

Modernizing Central Florida's Economy of Agriculture

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Abstract

Agriculture is not only a multi-billion dollar industry, but also a community that has existed in the state of Florida for centuries. Florida is a state that harbors excellent crop exports, as well as a thriving cattle industry, along with lesser known agricultural products in timber, flowers and other aesthetic landscaping plants, seafood, and bees. As the world moves into the 21st century, Central Florida has seen the effects of decades of urban expansion, as the region's urban centers develop- or, in some cases, sprawl- outwards. This development, along with factors such as existing legislation and a lack of general public knowledge, are having an impact on agriculture in the Central Florida region. Through personal interviews and research, we have found that there are certainly problems within the current situation surrounding agriculture and agribusiness that could be remedied; we aim to propose a plan that could be fleshed out and implemented to mend these issues that addresses the need for agriculture in urbanized areas, the lack of non-specialized education about Florida's agricultural industry, and current legislation that works against the region's farmers and ranchers.

Keywords: agribusiness, agriculture, urban sprawl, urban development, Central Florida,

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Modernizing Central Florida's Economy of Agriculture

Most people believe that agriculture is centered around farmers working on large tracts of land in completely rural areas; what most people don't know is that agriculture has moved much closer to home, both as urban development creeps towards farmland and as agriculture is integrated into urban areas. This research project concerns the urban development and agriculture of Central Florida, covering topics such as land use, urban sprawl, agribusiness, and urban farming. This industry has a large impact on Florida's overall economic health, and we believe that agribusiness in Central Florida must evolve to the 21st century to sustain the industry's future economic impact.

Background Information

Florida has a longstanding history of being an agricultural state. Since its Spanish colonization, many varieties of crops and livestock have been cultivated in Florida. Florida serves as a rich agricultural state due to its unique climate: the state is subtropical, with low elevation, high summer temperatures and moderate winter temperatures, and high precipitation. Its geography lends it to being agricultural as well; Florida is rather flat, with little drastic change in elevation between the plateaus of the panhandle and northeast corner, the basin of Central Florida, and the low wetlands of the everglades and southern tip.

Strong forests lent the state towards forestry in the past (Volk et al., 2017), and wetlands, large lake and river networks, and a long coastline spur aquaculture and commercial fishing. Agriculture is Florida's second most profitable industry, just behind tourism, amounting to an income of \$7.64 billion for the state. The wealthiest agricultural products for Florida are oranges, sugarcane, tomatoes, cattle, dairy, poultry, and eggs. Oranges, Florida's signature crop, account

for 13.5% of Florida's agricultural profits. Florida also produces more than half of all oranges in the United States. Florida also leads the U.S. in the production of grapefruit, cucumbers, sugarcane, squash, and tomatoes (USDA National Agricultural Statistics Service, 2019).

In Central Florida, agriculture takes the form of crops and livestock. Central Florida, defined as the land of the greater Tampa Bay area and the greater Orlando area, stretches from Florida's west to east coast, including counties such as Pinellas, Hillsborough, Polk, Orange, Seminole, Lake, Pasco, and Brevard. Agriculture is firmly entrenched in this region;

Nearly 30 percent — or about 80,000 people — work in agriculture-related businesses in Polk County, contributing almost 30 percent to the \$6 billion in gross regional product. Many farms like Ben Hill Griffin Inc. and The Story Companies have been operating in Polk County for generations. (Central Florida Development Council [CFDC], 2020)

However, the area is also known for its large urban areas. The major cities of Tampa, Orlando, Lakeland, and Kissimmee, are large, sprawling urban districts. Orlando is a particularly large urban hub in Central Florida, with main tourist attractions consisting of theme parks, water parks, and resorts. This urban development spurs economic development, but in turn, impacts agricultural ventures.

Research Specifications

Terms and Definitions

Agribusiness- “[Agribusiness is] the business sector encompassing farming and farming-related commercial activities. The business involves all the steps required to send an agricultural good to market: production, processing, and distribution” (Chen, 2019).

Agriculture- "Agriculture means the science and art of production of plants and animals useful to humans, including to a variable extent the preparation of these products for human use and their

disposal by marketing or otherwise, and includes aquaculture, horticulture, floriculture, viticulture, forestry, dairy, livestock, poultry, bees, and any and all forms of farm products and farm production" (Florida Farm Bureau Federation, 2016).

