study will be published in a REAP Report later this year; that report's availability will be announced in *Horizons*.

Changes in Virginia's Agriculture

Since colonial times, when the economy of Virginia was almost entirely agricultural, the proportion of the population directly engaged in farming has steadily declined as technological change has increased the productivity of farm labor. At the same time, the number of jobs in the non-farming components of the system has steadily increased as farmers have given over many of their responsibilities for processing, marketing, and the production of inputs to other sectors of the economy. Today less than two percent of the Virginia labor force is directly employed in farming, but the agricultural system as a whole employs almost nine percent of the labor force.

Another change has been the diversification of the agricultural system, with increased linkages to the rest of the nation and world. Virginia's agricultural system now produces specialized, high-quality products that are marketed all over the world, while other products are imported and sold through Virginia distribution

channels. Virginia's agriculture includes not only traditional field crops, vegetables, livestock, and seafood, but also aquaculture, landscape and nursery products, ornamentals, the commercial horse industry, and premium farm wines. In addition, agriculture has important links to the tourism and forestry industries in Virginia.

For the purposes of our study, the agricultural system included the following: all crop and livestock agriculture--including Christmas trees, vineyards, and orchards--and related agricultural services; food and tobacco processing, wineries, and cotton textiles; transportation, wholesaling, and retailing of agricultural products; and production of all inputs used by farms, processors, and distributors of agricultural products. Our definition excluded all wood products, non-cotton textiles, restaurant employees, and employees of distribution sectors not handling agricultural commodities.

Economic Contribution

Table 1 (next page) summarizes the contribution of agriculture to Virginia's economy. Presented below are some of the key numbers that indicate the significance of the agricultural system.

Contributions from agricultural system activities

- **Over \$25 billion in total sales**

In 1991, farm-level sales were \$2.9 billion. Manufactured food and tobacco sales were \$14.3 billion, and the distribution system added another \$2.8 billion. Purchases by these three components of inputs from in-state suppliers were worth \$5.2 billion. In all, the system generated \$25.2 billion in sales, affecting almost every sector of Virginia's economy.

- **\$11 billion contribution to Gross State Product**

Counting only the value added by in-state activity, called contribution to Gross State Product (GSP), these sales accounted for almost \$11.3 billion, or 7.6 percent of the estimated GSP for 1991.

- **One quarter of a million jobs**

The agricultural system supported approximately 254,000 jobs, or nine percent of the 1991 state total. This included 53,000 on farms; 51,000 in processing; 81,000 in distribution; and 69,000 in input sectors. Most of these jobs were in urban areas of the state.

Table 1. Summary of economic impact of Virginia's agricultural system, 1991.

	Sales (\$ billion)	Value-added (\$ billion)	Employment
Farming	2.85	0.695	53,000
Processing	14.34	5.650	51,100
Distribution	2.76	2.361	80,900
Inputs	5.21	2.603	69,200
TOTAL FOR AGRICULTURAL SYSTEM	25.16	11.309	254,200
Agricultural system's percent of state total	---	7.6%	9.1%
Multiplier effect of ag. system income	9.38	5.920	163,700
TOTAL RELATED TO AGRICULTURE	34.54	17.229	417,900
Agriculture-related's percent of state total	---	11.6%	14.9%

Contributions from multiplier effects of agricultural system income

- An additional 164,000 jobs (5.9 percent) and \$6 billion in GSP (4.0 percent)

Like other industries, the agricultural system has multiplier effects on other sectors of the economy. In this study, we examined the effect that occurs when the income that agriculture generates for employees, proprietors, and owners is spent on consumer goods and services. In 1991, these effects added an additional \$9.4 billion in sales, \$5.9 billion in Gross State Product (GSP), and 164,000 jobs.

When agricultural system economic activity is combined with the multiplier effect of agricultural income, 11.6 percent of GSP and 14.9 percent of jobs in Virginia in 1991 were in some way related to the agricultural economic system.

