Economic Contribution of Agriculture to Polk County's Economy

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In urbanizing areas, like Polk County, using land for agriculture is often thought of as a temporary land use. The feeling is that land can be farmed until it can be converted into a "higher" use, such as residential development, shopping strips, or industrial tracts. A recently released study (Evans, 1999) points out that Polk County agriculture makes a significant contribution to the economy. In addition, one agricultural land use returns more to the economy than any other single land use.

The study found that agriculture was the largest single sector in Polk County's economy in both gross output and employment. The agricultural sector accounted for 26.6% of gross output and 23.1% of employment. The study, *The Economics of Land Uses in Polk County, Florida*, (The Evans Report) reported that the total economic output from food and fiber was $4.2 billion compared with $2.8 billion for mining and $888 million for tourism. The food and fiber payroll totaled $472 million compared with $255 million for mining industries. Total payroll for tourism was not available. An added benefit is that agricultural production is largely isolated from the normal business cycles. When the general economy goes into recession, agriculture is only marginally affected so the stability of jobs and production serves as a buffer against economic downturns.

Polk County is among the top agricultural counties in the U.S., according to the 1997 Census of Agriculture. Of more than 3,000 counties, Polk is ranked 1st in citrus processing, 1st in production of oranges, and 1st in total citrus production. The County is ranked 6th in grapefruit production, 10th in land in orchards (groves), 17th in value of fruits & berries, 22nd in beef cow inventory, 42nd in laying hens 20 weeks and older, 69th in hired farm labor, and 78th in net cash income from farm sales. In addition, Polk is ranked 24th nationally in number of farms with 2464 and 2nd in Florida behind Hillsborough Co.

Table 1 breaks out the economic value of agricultural production and processing by agricultural commodity produced and processed in the County. This table does not include all of the items included in the *Evans Report* cited above, especially agricultural services, dairy processing, bakery products, seafood processing, or retail markup for food sales. In addition, the *Evans Report* used regional economic multipliers while county multipliers are used here.

Much of Polk County's agricultural production is sold outside the County which gives an added boost to the economy. Selling products outside the County brings in new dollars which have a

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Table 1. Economic Value of Agricultural Production and Processing.

Ag Product	Estimated Value of Ag Production	FOB Value Packing or Processing Plant [1]	Value of Economic Output from Ag Production[2]	Jobs Number of FTE
Citrus - Delivered[3]	$220,000,900		$220,000,900 [9]	3,568 [9]
Fresh Citrus[3]		$140,208,121	229,700,300	3,951
Processed Citrus[3]		1,173,456,000	1,864,304,750	14,112
Citrus By-products[4]		72,729,339	101,485,808	609
Nursery Products[5]	26,915,000		37,094,600	507
Poultry (Eggs)[5]	22,734,000		22,734,000 [9]	104 [9]
Processed Eggs[6]		58,625,000	88,495,140	907
Beef Cattle[5]	15,652,000		26,254,740	443
Dairy[5]	5,069,000		5,069,000	33
Aquaculture[5]	4,161,000		6,176,880	148
Forestry [7]	4,294,900		4,294,900 [9]	11 [9]
Lumber & Wood Prod[8]		207,200,000	332,259,500	3,114
Vegetables[5]	1,490,000		2,232,920	27
Honey[5]	1,080,000		1,603,230	38
Hay & Grass Seed[5]	347,000		347,000	16
Horses & Ponies[5]	330,000		330,000	9
Total	$302,073,800	$1,652,218,460	$2,695,353,860	23,914

[1] Includes both agricultural products produced in Polk County and products shipped in from other counties for processing or manufacturing.
[2] MIG Inc., Stillwater, MN. Implan Pro software, Florida data 1996 - economic multipliers.
[3] Citrus Summary, 1995-96 and Commercial Citrus Inventory, 1996, Citrus Administrative Committee.
[4] State of Fla. Dept. of Business Regulation; Citrus Summary, 1995-96; Ron Muraro, Citrus Research & Education Center, oral communication,1998; Florida Citrus Processor's Assoc.
[5] 1997 Census of Agriculture - County Data.
[6] Dr. Roger Jacobs, Extension Poultry Agent, University of Florida, Seffner, FL, oral communication, 1999.
[7] 1997 Florida Statistical Abstract.
[8] 1992 Census of Manufacturers.
[9] These items not included in total to avoid double counting. Products go to further processing before being sold outside of the county.

greater impact than merely producing and selling a commodity within the County. In the case of citrus, eggs, and forest products production is sold to local processing plants or manufacturing facilities. Processing and manufacturing adds value to the products. The products are then sold outside the County which provides the additional economic boost. Economic multipliers are determined with the aid of an input-output model which tracks transactions from up to 528 economic sectors. For this report, Implan Pro

software and 1996 data from Florida are used (MIG, Inc.). Farm value of agricultural production totaled $302,073,800 (Table 1). The top four agricultural products include: citrus, nursery products, poultry (eggs), and beef cattle in that order. These top four accounted for 94.4% of the farm value of agricultural production and 89.2% of the economic impact.

