Agricultural Land Use Trends and Outlook

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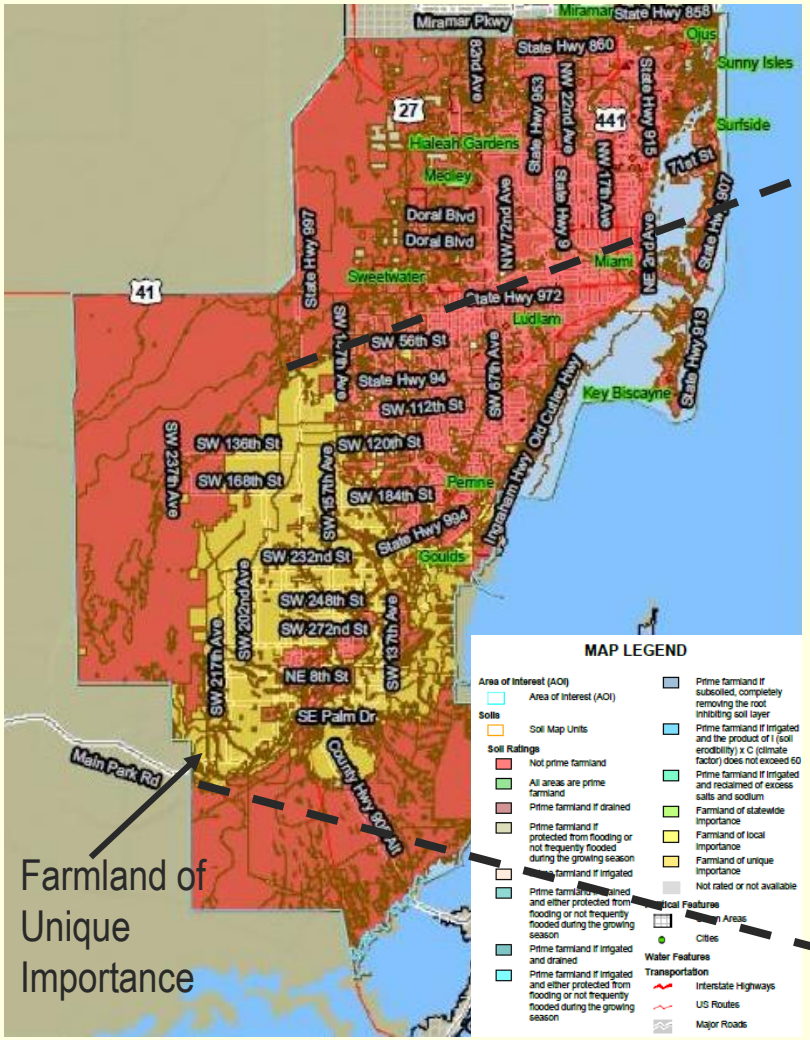
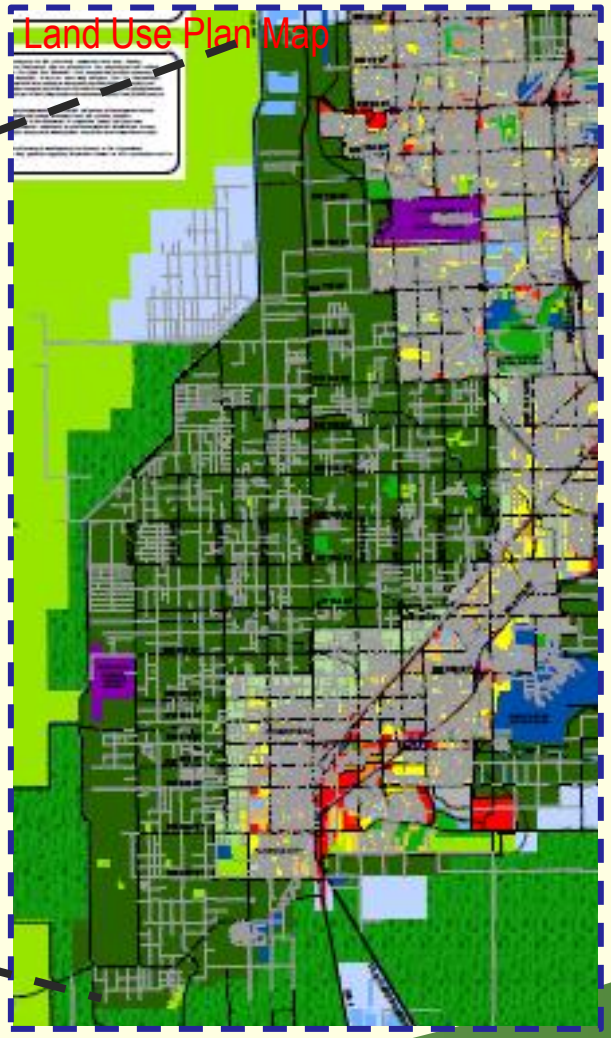
Agricultural Land Use Trends and Outlook in Miami-Dade County, Florida