Central Florida- One of the three main directional regions of FL, comprising the greater Tampa and Orlando areas, as well as the counties between those areas and the adjacent Gulf of Mexico and Atlantic Ocean.

Land Use- "“Land use” is the term used to describe the human use of land... the economic and cultural activities (e.g., agricultural, residential, industrial, mining, and recreational uses) that are practiced at a given place... urban development seldom occurs on publicly owned lands (e.g., parks, wilderness areas), while privately owned lands are infrequently protected for wilderness uses" (United States Environmental Protection Agency [US EPA], n.d.).

Livestock- Domesticated animals raised for labor and/or commodities.

Micro Farming- “Micro farming is small-scale, high-yield, sustainably-minded farming, generally conducted by hand in urban or suburban areas” (Shipani, 2019).

Urban Development- “Urban development is a system of residential expansion that creates cities. Residential areas are the primary focus of urban development” (Brooks, 2017).

Urban Farming- “[Urban farming is] small-scale agriculture in an urban setting [that] constitutes a range of activities including community gardens and family farms located within municipal statistical areas... [A]ny plot of land generating an agricultural product in a municipal statistical area with an operating acreage within the range for medium sales agriculture [can] be considered small-scale urban agriculture” (Ansbacher et al., 2015).

Urban Sprawl- “[A] development pattern that has received increasing attention... is called "sprawl." Sprawl is generally typified as low-density, haphazard development spiraling outward

from urban centers (Burchell *et al.* 1998)... Sprawl is the result of a complex set of interrelated socioeconomic and cultural forces... [however] tends to occur where property values are lower on the periphery of urban centers (Pendall, 1999)” (Brody, 2013).

Vertical Integration (economics)- "Vertical integration is tying together the control or management of two or more stages in production of a single commodity anywhere between the farm supplier and the final retailer, inclusive. Example: A packing company with cattle feeding operations" (Dunbar, n.d.).

Zoning Laws- “Zoning is the legislative process for dividing land into zones for different uses. Zoning laws are the laws that regulate the use of land and structures built upon it... Zoning laws determine what kind of structures can be built, whether or not an existing property can be repurposed, and even whether or not an existing structure can be replaced with something new at all” (PropertyMetrics, 2017).

Methodology

The data compiled in this research project was from a mix of written sources and verbal interview communications. We examined how different factors play an effect on the agriculture and agribusiness industries, how said industries could remain in good standing into the future, and how the factors that affect them may need to change to do so. To find this information, we have gathered and examined data-driven research on the topics of agriculture and land use, as well as current articles that concern urban development, the state of agribusiness, and how agriculture is changing in certain urban areas. We have also conducted interviews with multiple individuals involved in the field, who were able to give a more robust account of the current state of agriculture and shed light on potential issues.

In an optimal scenario, further data would have been gathered in the form of in-person interviews, and possibly even a guided introduction into people's agribusiness-related work. This would have given more information into the current state of agriculture as well as what those involved in the field view as a problem they wish to see solved. As it stands, all of the data gathered for this paper was gathered electronically or virtually.

Findings and Analysis

Effect on Agriculture

Development

Florida is a state that has been growing, both economically and demographically, for many decades now. Due to this growth, urban development has seen a rise and little to no fall; this rise in development and population, however, has led to problems concerning how agriculture can feed more people on smaller amounts of land; "Unless we stop eating, Florida agriculture has no choice but to grow. The state's population is expected to increase by nearly 14 million by 2070" (Vergot, 2017). This also has direct consumer consequences: with decreased supply and increased demand, the cost of food slowly trends upwards. Urban development can also take the form of urban sprawl, defined as development that has little to no city planning. Unplanned developments contributing to urban sprawl are often built next to and/or on top of farmland; as more developments spread, the unincorporated farmland rises in land value, so much so that it is more profitable for farmers to sell off their land to developers than to continue farming on it. As described by Lynann Hudson, a Director of Agribusiness for the Florida State Fair:

I think land development is the biggest issue effecting agribusiness in Central Florida.