Conclusion

Many people have the false impression that agriculture is a minor part of Virginia's economy. The truth is that agriculture is a significant industry in Virginia. Approximately one of every seven jobs in the state is related to Virginia agriculture. Almost eight percent of the GSP is generated by some segment of agriculture, and income earned in agriculture stimulates the production of an additional four percent of GSP.

Some people might also be surprised that much of the production and most of the jobs in Virginia's agriculture occurs in the state's urban areas. Cities and metropolitan counties are where most agricultural

inputs are produced, services are offered, and processing and distribution of products occurs. All of these activities of course result in jobs, income, and support of the local tax base.

Agriculture in Virginia is a vibrant economic sector, closely tied to Virginia's quality of life by the sector's history, its economic contribution, and its importance as a land use. But agriculture is also an evolving sector. In the coming years, Virginia's agriculture will face many challenges, such as the need to manage environmental impacts and to compete with other producers of Virginia's traditional crops. At the same time, many opportunities exist, from new technologies to new techniques in sustainable agriculture to new markets opened up by Virginia's growing population. This study indicates that Virginia has a vital interest in a prosperous agricultural sector, one that can meet its challenges and take advantage of its opportunities.

CORRECTION

In the March/April 1994 *Horizons*, it was reported that localities declared eligible for federal disaster funds usually provide 25 percent of the eligible public costs, with federal funds covering up to 75 percent. According to Keith Keister, deputy state coordinator for the Virginia Department of Emergency Services, the 25-percent match actually is shared by the state and locality. Local responsibility is based on a fiscal stress index, and localities pay no more than 15 percent, with state funds covering the difference. (Eligible non-profit agencies are responsible for the entire 25-percent share.) For more information or clarification, contact the Virginia Department of Emergency Services' Public Assistance Office at (804) 288-0301, extension 2510.

Property-tax Alternatives Discussed at Leesburg Seminar

Are there alternatives to the property tax to finance schools? Yes, but eliminating or reducing reliance on local property taxes to fund schools would mean shifting the bill to some other source of money. Whether or not to do so depends not only on where the money is (that is, what can be taxed), but also on one's idea of whose money should be used (that is, what level of government should pay for schools).

This basic consensus on the issue of public school finance from local property taxes--a subject being examined currently in several states nationwide--was evident at an April 29 seminar in Leesburg. The seminar, sponsored by Amendment I, Inc., with assistance from REAP, gave some 50 local officials and concerned citizens from across Virginia a chance to consider and debate property-tax alternatives. Their lively discussion followed presentations by three speakers: Suzette Denslow of the Virginia Municipal League; C. Flippo Hicks of the Virginia Association of Counties; and Carlos Elías, a former research associate for REAP and now an applied economist with the World Bank in Washington, D.C.

An upcoming REAP Policy Paper will summarize the issues discussed at the seminar. The publication will be announced in a future *Horizons*.

NOTICES

*"Rural Community Survival" is the title and theme for the 1994 conference of the National Association for Rural Mental Health. The conference will be held July 1-4 in Des Moines, Iowa. For more information, contact the association at P. O. Box 570, Wood River, IL 62095; phone (618) 251-0589.

*The U.S. Department of Agriculture (USDA) and the Chesapeake Bay Program have signed an agreement regarding USDA's role in the multi-agency effort to restore and protect the Bay. According to the Bay Program, the January 1994 agreement "targets the USDA to provide an integrated approach to environmentally sound and economically viable farm management practices in the Chesapeake Bay watershed states of Maryland, Pennsylvania, and Virginia." For more information, call the Chesapeake Bay Program communications office at (410) 267-5756.

*A new USDA publication, *Farmer Cooperatives*, is a monthly guide to the operation and management of cooperatives. An annual subscription costs \$23. To subscribe, contact the Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954.

For more information, please contact REAP at Hutcheson Hall, Rm. 216, Virginia Tech, Blacksburg, VA 24061-0401; telephone (703) 231-9443.

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