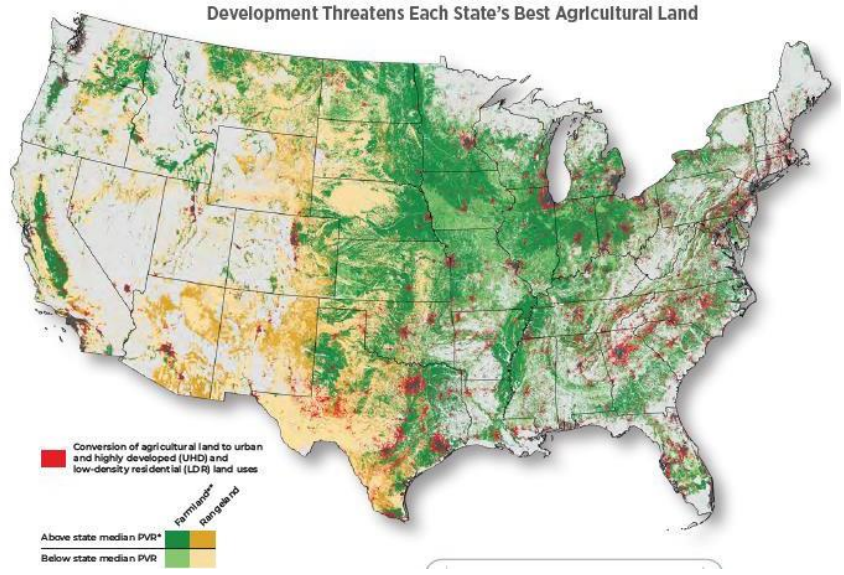
Source: USDA-NRCS, custom soil report for Miami-Dade County Area, Florida, 2012

Agricultural Land Use Trends and Outlook in Miami-Dade County, Florida

- Loss of farmland is a national and a local issue
- Over 11 million acres of agricultural land was lost in the United States to development from 1997 to 2017
- The County had the lowest percentage of agricultural land loss among the nation's 10 largest metropolitan counties (except Brooklyn)
- The County's land use policies, including the Urban Development Boundary (UDB) help limit the loss of agricultural land.

