Introduction to Floriculture

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• Floriculture is a branch of horticulture that specializes in the science of cultivation of flowers

• Flowers are cultivated under protected, semi-protected and field conditions
Floriculture includes broad range of crops

The art of floral arrangement also falls under floriculture
Floriculture is a multi-billion $ industry in the US

Floriculture sales at all retail outlets was $31.3 billion in 2015.

(U.S. Bureau of Economic Analysis Personal Consumption Expenditures (2016).)
Whole-sale value by crop in the US

California and Florida rank as top two states
Global floriculture outlook

Source: UN comtrade, 2014
Many career paths exist for floriculture majors

- Research
- Education
- Production management
- Writing & communication
- Sales & Marketing
- Parks & gardens
- Owner & entrepreneur

You get to travel!!
Floriculture is served by many large companies
Floriculture is an experiential learning program
Floriculture is an interdisciplinary science that is both challenging and rewarding.
How to produce millions of uniform plants for the market?

• Too much water?
• What is right temperature?
• Should I spray PGRs?
How much fertilizer or water do plants need?

- Sufficient water
- Low water
Research on advanced sensor technologies to monitor crop requirements
Photoperiod modification to produce colored bracts in poinsettias

Is there a market for poinsettias after Christmas?
Controlling temperature to target Easter lily for the market
Supplemental lighting to produce year-round
Marketing...chain/mass merchandising stores
Flower growers are adding controlled environment agriculture into their business.

Involves growing edibles like lettuce, spinach, herbs, salad greens, tomatoes and peppers in greenhouses.
Controlled Environment Agriculture (CEA)

- Produce is fresh and attracts consumers; industry is growing rapidly around urban areas

- Many jobs exist in CEA; employers are looking for people who are trained in both science and technology

- Many faculty at Purdue HLA conduct research, teaching and extension activities in controlled environment agriculture

Dr. Cary Mitchell (NASA-CEA)
Dr. Krishna Nemali (CEA-Advanced sensing technologies)
Dr. Steve Hallett (Sustainable farming systems)
Dr. Petrus Langenhoven (Hydroponics/High tunnels)
Dr. Hye-Ji Kim (Aquaponics)
Dr. Wenjing Guan (High tunnels)
Controlled environment agriculture promotional video

https://www.youtube.com/watch?v=6kUm_I7bLYw