Future of Virginia Farming

Presented to Natural Resources Conservation Service Williamsburg, Virginia November 2, 2004

Wayne D. Purcell, Alumni Distinguished Professor Department of Agricultural and Applied Economics Virginia Tech

Future of Farming in Virginia

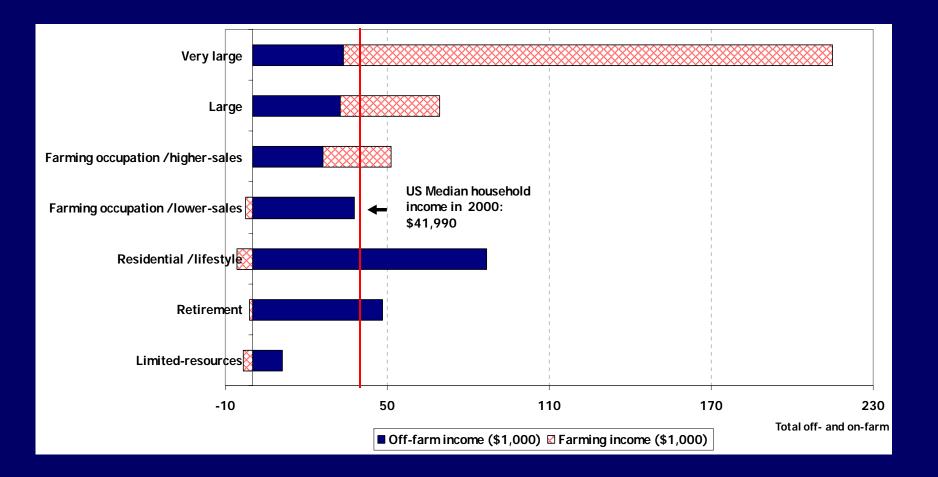
The Agenda

- Economic development in rural Virginia
 U.S. in the global commodity markets
- Virginia in the U.S. commodity markets
- Public support for new, high value and value added products
- Local planning and control of land use
- Farm policy and public support for subsidies
- A look ahead at farming in Virginia

Economic Development in Rural Virginia

Rural Virginia is lagging behind the rest of the state economy. Over 90% of Virginia's farm families rely on off-farm employment and income.

US Farm Household Income by Type of Farm, 2001

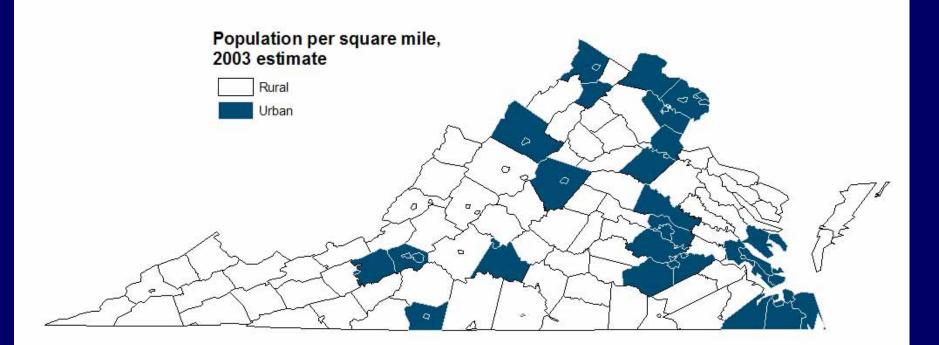


Measures of farms by size of sales, Virginia, 2002

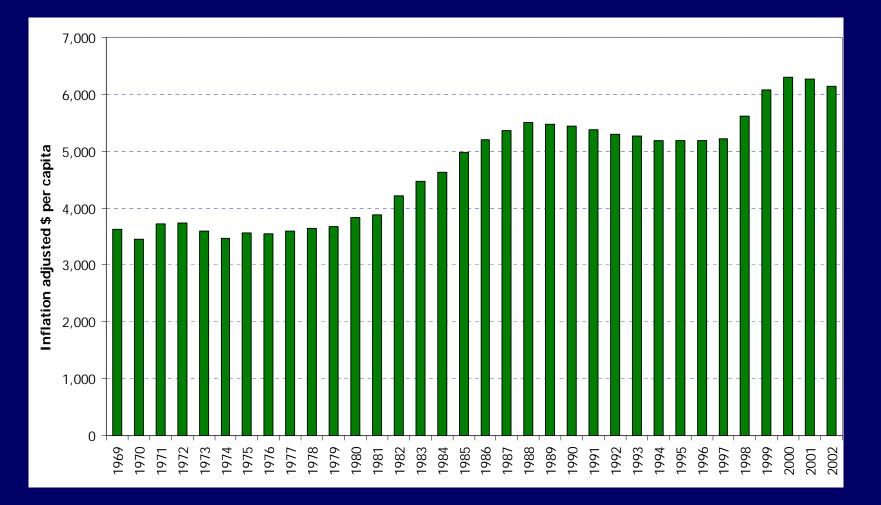
| Farm sales \$ | Number of farms | % of total farms | Sales (\$1,000) | % of total sales |
|-----------------------|--------------------|---------------------|--------------------|------------------|
| Less than \$2,500 | 18,424 | 38.7 | 13,393 | 0.6 |
| \$2,500 to \$4,999 | 6,669 | 14.0 | 23,933 | 1.0 |
| \$5,000 to \$9,999 | 6,946 | 14.6 | 48,954 | 2.1 |
| \$10,000 to \$24,999 | 6,737 | 14.2 | 104,448 | 4.4 |
| \$25,000 to \$49,999 | 3,060 | 6.4 | 107,266 | 4.5 |
| \$50,000 to \$99,999 | 1,849 | 3.9 | 129,275 | 5.5 |
| \$100,000 to 249,000 | 1,708 | 3.6 | 277,501 | 11.8 |
| \$250,000 to 499,000 | 1,137 | 2.4 | 396,285 | 16.8 |
| \$500,000 and greater | 1,076 | 2.3 | 1,259,855 | 53.4 |

Source: USDA, "Table 2, Census of Agriculture, 2002." Found at http://www.nass.usda.gov/census/

Rural = 120 Or Fewer People Per Square Mile



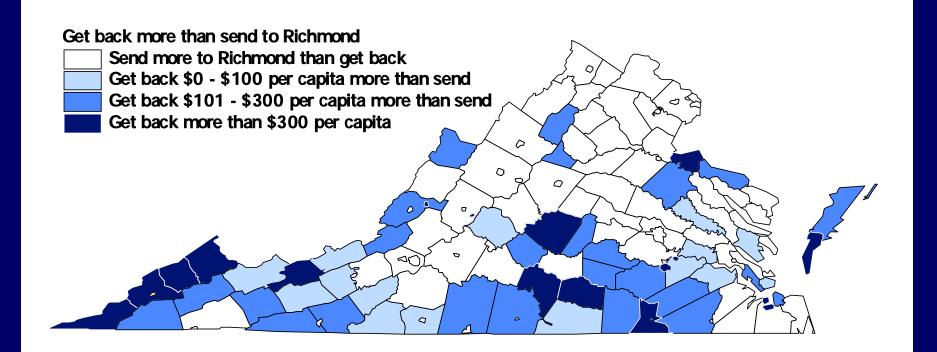
Urban minus rural per capita income adjusted for inflation, 1969 – 2002



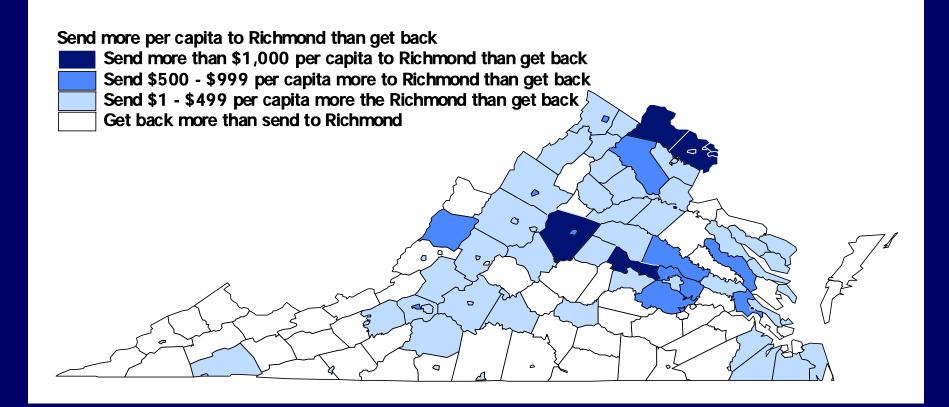
Source: Bureau of Economic Analysis, Regional Economic Information System, 1969-2002. Found at *http://www.bea.doc.gov.* US Dept. Labor. Consumer Price Index, 1982-1984 = 100. Bureau of Labor Statistics. Found at *http://www.bls.gov/cpi/home.htm*

Given the low incomes in rural Virginia, it is not surprising that a special study shows \$189 million per year being transferred to rural Virginia counties.

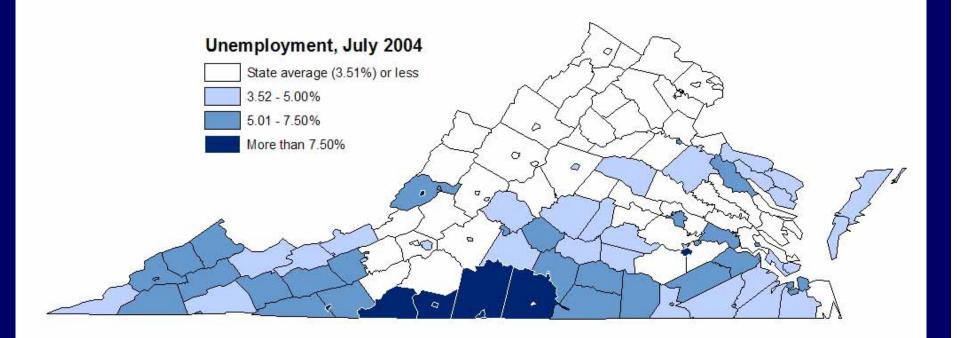
Per capita dollars returned to localities: getting back more from Richmond than is sent, 1998.