County (Largest city)	Population 2023	County/City land area (sq.mi.)	Density (pop./sq.mi.) 2023	Largest city density 2023 (pop./sq.mi.)	Ag. land 2017 (acres)	Ag. land 1997 (acres)	Change ag. land 1997-2017 (%)
Los Angeles County, CA	10,072,629	4,059/470	2,482	8,038	57,809	130,838	-55.8
Cook County, IL (Chicago)	5,299,802	945/228	5,608	11,472	11,903	42,174	-71.8
Harris County, TX (Houston*)	4,922,752	1,707/640	2,887	3,538	218,659	311,005	-29.7
Maricopa County, AZ (Phoenix)	4,601,603	9,202/518	500	3,190	474,438	708,656	-33.1
San Diego County, CA	3,359,630	4,210/326	799	4,217	222,094	474,901	-53.2
Orange County, CA (Anaheim)	3,240,017	793/50	4,096	6,829	32,401	58,113	-44.2
Kings County, NY (Brooklyn)	2,805,485	69/69	36,732	36,732	23	8	+187.5
Miami-Dade County, FL	**2,763,366**	**1,900/36**	**1,455**	**12,110**	**78,543**	**83,582**	**-6.2**
Dallas County, TX	2,687,159	873/67	3,078	3,712	63,949	148,862	-57.0
Riverside County, CA	2,486,747	7,209/81	345	3,969	263,796	509,031	-48.2

Sources: https://worldpopulationreview.com/us-counties, U.S. Census Quickfacts.
*The city of Houston is in parts of 3 counties.
Miami-Dade County encompasses 34 incorporated municipalities.