When the land is gone – you cannot create any more. Building housing developments [is]

great but [if] we cannot produce the food [or] products that the consumer needs – we have a major problem. (Hudson, 2020)

Legislation

As it does most things, legislation has a significant impact on agriculture, agribusiness, and industries as a whole. Just like any type of land use, there are rules and regulations for farmland that must be followed. Just like any type of industry, there are quality measures in place. And just like any product, there are trade rules surrounding agribusiness' commodities. NAFTA (the North American Free Trade Agreement) asserts that tariffs are to be removed from a majority of products exported from Canada and Mexico into the United States; “[NAFTA is] eliminating tariffs in order to stimulate trade among its members. Proponents argued that establishing a free-trade area in North America would bring prosperity through increased trade and production, resulting in the creation of millions of well-paying jobs in all participating countries” (Bondarenko, 2019). NAFTA is a piece of legislation that has had a large impact on farmers throughout the entire U.S. Zoning laws, as well, play a large part into the legislation surrounding agriculture; they determine if something may be built upon a part of land as well as deciding if a building could be repurposed or replaceable. Zoning laws are, almost in entirety, responsible for how agricultural lands may be preserved and protected from those with other interests, such as developers; they are tools that are to be used to configure how agriculture interfaces with urban areas at a city's rural-urban fringe. “Rural zoning works at the very source of the problem [of loss of agricultural land] by separating agricultural from non-agricultural uses. The desirable degree of separation varies with the locality; the use of particular zoning tools will be guided by local objectives” (Wershow, 1960).

Education

Education plays a large part in agriculture's influence. Across Central Florida, schools have designated FFA (Future Farmers of America) programs, where kids learn and actively participate in classes based around agriculture-related topics such as horticulture, livestock rearing, forestry, and agribusiness. Outside of FFA programs, there is also 4-H, a national, extracurricular organization that aims to develop youths' practical skills, and has many projects centered around livestock and horticulture; as stated by one of the Directors of Agribusiness for the Florida State Fair held annually in Tampa, Lynann Hudson, "Students need to understand where their food comes from and understand just how important agriculture is to our everyday life. 4-H and FFA are amazing organizations promoting youth participation [in agriculture]" (Hudson, 2020). The forefront of education about agriculture in Central Florida has come in the form of these 4-H and FFA programs.

Urbanization occurs as a product of a rising population; because of this rising population, new schools are often built along the path of developments (Hanson, 2020). In Central Florida, it is common for every high school to have an active FFA program; these specialized agricultural classes teach everything from the basics of agriculture in Florida, to on-campus projects such as growing a citrus tree, or even raising a cow. These programs have a distinct impact on agribusiness; not only are the youth in these programs actively participating, most of them go on to pursue agriculture related careers, whether it be as a rancher, livestock veterinarian, or a botanist.

Analysis of Data

Our research shows that all of these causes are chief concerns when it comes to agribusiness if Central Florida, and even Florida as a whole. The impact of development has

rendered it very difficult for farmers to buy more land if they need to do so, or even keep their land in the face of developments. Legislation has also caused a problem for agriculture, with things such as NAFTA (the North American Free Trade Agreement) making it more cost-effective for consumers to purchase more foods and goods from Mexico and Canada. Most strongly, we see these problems tied back to a tone of indifference- agriculture is not a common topic among people, aside from those in specialized programs such as FFA or 4-H, and so it's issues are not as publicized and debated about.

Limitations of the Study

This study has various limitations. The first of which is that, due to the current global state of affairs, all resources used for this paper were either gathered electronically, or (in the case of personal interviews) contacted virtually. This has ruled out the use of physical resources such as texts that are not online, in-person interviews, and any research that has been published that has not been uploaded to the internet.

Another obvious limitation is the shortened research time. This is a highly complex topic, and one that could be researched extensively for years; the research we have gathered in this paper is just the breadth of what we could in the three weeks of this research project.

A final limitation is the scope of this topic; this paper specifically covers things such as development and land use on agriculture, and the related topics of agricultural legislation and education; it does not cover other issues present in agriculture such as environmental issues. The topic of how Florida's environment impacts agriculture, and vice versa, could warrant a lengthy paper of it's own, as it is a topic that deserves to be examined in full. This paper only aims to examine development and urbanization as it relates to agribusiness.

Discussion of Outcomes

Our original bold statement was that agriculture must evolve new techniques to remain a thriving and relevant industry in the 21st century; our research supports this, by showing how different problems have an adverse impact on agriculture, thus requiring these new agricultural solutions to be explored. Agricultural solutions, however, are not just advancements in technology as previously assumed early on in research; it can also include any solution that works to the benefit of agribusiness. Originally, it was believed that land use and development were the only problems affecting agriculture, but over the course of our research we have discovered problems related to agricultural legislation and education that we have also chosen to highlight, as these problems are strongly interconnected.