Citrus is by far the most important agricultural product with a value, delivered to the packing or processing plant, of $220,000,900. Citrus from other counties is also pro- cessed in Polk and the combined value of fresh and processed citrus, plus by-products, add up to $1,386,393,000 based on 1995-96 data. Because virtually all of the citrus and by-products are sold outside the County new money is brought into the County and because of the "multiplier effect" additional economic benefits are achieved.

Table 2. Polk County Farms, Land in Farms and Land Use - 1997[1].

Crop	Number of Farms	Land - Acres
	Total Farms - 2,464	Total Ag. Acres - 621,489
Pasture - All types	998	427,881
Citrus - All varieties	1,410	114,433
Grapes	6	18
Blueberries	28	97
Strawberries	6	109
Woodland	281	114,480
Hay	158	7,371
Sod Harvested	10	4,966
Bahiagrass Seed	10	780
Nursery: [2]		
Nursery Crops	97	570.4
Foliage plants	29	57.4
Potted Flowering plants	20	29.6
Bedding/Garden plants	14	11
Cut Flowers	7	13
Other Nursery Crops	10	36
Vegetables	26	781
Greenhouse Vegetables	3	?

[1] 1997 Census of Agriculture
[2] Open acres 672, greenhouse/shadehouse 45.4 acres, plus no greenhouse/shadehouse figures given for bedding plants or cut flowers.

Nursery products are the number two agricultural enterprise in the county. Nursery production utilized only about 717 acres (Table 2) in 1997 but produced more than $37,000 per acre. According to *The Evans Report*, land used for nursery production generated the greatest contribution to Polk County's economy of all land uses. Over a 50-year period an

acre of nursery land is expected to produced a total cash flow of $2,737,219. The present value of this cash flow was estimated to be $636,798. Present value converts a stream of money, to be received over a number of years, to what it is worth today, assuming a given interest rate. The interest rate used was the rate for a 30-year Treasury Bond. The next highest value land use, in terms of net present value, was multi-family housing construction and resale at $328,944, followed by mining at $196,069.

The poultry industry has now passed beef cattle as the third largest industry in terms of farm income in Polk County. The industry may be thought of as the invisible industry since its presence is not apparent as a person drives most of the roads in the County. Large numbers of birds are concentrated in a few large operations. According to the 1997 agricultural censes there were 1,662,286 laying hens 20 weeks of age or older on Polk County farms. Polk is ranked 42nd nationally and 2nd behind Pasco County in Florida. In addition, there are two egg processing plants, one in Bartow and one in Lake Wales, which provides jobs and other economic benefits to the County.

Table 3. Polk County Livestock 1997[1]

Class of Livestock	Number of Farms	Number of Animals
Beef Cows & Heifers that have calved - inventory	812	64,838
Cattle & Calves - sold	845	49,759
Horses & Ponies	290	1,505
Milk Cows	30	2,116
Hogs & Pigs - sold	29	1,482
Laying Hens 20 weeks & older	42	1,662,286
Turkeys	15	98
Sheep & Lambs	15	203
Milk Goats	6	80
Goats (total)	46	641
Honey Bees	65	Colonies - 22,906
Tropical Fish - sold	16	10,245,000
Ducks	10	79
Geese	8	55
Mules, Burros & Donkeys	20	42
Rabbits - sold	8	4,386

[1] Census of Agriculture 1997

While the beef industry is number four in terms of farm income, it is clearly number one in terms of land use. Beef animals utilized the vast majority of the 427,881acres of pastureland and a large part of the 114,480 acres of woodland in the County (Table 2). Polk County is ranked 22nd nationally and 4th in Florida in inventory of beef cows and heifers that have calved (Table 3). In 1997, 845 farms reported selling a total of 49,759 head of cattle.

Dairy, aquaculture, and lumber

and wood products also make significant contributions to the agricultural economy of the County. Dairy production continues to decline, according to the 1997 Ag Census, however, two major dairy processing plants operate in the County. Unfortunately, data on the value of their products is not available. Ornamental tropical fish production is the main aquaculture industry in Polk County. Production is centered in the north Lakeland area. Lumber and wood products are also important. Among the products produced in local Manufacturing facilities are pressure treated lumber, wood pallets, and mulch.

As one can see from the numbers, agriculture is an important part of the Polk County economy. Ad valorem tax on agricultural land is based on its use value as opposed to its market value, taxes on some agricultural land is significantly less than non agricultural land. (However, for some agricultural land, especially some citrus land, the use value and market value are the same.) Because of this, some people believe that agriculture land doesn't pay
its way. The *Evans Study* found that for every $1.00 of ad valorem taxes paid by agricultural land only 8¢ was required in local services such as police protection, fire protection, or educational services. Residential development, on the other hand, required $1.89 in services for each $1.00 in ad valorem taxes paid. This is not to say that agriculture should replace development in Polk County. It does point out that agriculture is an important part of the Polk County economy. Continued agricultural development should be encouraged as part of a healthy, well balanced economy.

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