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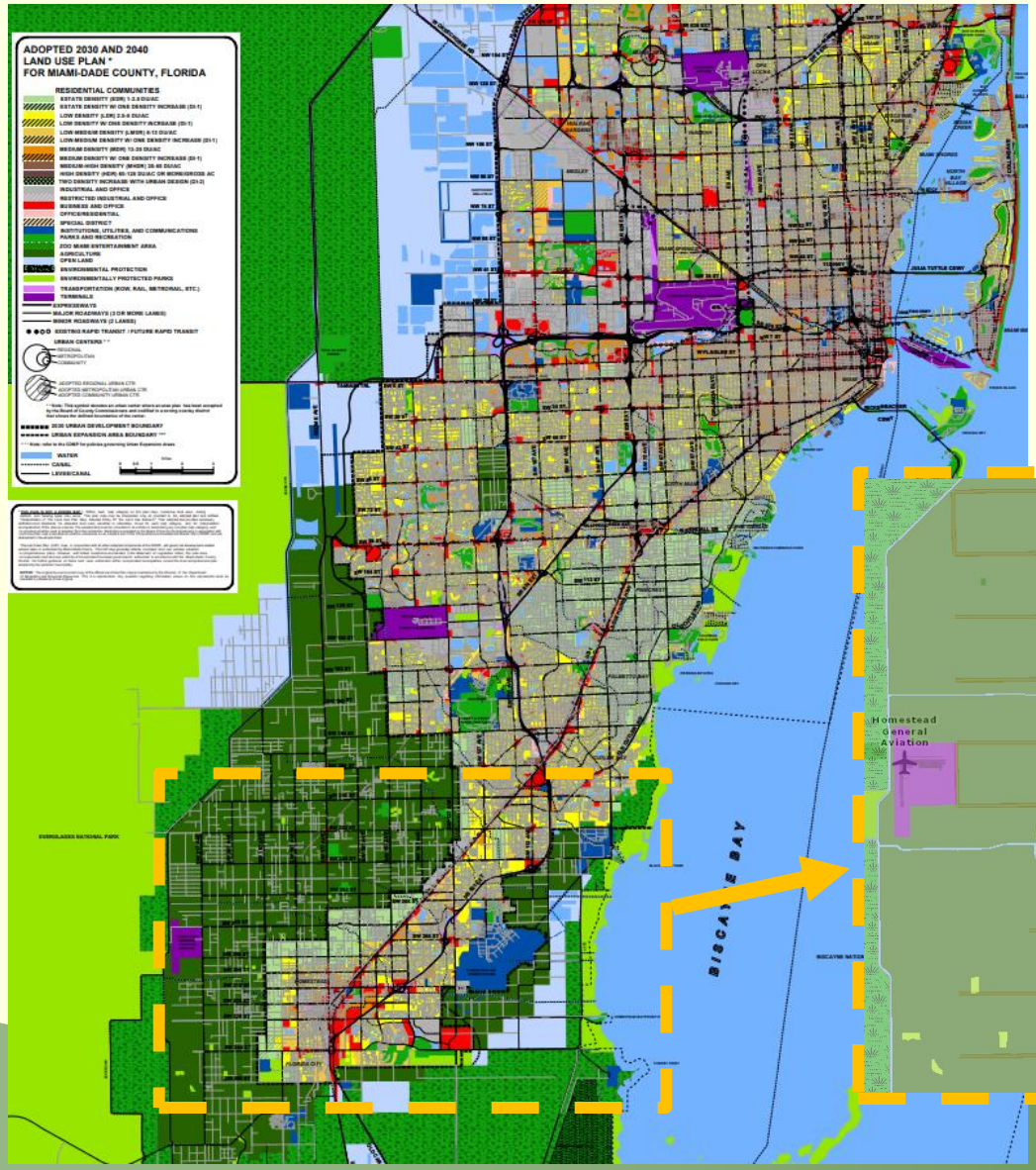
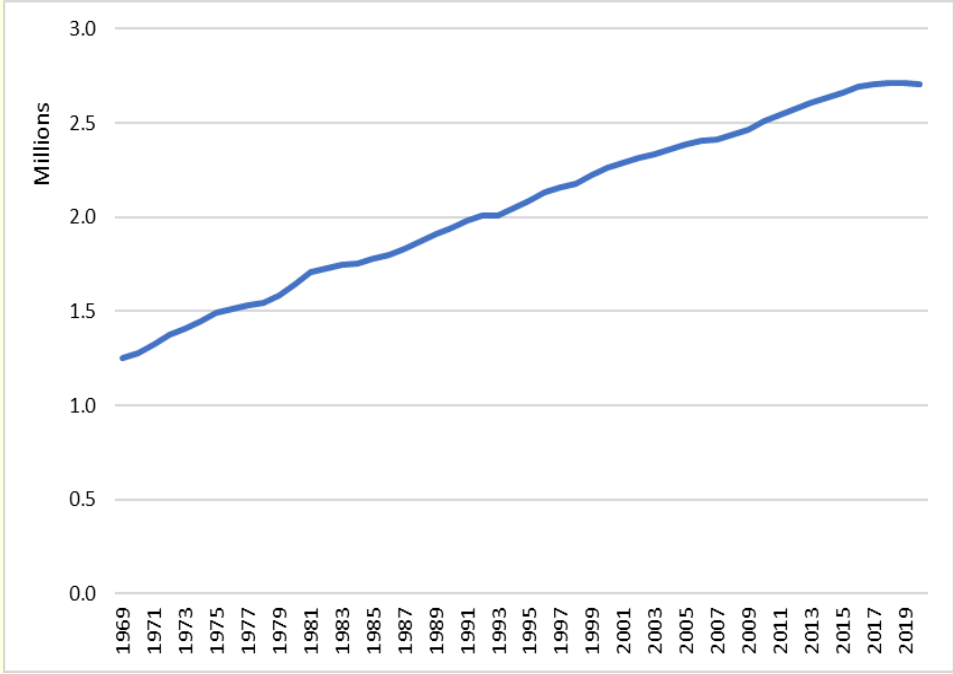


Miami-Dade County Department of Regulatory and Economic Resources

Agricultural Land Use Trends and Outlook in Miami-Dade County, Florida

Overview of agriculture in Miami-Dade County: Population

- County population in 2020 Census: 2.7 million
- County population estimated in 2025: 2.8 million (RER Estimates)
- Growth by approximately 1.0% annually since 2000
- 2050 projected population: 3.3 million
- Population density (2020): 1,422 per square mile, Countywide, and over 6,000 per square mile inside the UDB
- Higher average cost of living (housing and homeowner costs) than state or nation