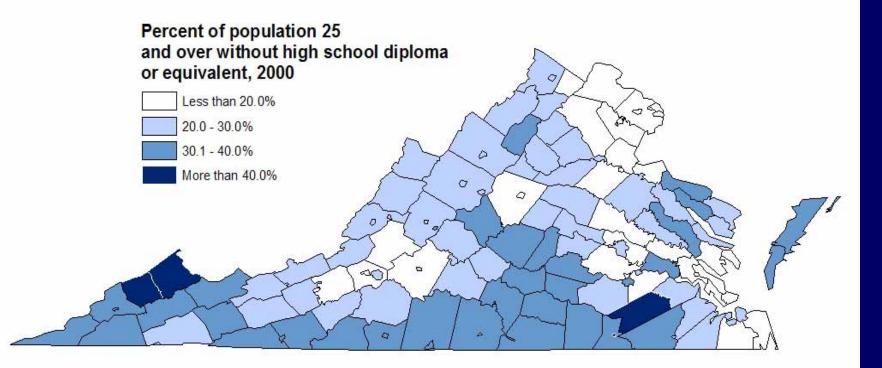
Per capita dollars sent to localities: sending more to Richmond than they get back, 1998



Unemployment in Virginia, July 2004



Percent of Population 25 and Older without High School Education or Equivalent, 2000



To keep open space and the many small and part-time farm families on the land, our rural communities must receive more attention and more dollars in economic development efforts.

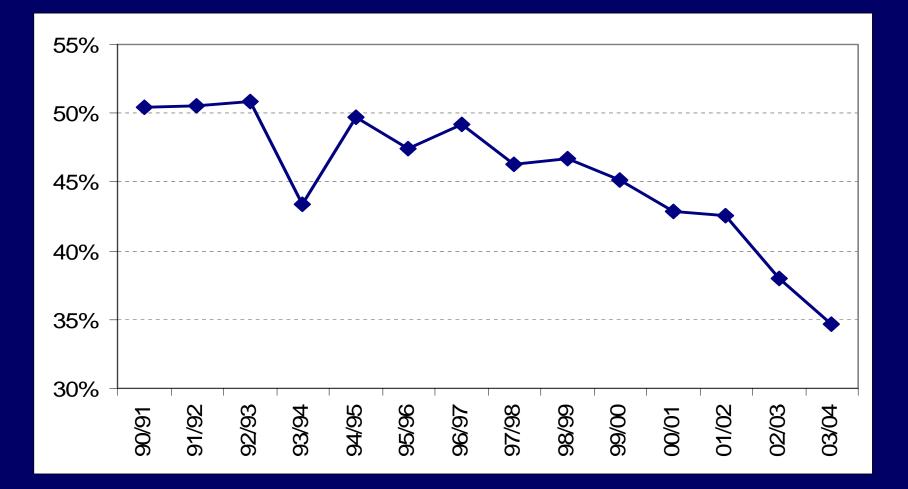
U.S. in the Global Commodity Markets

The U.S. is facing flat to negative trends in share of world production and world trade in most farm commodities.

The U.S. position is being threatened by expanding production in other, often lower cost, countries.