Conclusion

Proposed Solution Plan

We propose multiple implementations on behalf of the industry as a way to help both agricultural ventures and their manufacturers: (a.) A change in zoning laws and city ordinances that not only allow independent agriculture ventures in suburban and urban-fringe areas, but require public greenspace that utilizes modern agricultural techniques to accommodate production in highly urban areas that struggle with food access; (b.) More current agribusiness industry information be present in parts of local media, such as television news, radio news, and newspapers, much like that of sporting news or market reports; and (c.) A change in education, wherein students will be made to learn more about Florida specific history and the state's important industries, including agriculture. We hope, through these, both the issues around the loss of farmland and the root issue of lack of awareness and concern may be addressed. As stated by Dr. Campbell of UF, "There is... a lack of understanding [about agriculture]... There may be

cases where there is a barrier [between legislation and agriculture], but... there's [a] knowledge gap [in knowing] how to address it... Without that knowledge [policy makers] are a little reluctant to make [a] decision" (Campbell, 2020).

Implementing (a.)

A large problem with agriculture is how the land for it is slowly disappearing; all across Central Florida, and the United States, an alternative is being seen in the form of urban agriculture and micro farming. In urban agriculture, things such as hydroponics, aeroponics, and aquaculture are used to make produce in confined spaces and with little to no soil. These alternatives have been used previously in cities such as New York and Brooklyn to provide food for a region that had no other way of obtaining fresh produce. For these techniques to be fully effective, it would be best if the city in question provided a local public greenspace where these systems could be set up- although the term "greenspace" is used, due to the techniques in question, these spaces could range anywhere from small lots of land for more traditional crop-growing, or emptied warehouses for hydroponic and vertical growing units.

Implementing (b.)

The impact of agriculture is extremely important to Florida's economy, so what is the difference between this and the weather? Something so important that's never in the news never reaches the people who can help make a change. Using news media such as newspapers, radio news, and television news is a great way to show consumers statistics that relate directly to them about agriculture, and an even better way to give agriculture a chance in the public eye. Making agricultural news specific to consumer concerns, such as the crops that are in season, and news that may affect what they see in the store in the coming months, would both be informative for the general public and help to naturalize agriculture as an industry to those who wouldn't

otherwise hear about it. Positive educational sections and segments that talk about how to properly plant your own garden or even about starting community gardens would cause the public to consider more deeply about agricultural production in their own lives. It would be a great way to spread awareness and open eyes to the prominence of Florida's agriculture.

Implementing (c.)

Another large issue for agriculture is that many people are aware of its overall importance, both to them as individuals and for Florida as a whole. Not many people even know where their food is even coming from, except for that fact that they buy it from the grocery store. A solution for this is a change in schooling in Central Florida so that youth may learn more about the environment, agriculture, and how it affects Florida. The children of Central Florida would gain a basic grasp of what agriculture is and why it is important to the economy and the environment. Some of this is already being done with things such as FFA classes, however the problem there is that only those students already interested in agriculture and agribusiness would enroll in FFA classes. A concern expressed by Lynann Hudson, a Director of Agribusiness for the Florida State Fair, was that "I wish the parents with younger kids would get them [into] 4-H so they could appreciate [agriculture] as they grow up" (Hudson, 2020). It is very true that younger children need to become involved in order to cultivate an appreciation for agriculture as they grow, and while 4-H is a very good organization for this, there is a more universal way.

The only real way to address this issue in a way that affects all students is to bake the history of agriculture in Florida into the basic school curriculum, preferably of elementary and middle school classes, when classes are less specialized and foundational material is being taught. Currently, elementary curriculum in Central Florida covers topics such as general Floridian history and a mild overview of Florida's government, while middle school curriculum

covers basic world history, civics, and U.S. history. However, none of this even begins to cover how important Florida's environment is, how it provides us with the food we need through agriculture, what types of agriculture there are in Florida, and how vital agriculture and farming is to individuals and Florida's economy. If an elementary student is expected to remember how the Civil War affected Florida, then it must also be important for them to learn about who grew the food they eat, what kinds of food are grown around them, and the path the food took to get to them. From Jacki Stough, the Livestock Director of the annual Central Florida Fair and an avid advocate of youth participation in agriculture, "I believe our youth need to have a better understanding of where their food comes from. This I think is something that should be taught in schools with the help of local youth agriculture programs and [participation in] local [Agriculture] Fairs" (Stough, 2020).

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