Source: U.S. Census Bureau, reported by USDOC-Bureau of Economic Analysis

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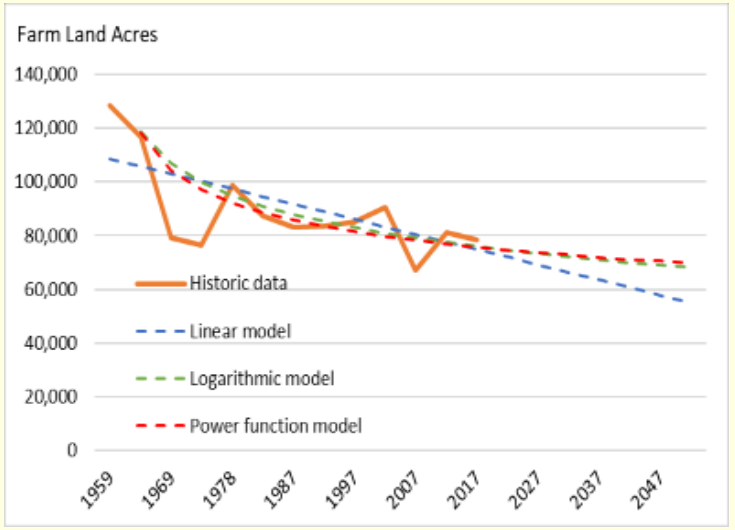
Overview of agriculture in Miami-Dade County: Land Area

- Agricultural land declined from 128,550 acres in 1959
- 2017: 78,543 total acres - USDA Census (baseline data)
    - 58,606 "Agriculture Classified" acres by Property Appraiser ~75% of total
- 2021: 55,946 "Agriculture Classified" acres
    - 50,267 outside UDB
- CDMP-designated Agriculture land: 69,072 acres
    - 67,889 acres outside UDB
- 2022: 68,837 total acres – USDA Census



Source: USDA-NASS, Census of Agriculture

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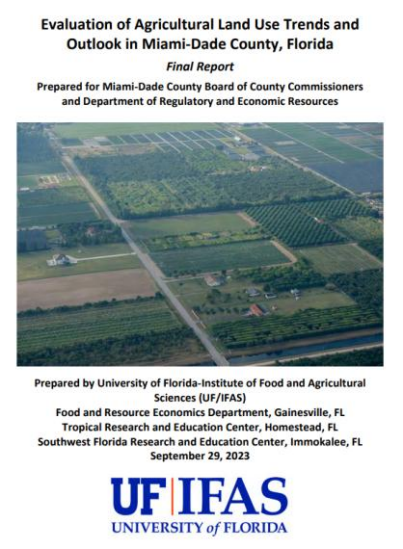
Future agricultural land use needs for 2030, 2040, and 2050

- A combination of various statistical and economic models was used to project the future agricultural land area needed
- Consensus estimated need:
  - 64,800 acres in 2030
  - 60,900 acres in 2040
  - 56,300 acres in 2050
- These projections represent the minimum acreage required to meet demand for farmland without compromising the viability of the industry under current or future land use policies.
- Indications for strong growth for the overall economy and the agricultural sector through 2050