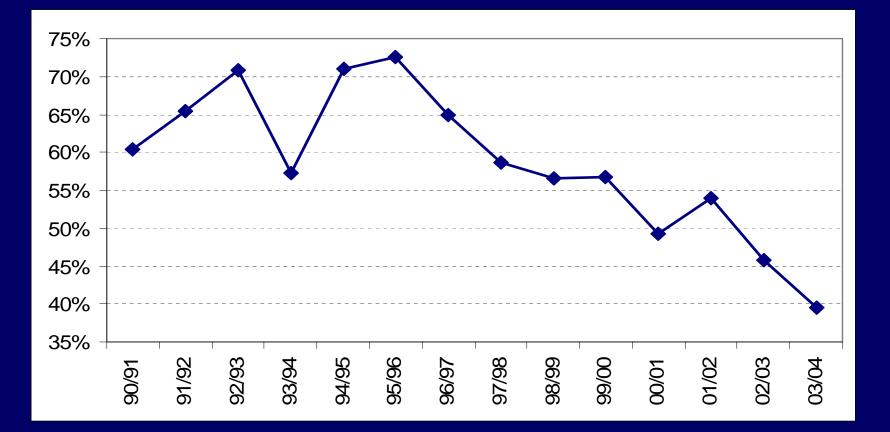
Soybeans

U.S. Production as a percentage of World Production



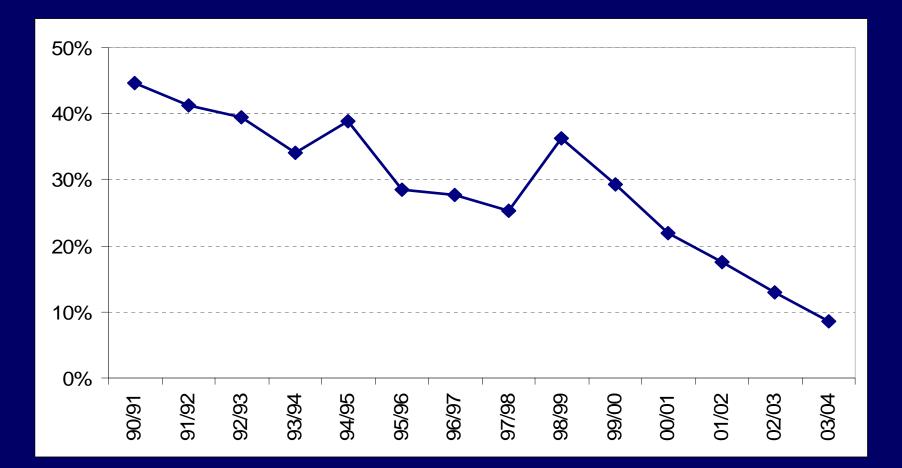
Soybeans

U.S. Exports as a percentage of World Exports



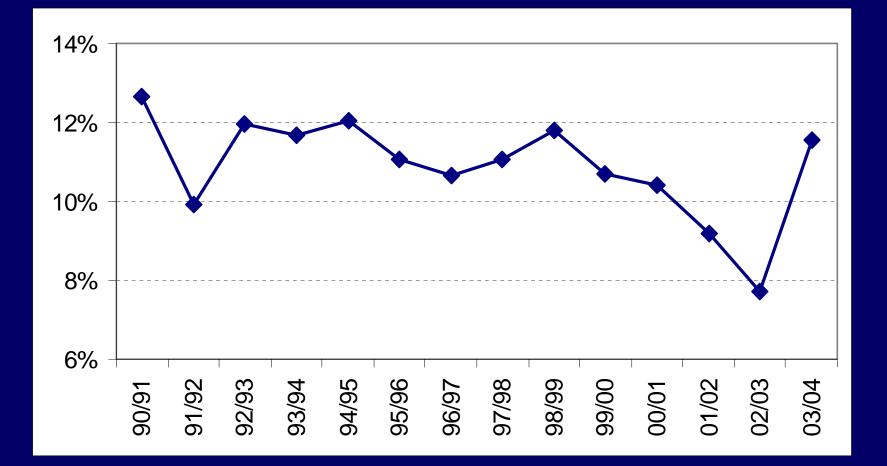
Soybeans

U.S. Ending Stocks as a percentage of World Ending Stocks



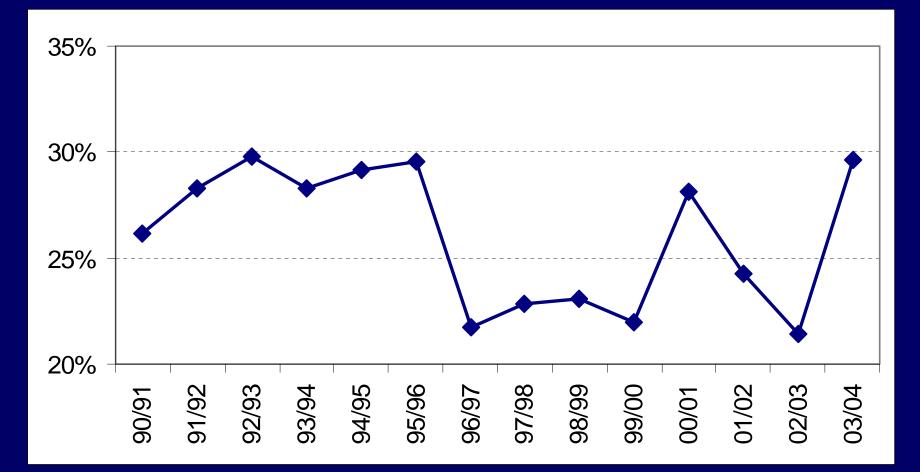
Wheat

U.S. Production as a percentage of World Production



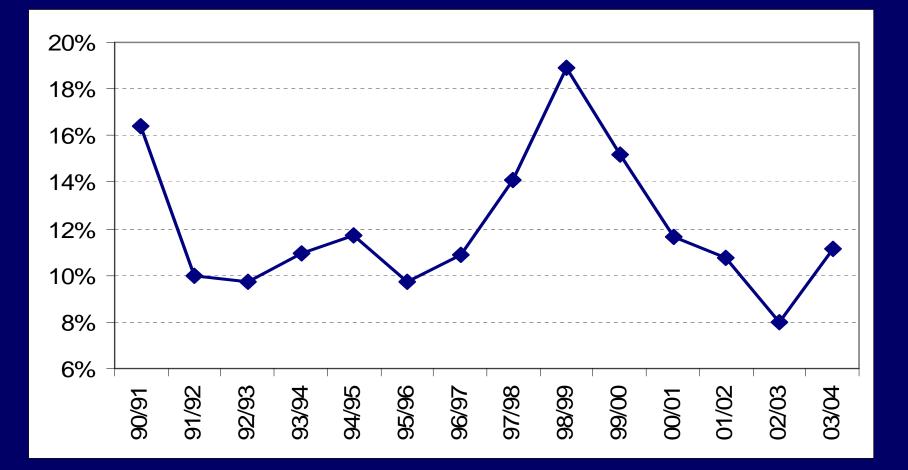
Wheat

U.S. Exports as a percentage of World Exports



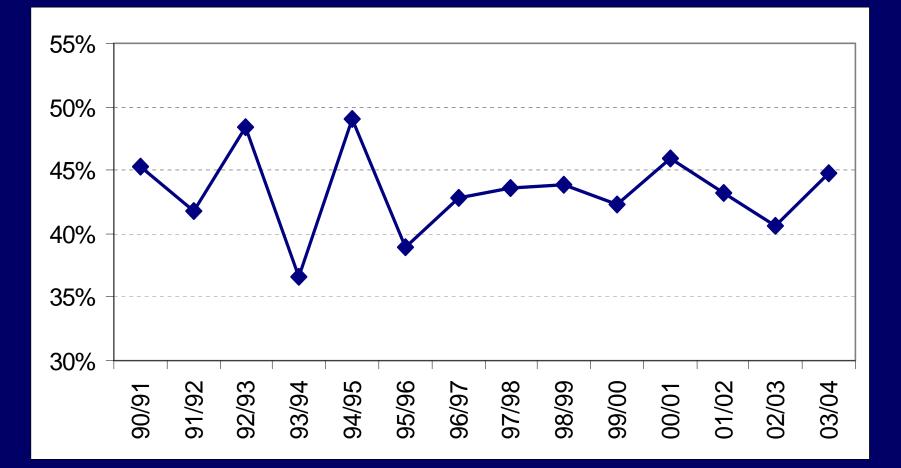
Wheat

U.S. Ending Stocks as a percentage of World Ending Stocks

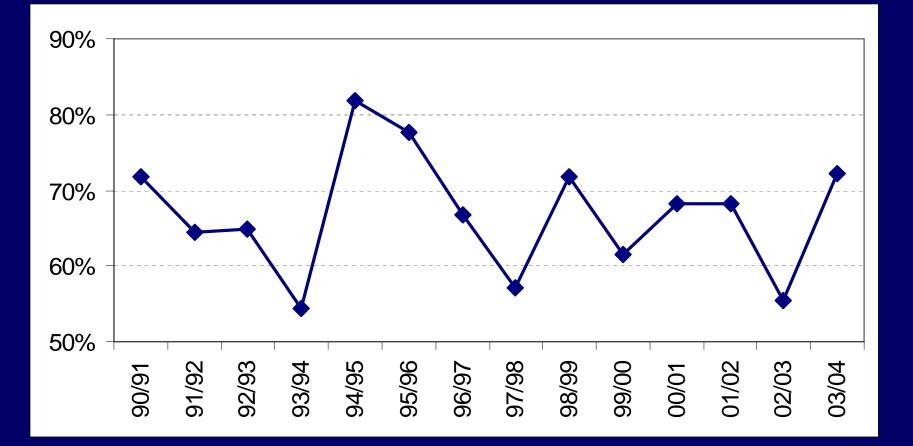


Corn

U.S. Production as a Percentage of World Production

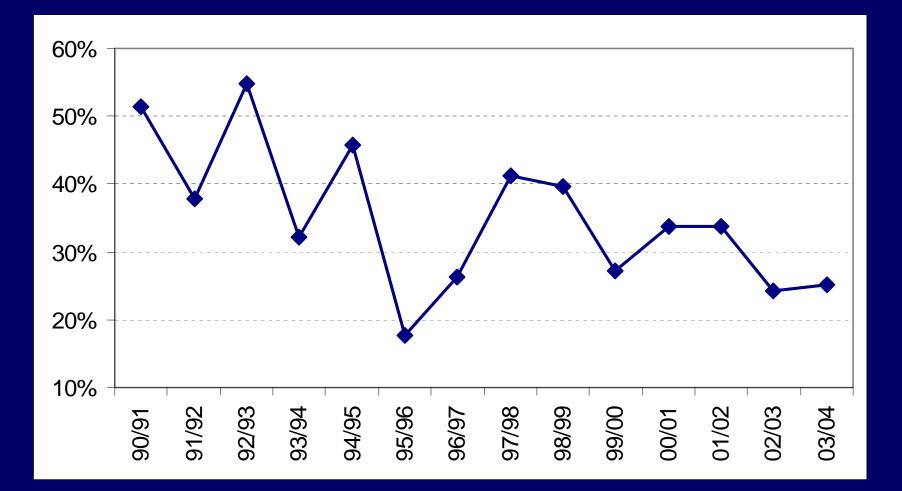


Corn U.S. Exports as a percentage of World Exports

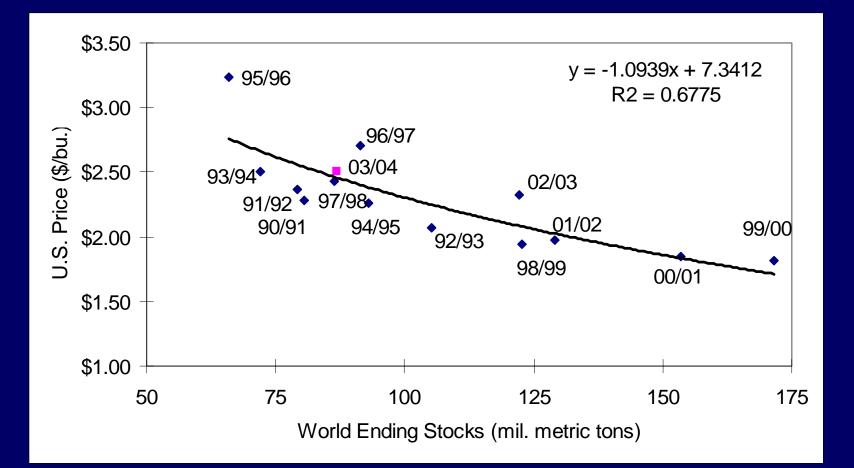


Corn

U.S. Ending Stocks as a percentage of World Ending Stocks



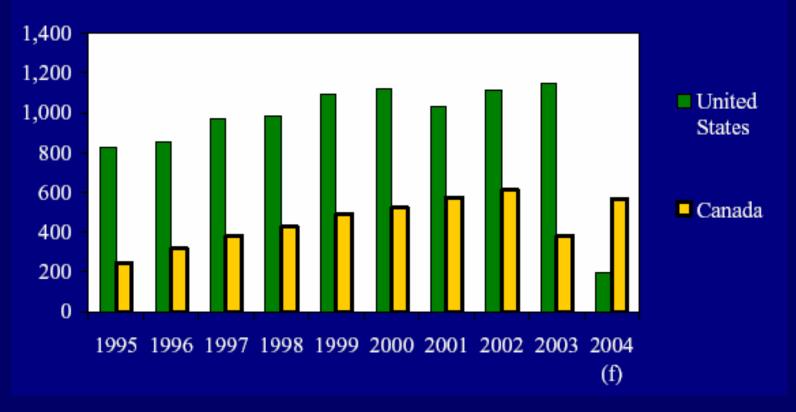
Corn U.S. Price vs. World Ending Stocks



At the same time, U.S. involvement in the meats, poultry and dairy global markets is growing. Since 1990, exports of beef, to illustrate, have increased from small levels to the equivalent of about 10% of U.S. production.

U.S and Canadian Beef Exporters See Sales Drop After 2003 Discovery of BSE

1,000 tons, CWE



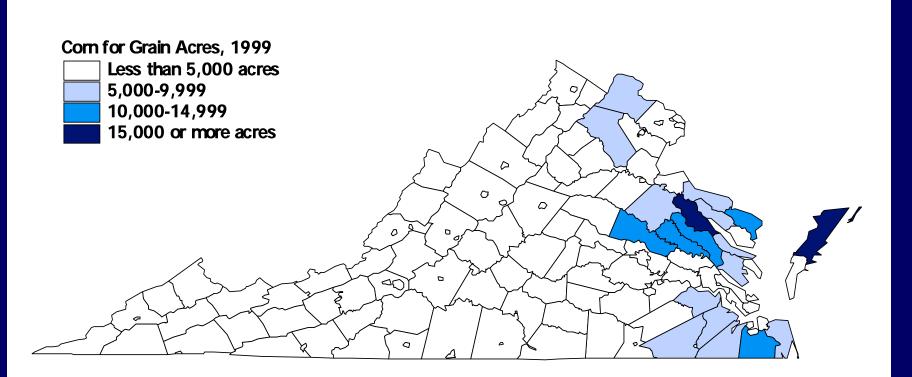
Virginia in the U.S. Commodity Markets

In the changing global and U.S. commodity markets, Virginia faces competitive disadvantages in many areas and possible opportunities in others.