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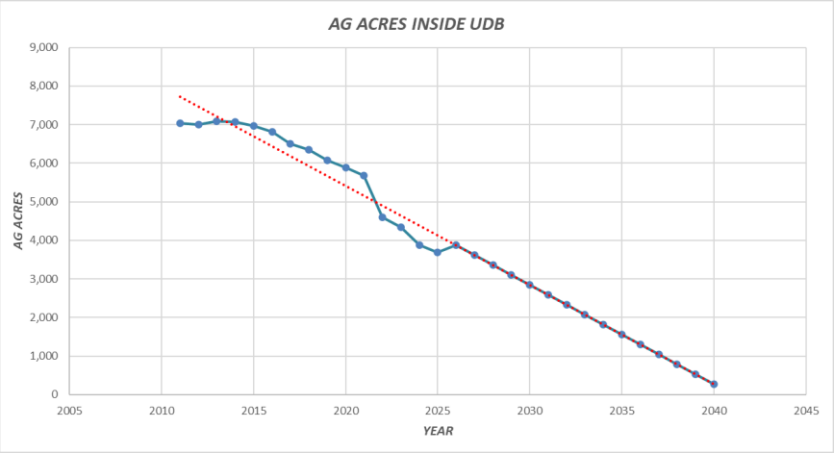
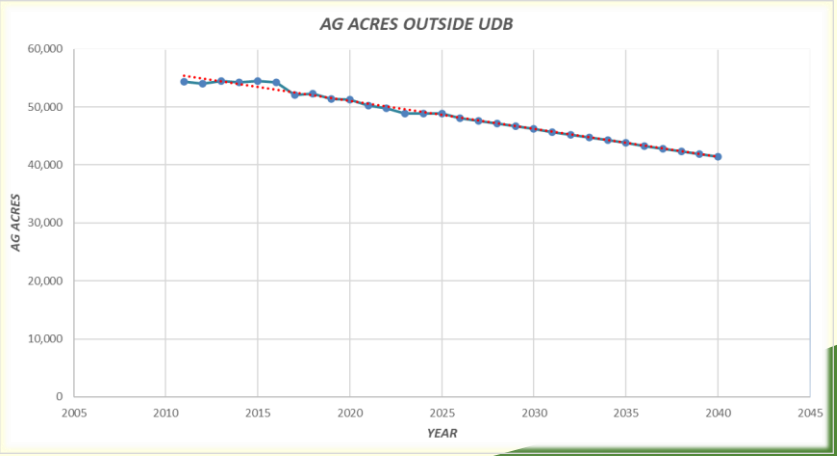
Projections for Agricultural Land Area (based on current trends)

- There are approximately 5,000 acres of agricultural land inside the UDB
    - These lands are designated for uses other than Agriculture, except in “Horse Country”
    - These lands are projected to become fully developed by 2040 (except Horse Country)
- Projected annual loss of agricultural land is approximately 343 acres inside UDB and 643 acres outside UDB
- Under current development patterns, acreage in farmland would be a similar amount to the calculated needed land area in 2030, but it would be deficient in 2040 and 2050





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Economic trends for major agriculture crops

- Nursery/floriculture production has expanded rapidly over the past 20 years while tropical fruits have increased slightly, and vegetables have declined significantly
- Agricultural production and investment is expected to continue increasing, but at lower-than-historical rates
- Agricultural land use intensity would also continue increasing due to improved technology, management, and production practices as well as changes in crop mix: higher value per acre and lower land requirements
- Profitability is highly volatile, affected by increasing production costs
- Growth anticipated in new product types, such as aquaculture

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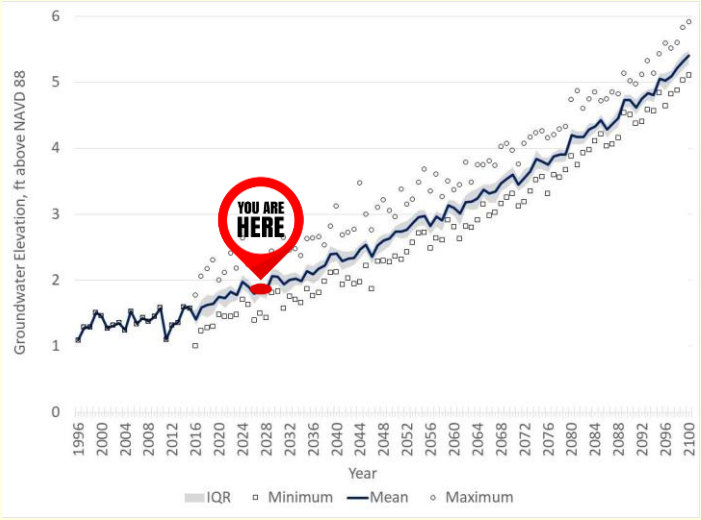
Major factors affecting profitability and sustainability

- Imports affect product prices
- Phytosanitary regulations prohibit import of live plants in soil media, protecting domestic nursery producers
- Production costs locally increased 42% from 2001-2021
- Workforce availability (H-2A needs, immigration policies, wages)
- Severe weather events: Production local is now more intensive than during Andrew
- Temperature increase 2.7 to 3.2 degrees (F) by 2050 affecting County's tropical advantage, but may open new crop options
- Rising sea levels: saltwater intrusion, elevated groundwater, and more seasonal flooding



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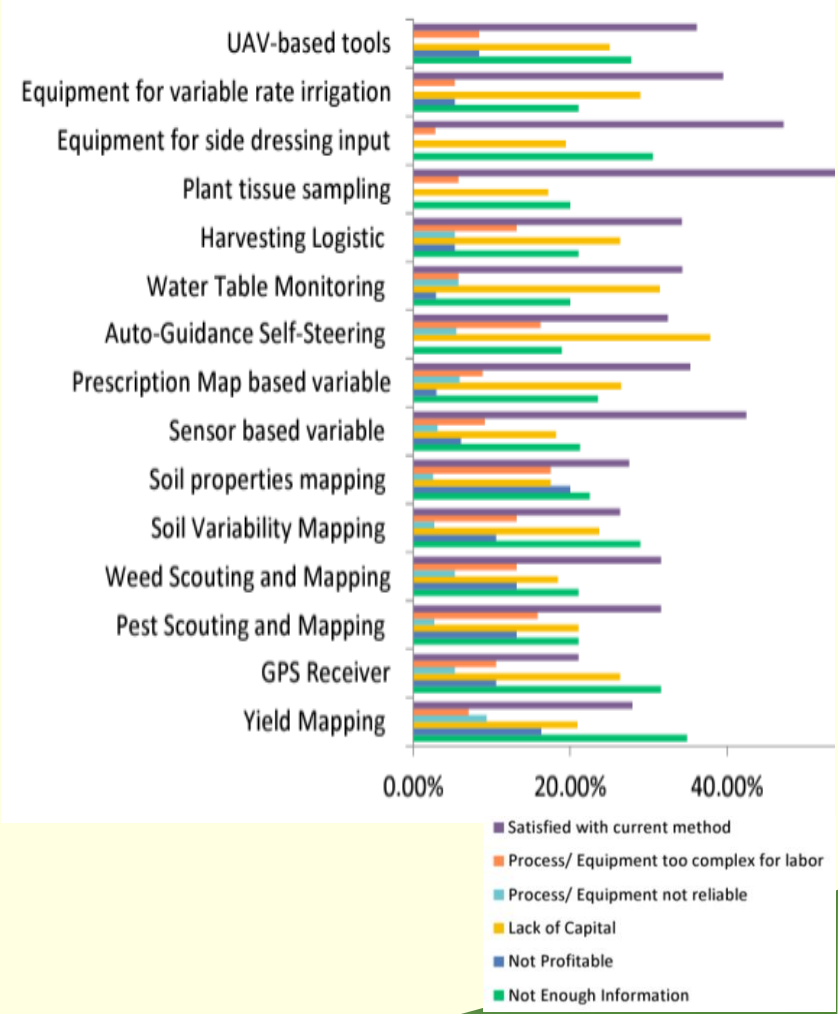
Emerging technological changes

- Helpful technologies include artificial intelligence, smart sensors, robotics, mechanical harvesters, and whole farm information systems
- Adoption rates over the next 5 to 30 years are uncertain due to capital costs, other efficiency improvements, and crop dynamics
- Various technology innovations can increase productivity
- Small farms, a growing trend, have capital limitations for some technology adoptions



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Farm size distribution in Miami-Dade County, 1997-2017 (Census, 2017)

- Small farms (<10 acres) represented 73% of operations
- Small farms increased in number and land area since 1997
- This farm size distribution is common across the nation