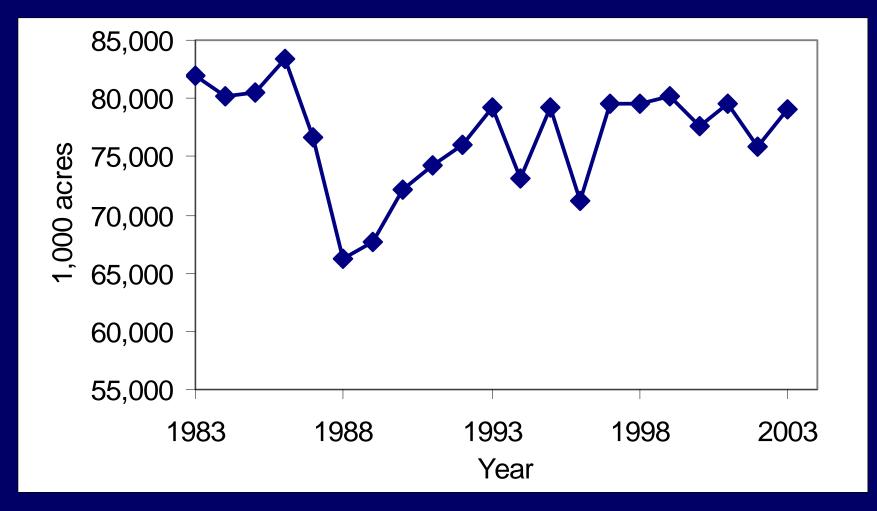
| Virginia Cash Receipts from Farm Marketings | | | | |
|---|-------------------|---------------------------------|--|--|
| Year | Nominal Dollars | Deflated Dollars (1982-84= 100) | | |
| | (Billion Dollars) | | | |
| 1985 | 1.667 | 1.549 | | |
| 1986 | 1.696 | 1.547 | | |
| 1987 | 1.863 | 1.640 | | |
| 1988 | 1.885 | 1.593 | | |
| 1989 | 2.039 | 1.644 | | |
| 1990 | 2.151 | 1.646 | | |
| 1991 | 2.115 | 1.553 | | |
| 1992 | 2.120 | 1.511 | | |
| 1993 | 2.122 | 1.469 | | |
| 1994 | 2.194 | 1.480 | | |
| 1995 | 2.243 | 1.472 | | |
| 1996 | 2.390 | 1.523 | | |
| 1997 | 2.406 | 1.499 | | |
| 1998 | 2.330 | 1.429 | | |
| 1999 | 2.278 | 1.367 | | |
| 2000 | 2.292 | 1.330 | | |
| 2001 | 2.455 | 1.386 | | |
| 2002 | 2.155 | 1.198 | | |
| 2003 | 2.227 | 1.210 | | |

| Virginia Top 15 Virginia Farm Commodities by Sales, 2003 | | | | |
|---|--------------------|----------------------------------|--|--|
| Rank | Commodity | 2003 Sales Receipts (\$ Million) | | |
| 1 | Broilers | 441.660 | | |
| 2 | Cattle and Calves | 339.260 | | |
| 3 | Milk | 244.666 | | |
| 4 | Greenhouse/Nursery | 189.974 | | |
| 5 | Turkeys | 177.192 | | |
| 6 | Tobacco | 89.523 | | |
| 7 | Soybeans | 81.011 | | |
| 8 | Eggs | 73.160 | | |
| 9 | Corn (Grain) | 62.192 | | |
| 10 | Tomatoes (Fresh) | 60.192 | | |
| 11 | Hogs | 50.533 | | |
| 12 | Hay | 40.065 | | |
| 13 | Cotton | 30.325 | | |
| 14 | Apples | 24.827 | | |
| 15 | Wheat | 22.929 | | |
| Source: Virginia Agricultural Statistical Service, 2003 Annual Bulletin | | | | |

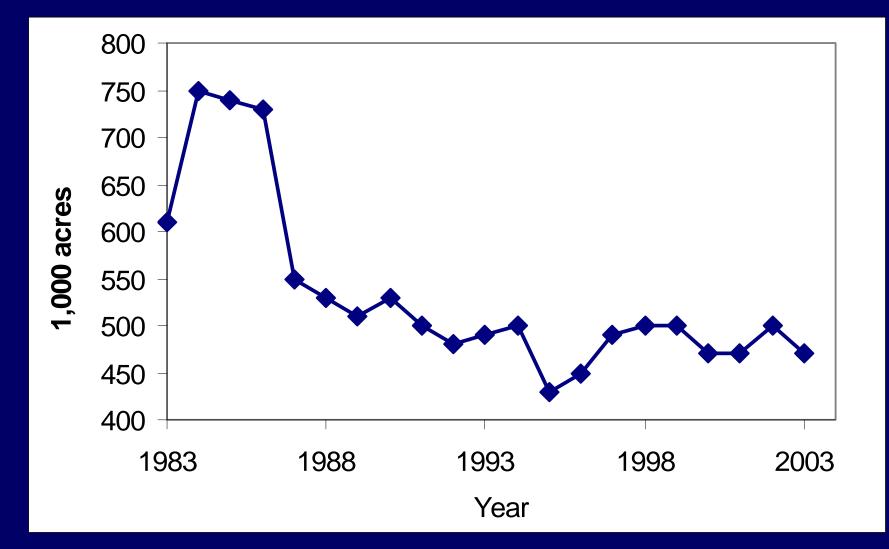
Virginia Corn for Grain Acreage, 1999



U.S. Corn Acres



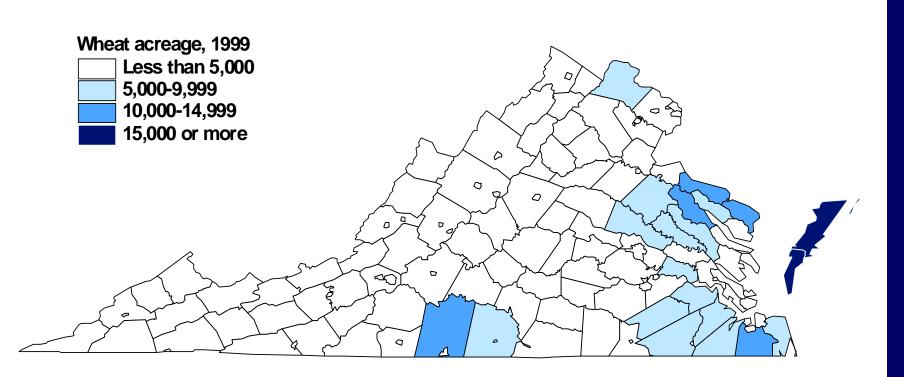
Virginia Corn Acreage



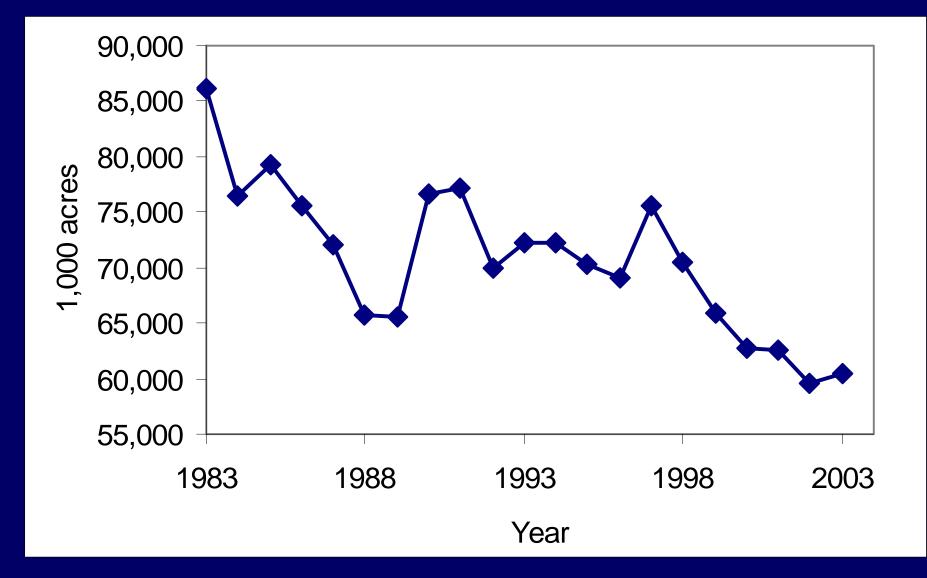
Virginia Corn Production

Clearly, Virginia is struggling in corn for grain. We produce 20 to 30 million bushels. But about 70 million bushels are used yearly in poultry, hogs, and dairy. The failure to develop technologies to get yields consistently higher puts the poultry, hog, and dairy sectors at risk because feed costs are higher than in other states.

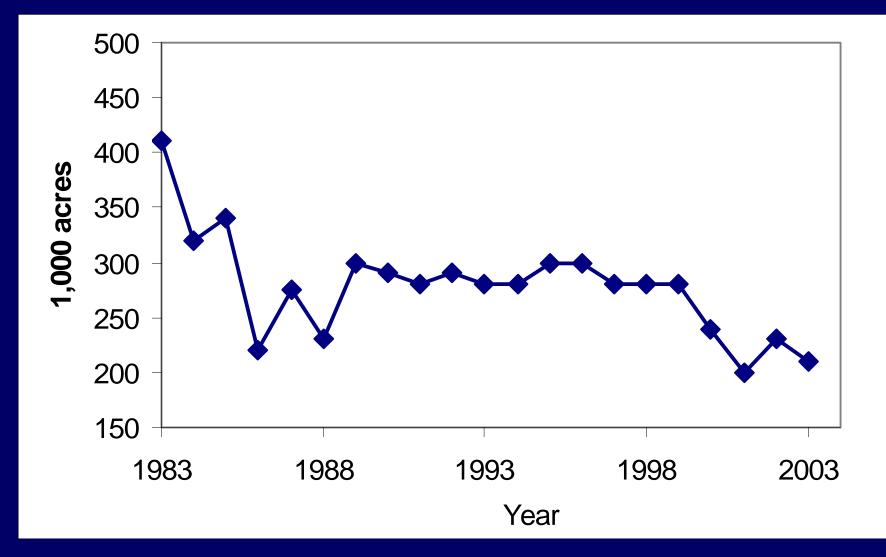
Virginia Wheat Acreage, 1999



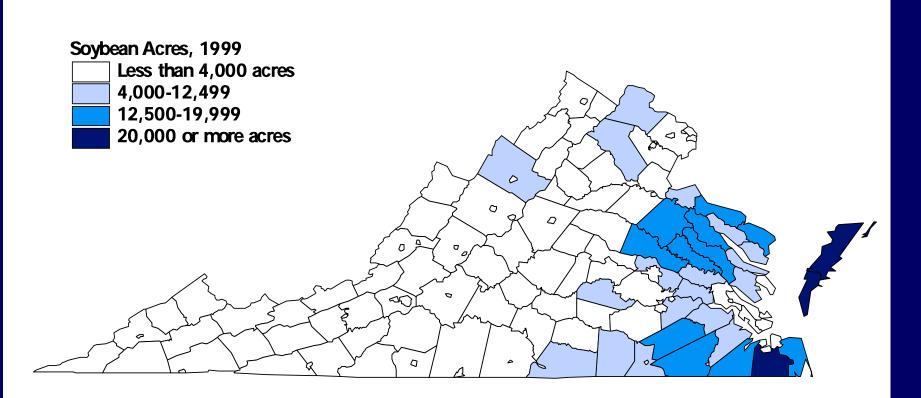
US Wheat Acreage



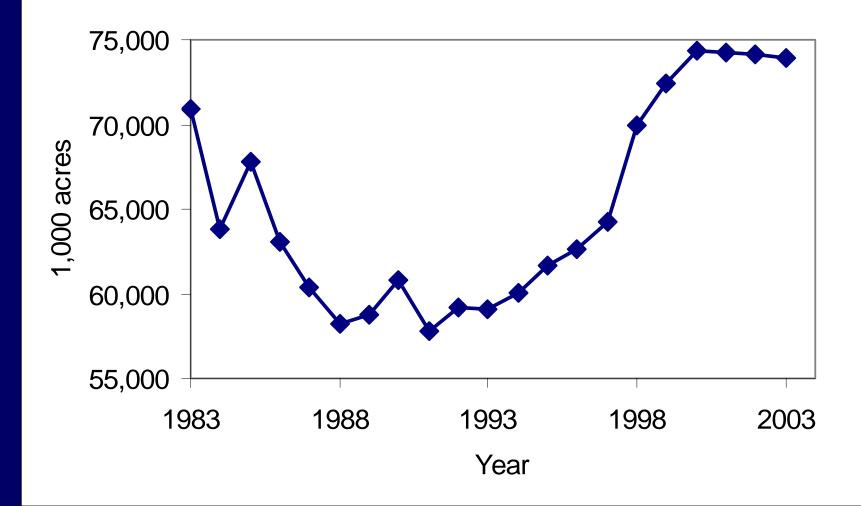
Virginia Wheat Acreage



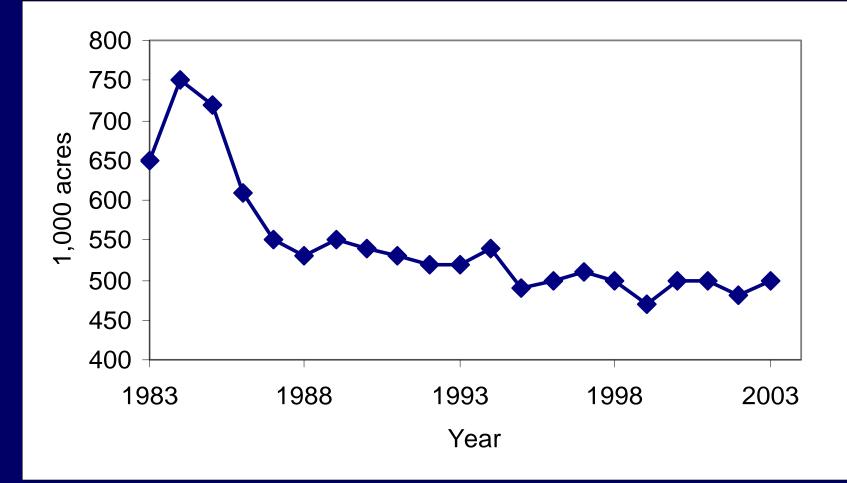
Virginia Soybean Acreage, 1999



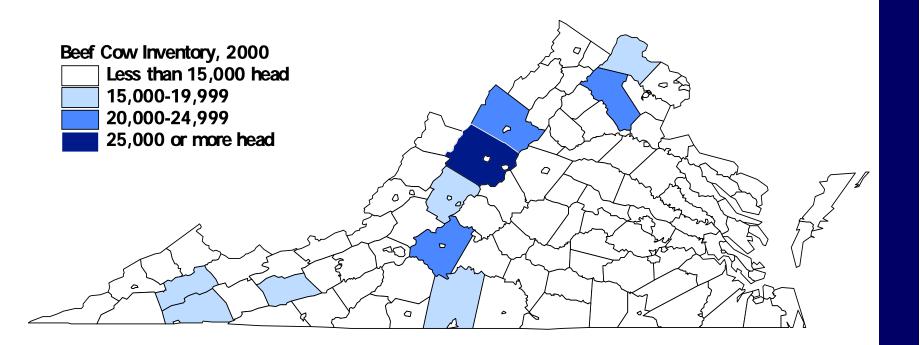
U.S. Soybean Acreage



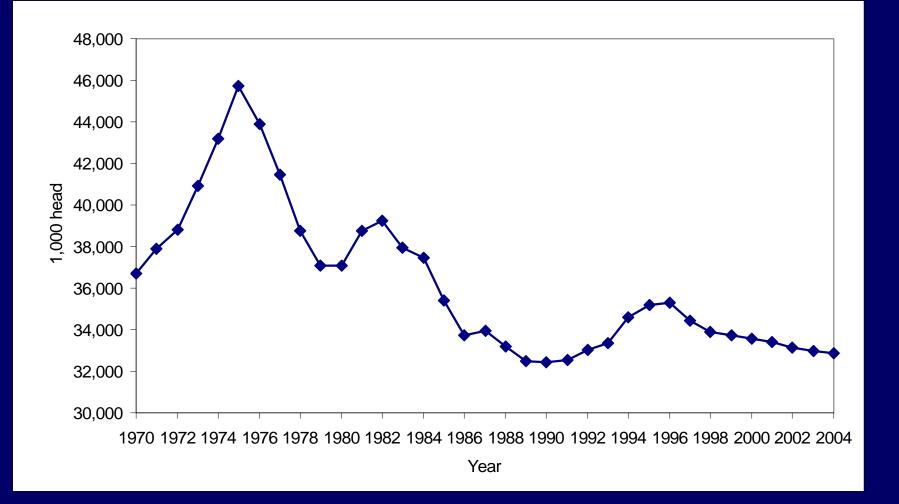
Virginia Soybean Acreage



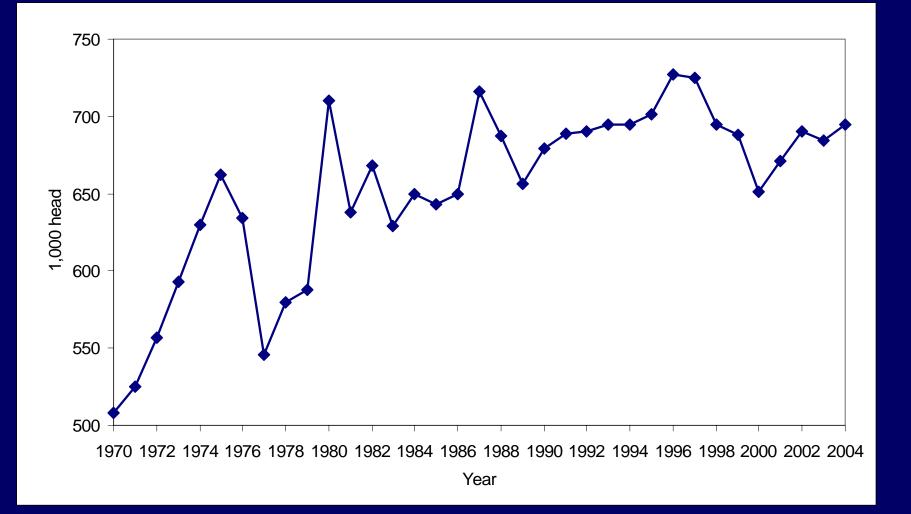
Virginia Beef Cow Inventory, 2000



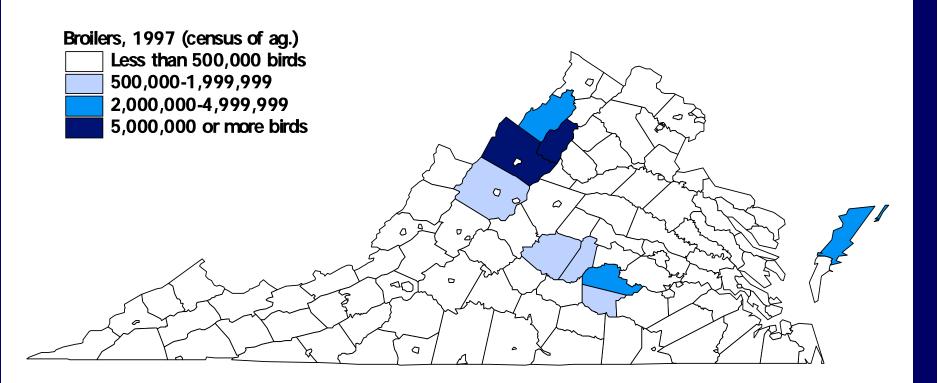
US Beef Cow Inventory



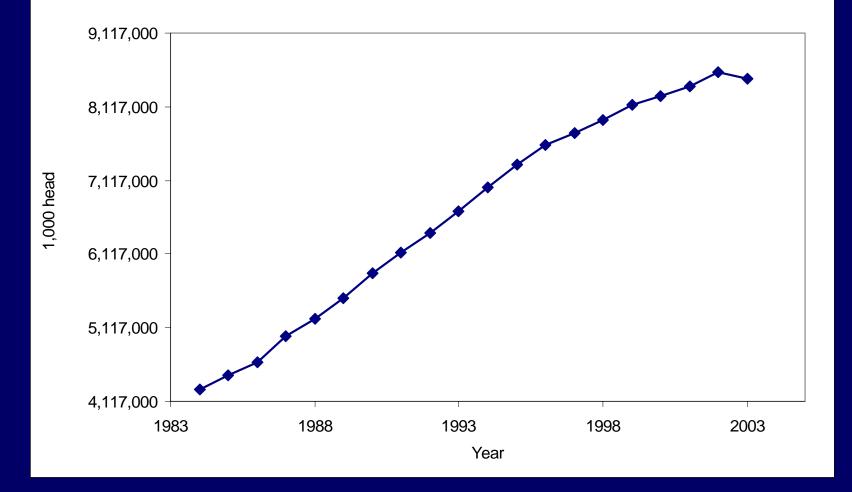
Virginia Beef Cow Inventory



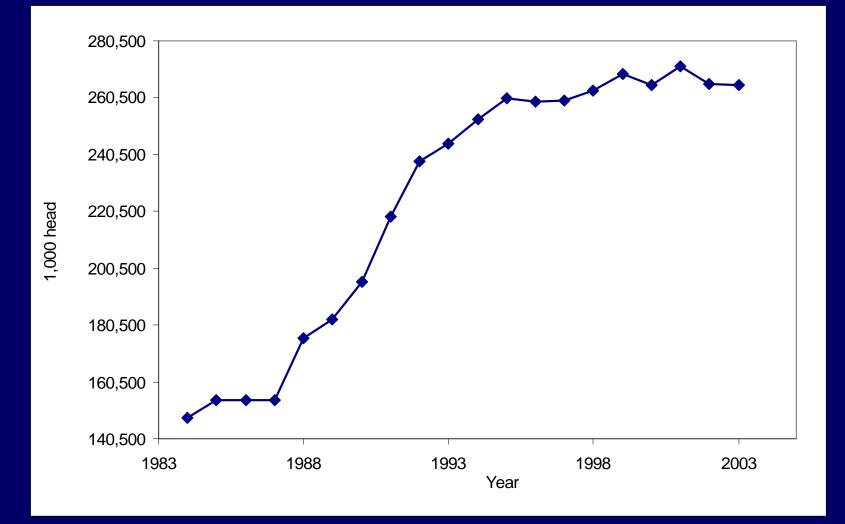