Area Operated (Acres)	1997	2002	2007	2012	2017	**Change 1997-2017**	**Percent of Total, 2017**
Area (acres)							
Less than 10	4,296	5,341	6,601	7,371	6,970	**2,674**	**8.9%**
10 to 49	10,012	11,491	10,104	12,919	10,866	**854**	**13.8%**
50-99	5,357	6,734	4,671	5,460	4,890	**-467**	**6.2%**
100-499	21,745	27,812	17,579	19,649	17,261	**-4,484**	**22.0%**
500-999	17,798	16,378	6,203	18,286	16,684	**-1,114**	**21.2%**
1,000 or more	25,868	22,617	14,481	17,618	21,872	**-3,996**	**27.8%**
Total	85,076	90,373	59,639	81,303	78,543		**100%**
Number operations							
Less than 10	1,160	1,423	1,777	2,045	2,001	**841**	**72.7%**
10 to 49	520	587	552	697	565	**45**	**20.5%**
50-99	78	98	69	84	71	**-7**	**2.6%**
100-499	86	103	78	93	86	**0**	**3.1%**
500-999	26	22	8	25	21	**-5**	**0.8%**
1,000 or more	17	11	14	10	8	**-9**	**0.3%**
Total	1,887	2,244	2,498	2,954	2,752	**865**	

Source: USDA-NASS, Census of Agriculture

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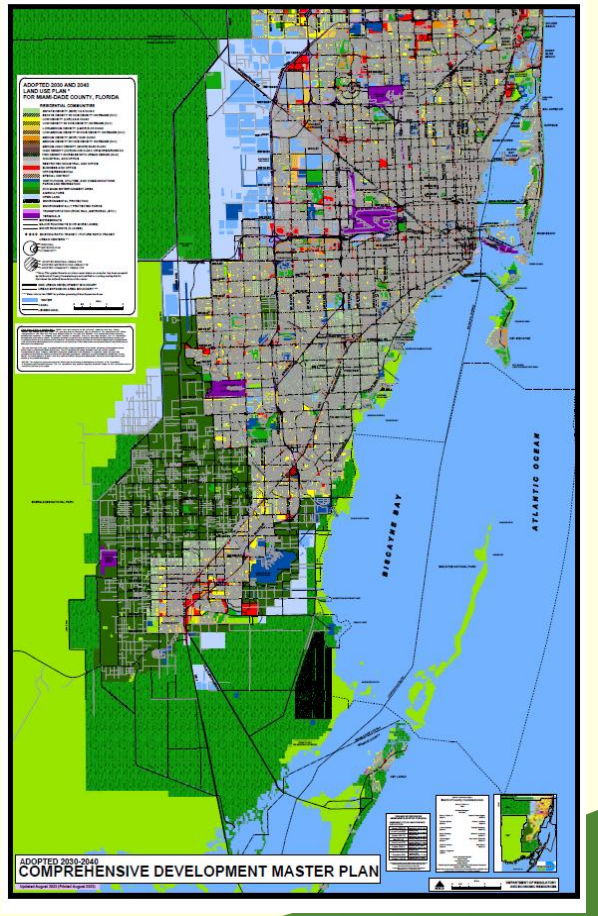
Recommendations to improve economic sustainability

- Maintain the current land use plan in the County with the Urban Development Boundary to control urban development
- Lobby State and Federal elected leaders to seek more favorable international trade agreements
- Maintain strong County support for existing agricultural programs and partnerships
- Coordinate with the U.S. Army Corps of Engineers, South Florida Water Management District, and Florida Department of Environmental Protection



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The future viability of the agricultural industry in Miami-Dade County depends on:

- Maintaining profitability
- Securing resources to support the capacity to produce
- Being resilient in adapting to change

Wise policy choices regarding land use, regulations, labor, and other issues affecting agriculture are critical to meet this need over the next three decades and beyond.

Thank You