Virginia Broiler Inventory, 1997



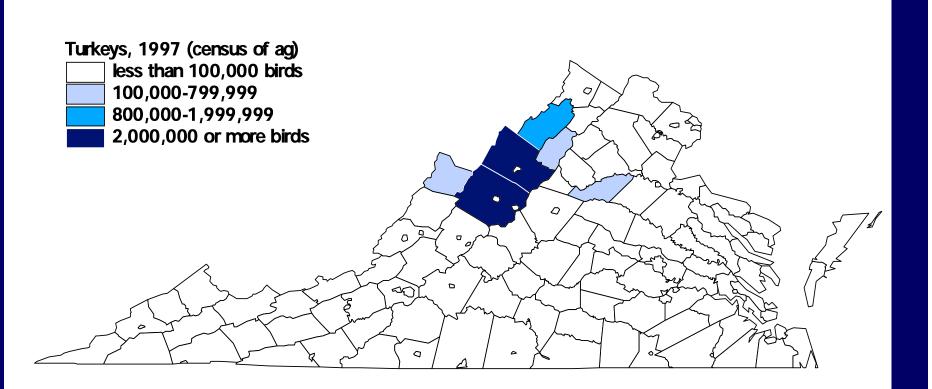
US Broiler Inventory



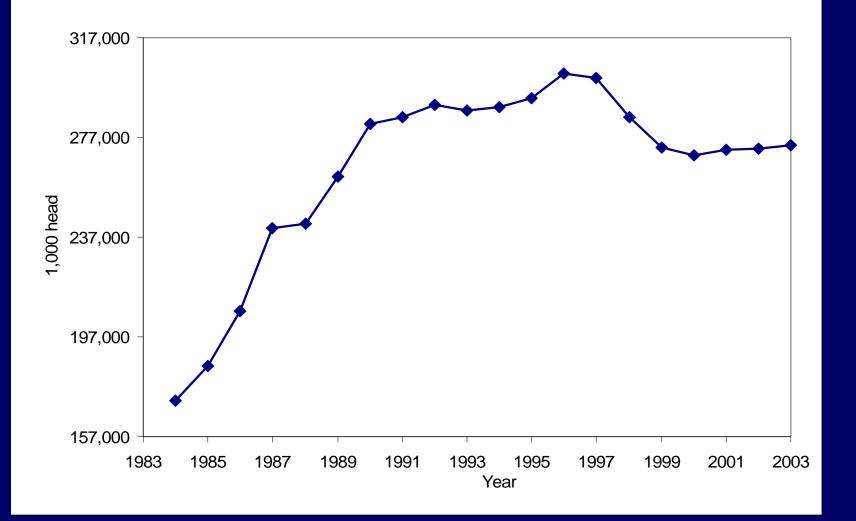
Virginia Broiler Inventory



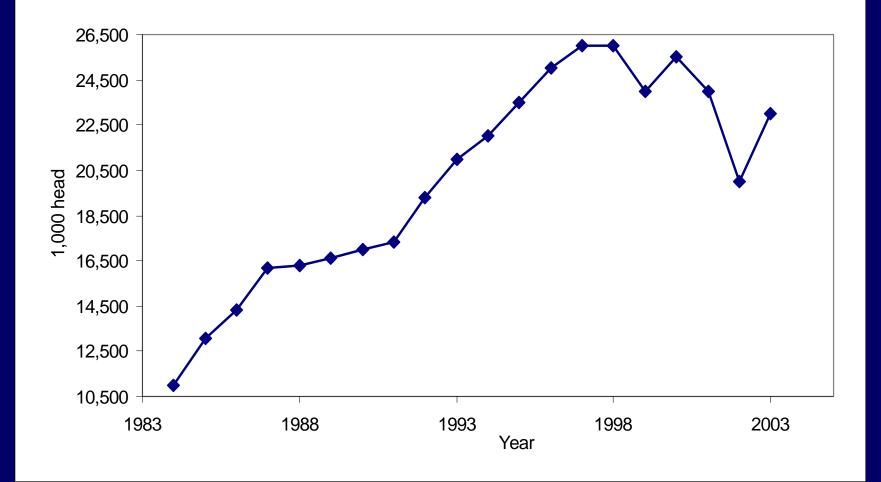
Virginia Turkey Inventory, 1997



US Turkey Inventory



Virginia Turkey Inventory



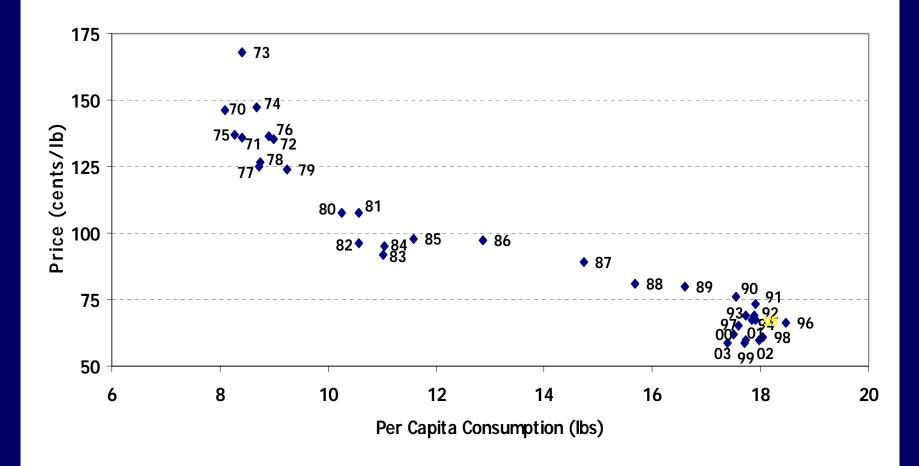
Virginia Turkey Production and Processing

The turkey situation is an example of the problems of a commodity orientation. Virginia has been a top-5 turkey producing state but may struggle in the future unless progressive changes toward new high value and value added product offerings are made across all producing firms.

Virginia Turkey Production and Processing

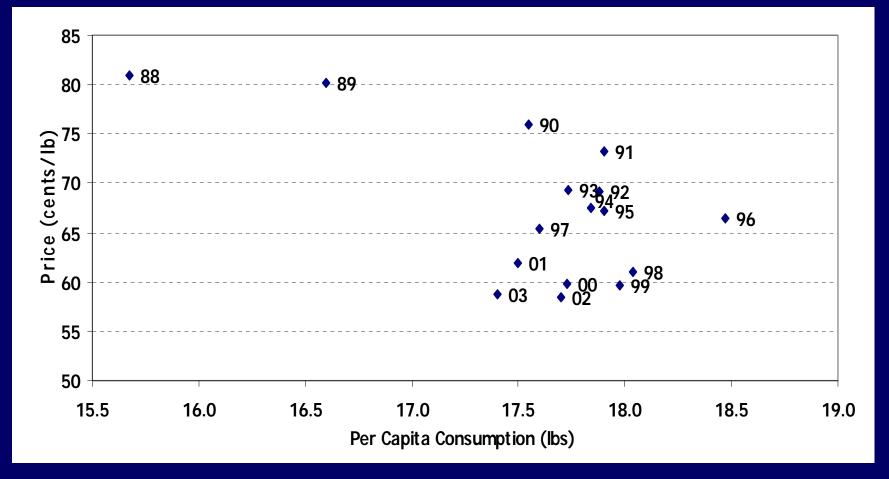
To be competitive, Virginia turkey companies need to offset a corn cost disadvantage. Unless they move to high value and away from a commodity orientation, there will be repeats of the 2004 plant closings in the state.

Per Capita Consumption and Deflated Prices of Turkeys 1970-2003



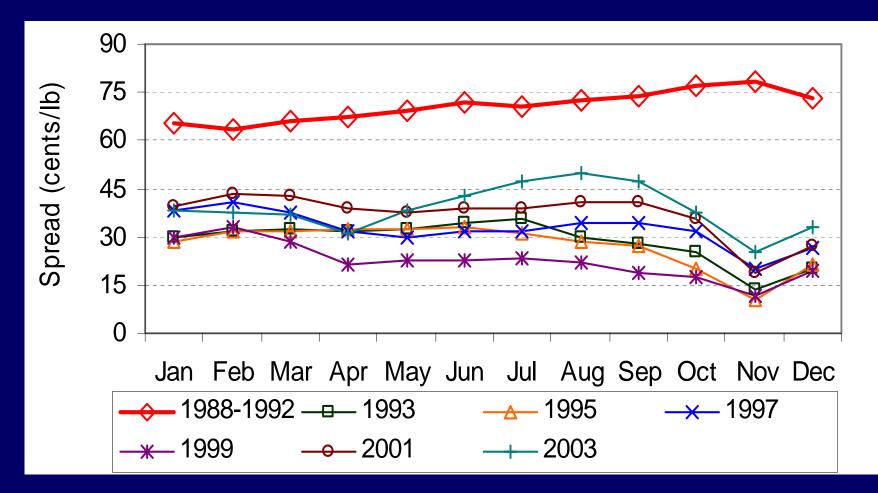
This scatter plot of per capita consumption and inflationadjusted retail prices shows growth in the turkey sector faltered across the past 10 years.

Per Capita Consumption and Deflated Prices of Turkeys 1988-2003



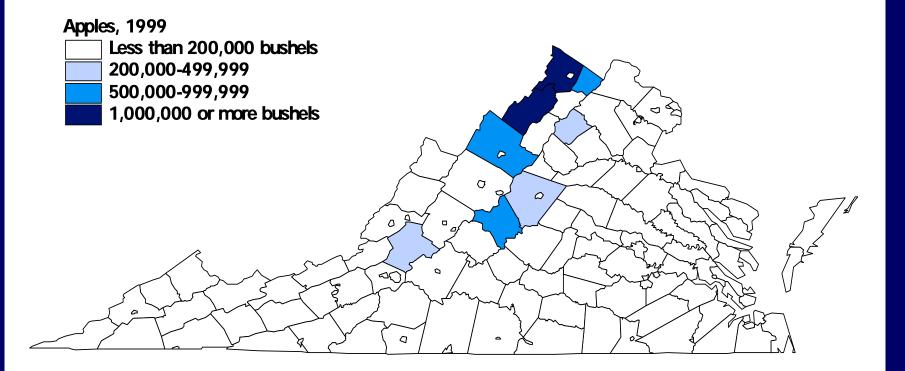
Evidence from the early 1990's shows major decreases in demand. Any shift in the coordinates down or down and to the left is a decrease in demand.

Retailer Turkey Price Spreads 1988-2003



Major decreases in spreads suggest reduced profitability to retailers. The impact of reduced retailer margins will be passed down to integrators and producers.

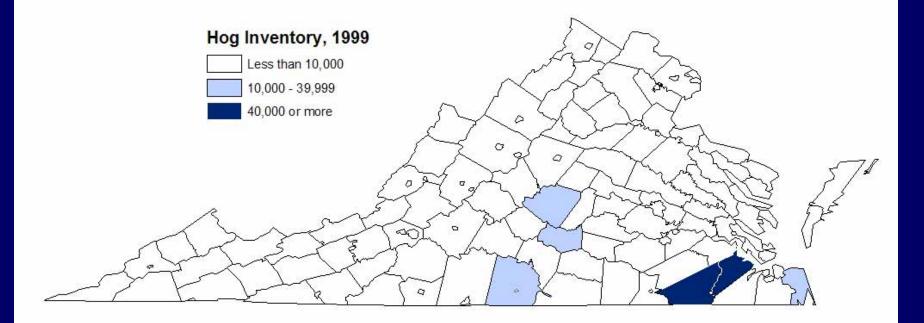
Virginia Apple Production, 1999



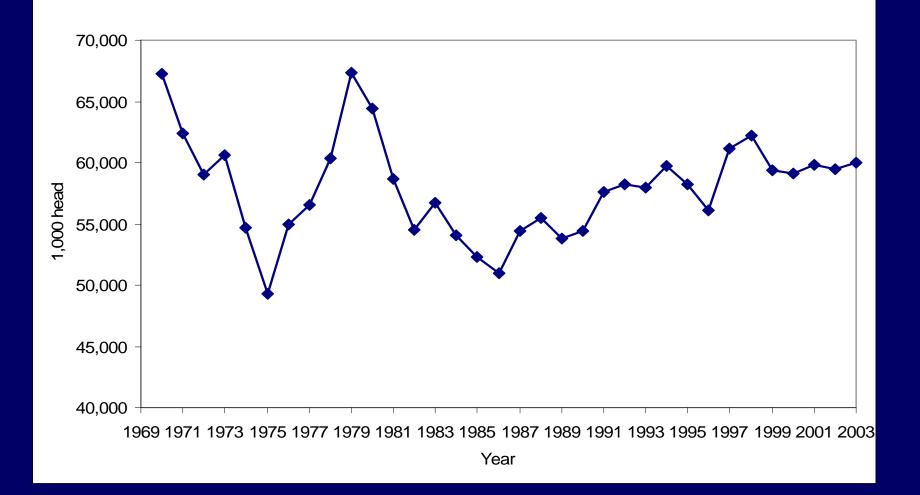
Virginia Apples

Apple acres may decline. Producers face tough competition from Washington state and from imported apples and juices. Apples in Virginia have not effectively moved out of a "commodity" status.

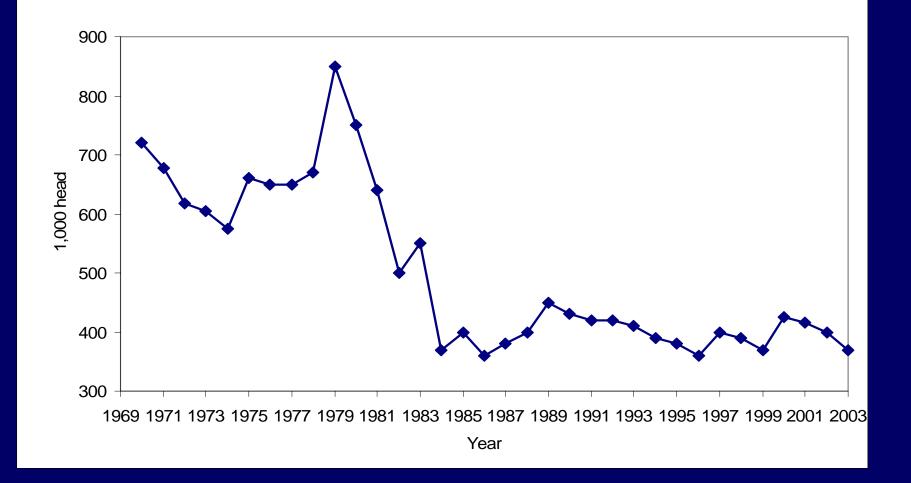
Hog Inventory, 1999



National Hog Inventory



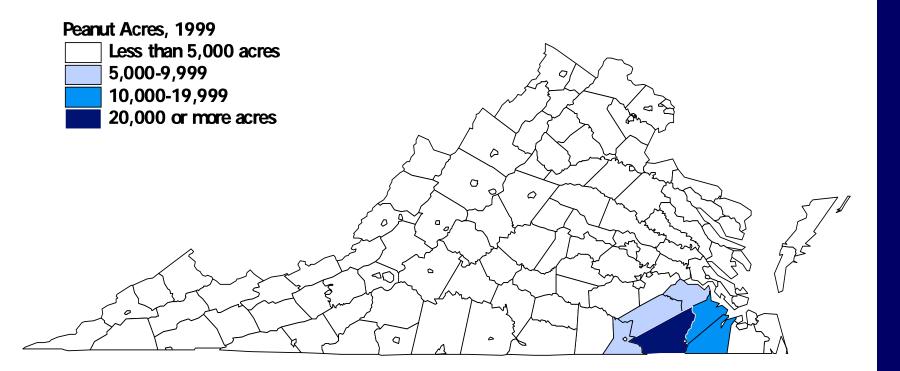
Virginia Hog Inventory



Virginia Hogs

Independent hog production is low and declining in Virginia. Environmental considerations, high cost corn, and difficulty gaining access to quality controlled markets are problems. Independent producers' hogs may be uniform, but they are often "uniformly wrong." They are outside the needs of modern firms with branded product lines.

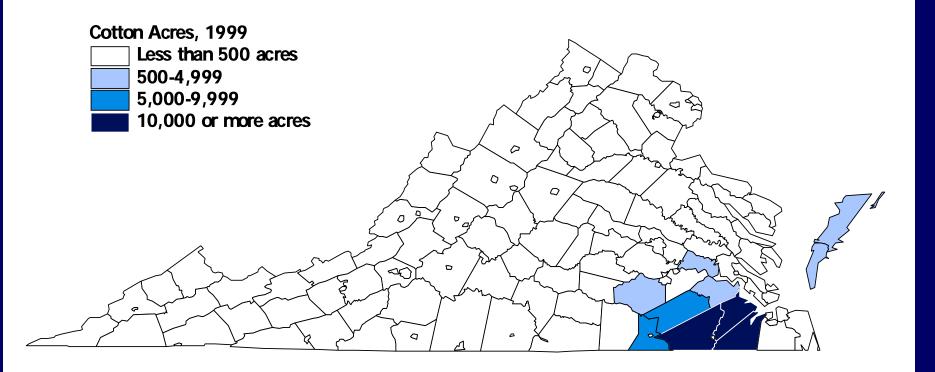
Peanut Acres, 1999



Virginia Peanuts

Acreage is at 1/3rd the level of just three years ago. Virginia peanuts face problems from inadequate grades, lack of quality control, and the lack of a vision to get to high value products at the shelling and processing levels.

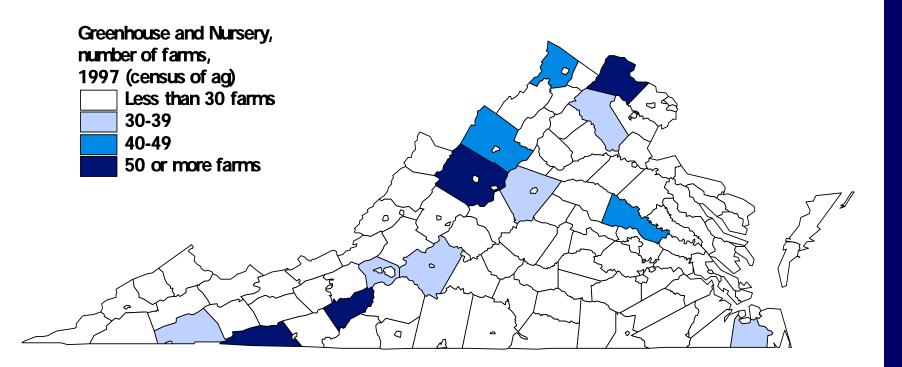
Cotton Acres, 1999



Virginia Cotton

Temporary high prices in the 1990's prompted ill-advised long term investments in land and equipment. The 105,000 acres are mostly in peanut rotations and will be kept in business by farm program cotton subsidies.

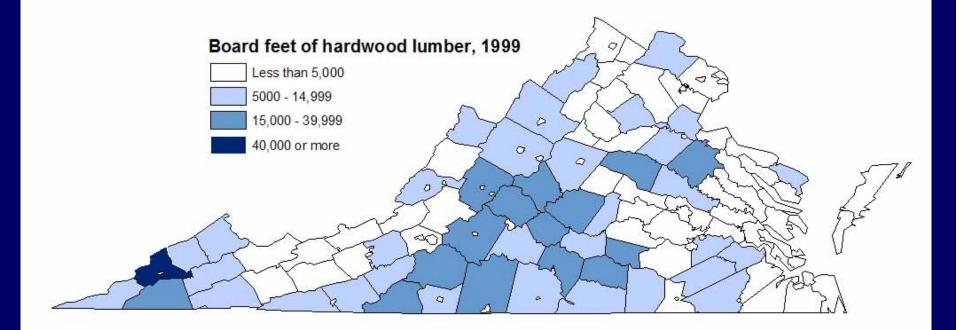
Greenhouse and Nursery, number of farms, 1997



Virginia Greenhouse and Nursery

Greenhouse and nursery is a growth sector for Virginia. Being close to population centers makes a difference because of high transportation costs per dollar of market value in shrubs, trees, etc. and because of the perishable nature of flowers and greenhouse vegetables.

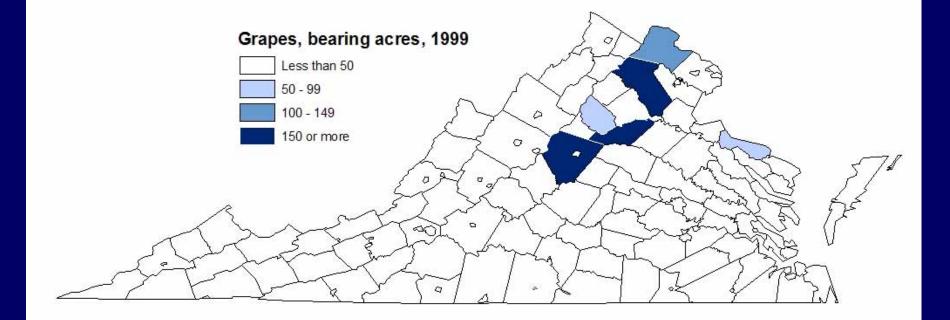
Board Feet of Hardwood Lumber, 1999



Hardwood Lumber

With some of the endangered species issues facing the Pacific Northwest, we will probably see growth in this sector in the Commonwealth.

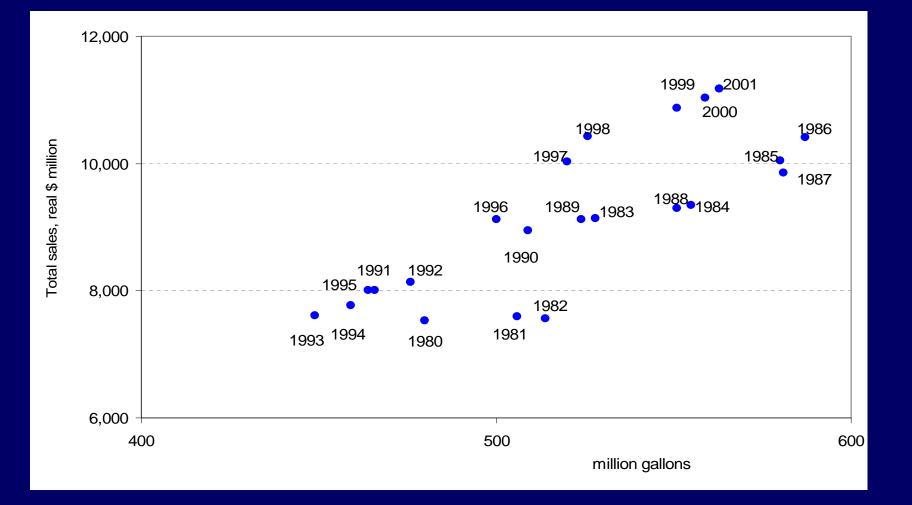
Grapes, Bearing Acres, 1999



Virginia Wine and Vineyards

Virginia now has nearly 100 vineyards. Staying out of the low-price commodity wine market will be important. Virginia vintners are paying little attention to wine demand and to the need to develop markets and build branded lines. They seemingly do not understand how important these things are to profitability.

Scatter Plot of Wine Quantities for Sale and Inflation Adjusted Retail Sales Dollars (CPI, 19982-84 = 100), 1980-2001



Virginia Wine and Vineyards

By 2003, the demand increases for wine from 1994 to 2001 were apparently slowing, but increasing prices have prompted worldwide supply growth. If the pattern of increasing demand stops, and it probably will, the wine grape producers will face intense price pressure for their grapes.

Local Planning and Control of Land Use

Environmental issues, population growth, increased traffic, and surging land values will challenge farming as a traditional "land use." State, regional, and local planning is inevitable and is needed, but balance will be needed to protect our small farms and the open space they provide.

Public Support for High Value and Value Added Is Needed

From corn to turkeys, Virginia is struggling with a commodity orientation in farm products. Value-added and new, high value products can help. But state support for research and development of new technology and foodstuffs continues to lag.

An Example

Virginia Tech has the scientists to develop new plant and animal-based foodstuffs to meet targeted nutritional goals, boost immunity, and help prevent chronic diseases from diabetes to heart disease to stroke. These scientists could help create new, high value foodstuffs, but state investments have not been made in the necessary research.

Farm Policy and Public Support for Subsidies

Subsidies keep Virginia acreages in corn, wheat, soybeans, and cotton. Keeping acres in production nationally swells supplies and pushes prices down. Moves toward deregulated markets will threaten Virginia peanut, tobacco, and dairy production. In the face of federal deficits, spending billions on farm program subsidies will be looked at more closely.

A Look Ahead

- Increasing land prices will push more land into development.
- Smart growth" strategies to limit sprawl will be more prevalent.
- Farm receipts from commodity production will trend lower, especially in real terms.
- Some sectors, like dairy, will consolidate to get costs down and compete, but small farms will exit.

A Look Ahead

- Some sectors, like peanuts and tobacco, will decline in de-regulated markets.
- The unique trend to "permanent, parttime farmers" will grow.
- The pace of technological development for new, high value food stuffs will grow but more slowly than in other states.

A Look Ahead

- Producers will move to more direct selling, more organic, more sustainable to get away from a commodity orientation.
- Virginia farmers will get subsidies under new programs with relaxed eligibility requirements.
- Economic development in rural Virginia will get more attention as awareness of the income differences and the income transfers grows.

Wayne D. Purcell, **Alumni Distinguished Professor** and Coordinator, Rural Economic Analysis Program Department of Agricultural and Applied Economics Virginia Tech (540) 231-7225 Email: purcell@vt.edu

> Rural Economic Analysis Program www.reap.vt.edu Rural Virginia Prosperity Commission www.rvpc.vt.edu