



The Economic Impact of the Turfgrass Management Industry in Hawaii

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Kauai



Big Island



Maui



Oahu





Lanai



Hawaii



Kauai



Oahu

Honolulu



Molokai



Lanai



Maui



Big
Island

**Turfgrass in
Hawaii is a
valuable
commodity**



60 km

Turfgrass is Valuable

- **NJ (2001)**
 - 3.2 billion dollars
 - >50,000 jobs
- **MI (2002)**
 - 1.9 billion dollars
 - >30,000 jobs
- **NY (2003)**
 - 10.1 billion dollars



What about Hawaii?

- **We are different (size, climate, etc.)**
- **Hollyer and Cox (1987)**
- **All Landscape Services (not just turf)**
 - **Lower #s (~130 million)**
- **Need to update these #s to reflect changes in the past 20 years**



2007 Hawaii Turfgrass Survey



College of Tropical Agriculture and Human Resources
University of Hawai'i at Mānoa

Distributed Statewide

- 26 Questions, web-based

- All HGCSA & LICH members

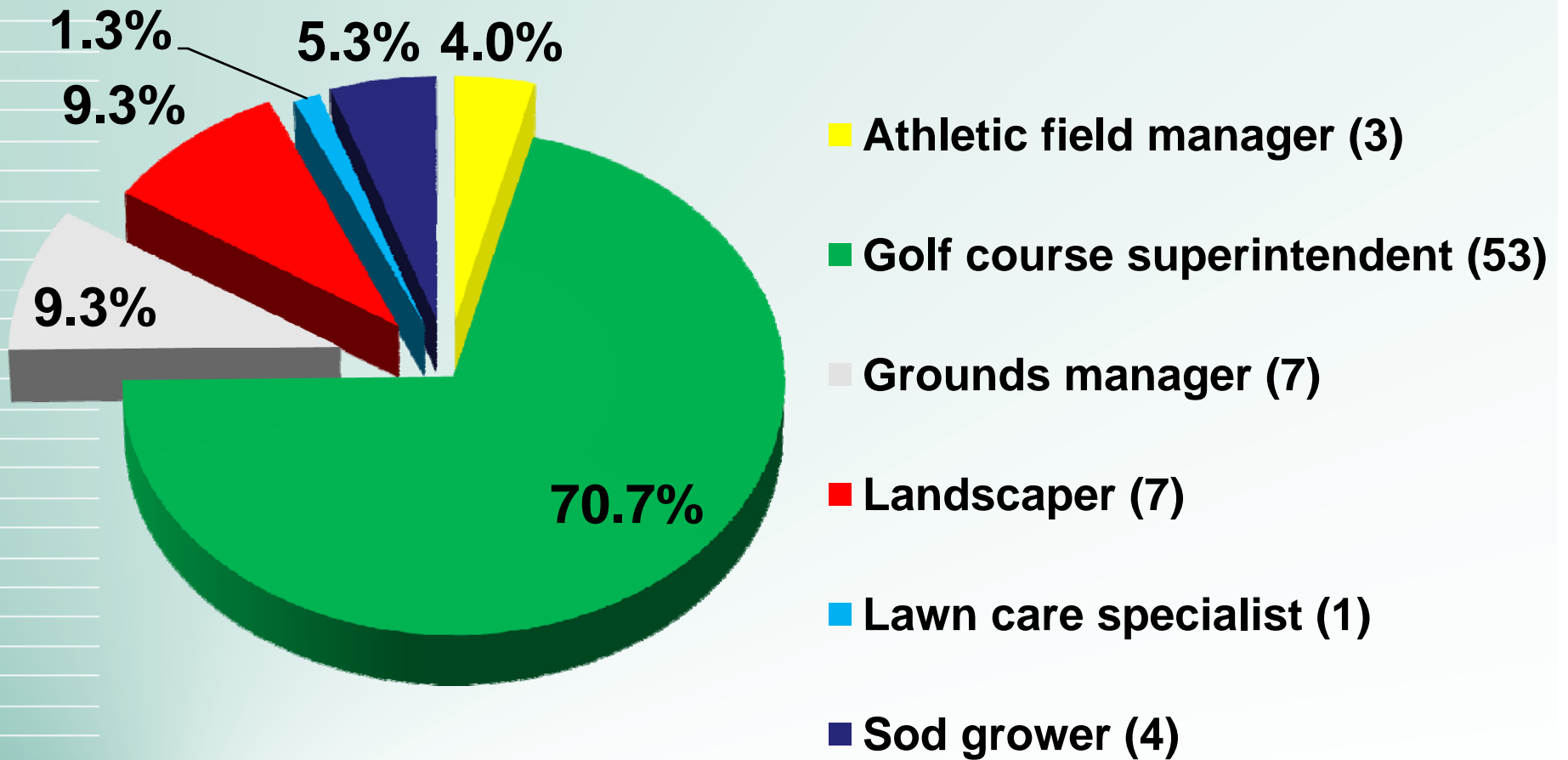
- UH Turfgrass Website



- Featured in Hawaii Landscape Magazine



Who responded?



Golf Course Data

114 HGCSA members

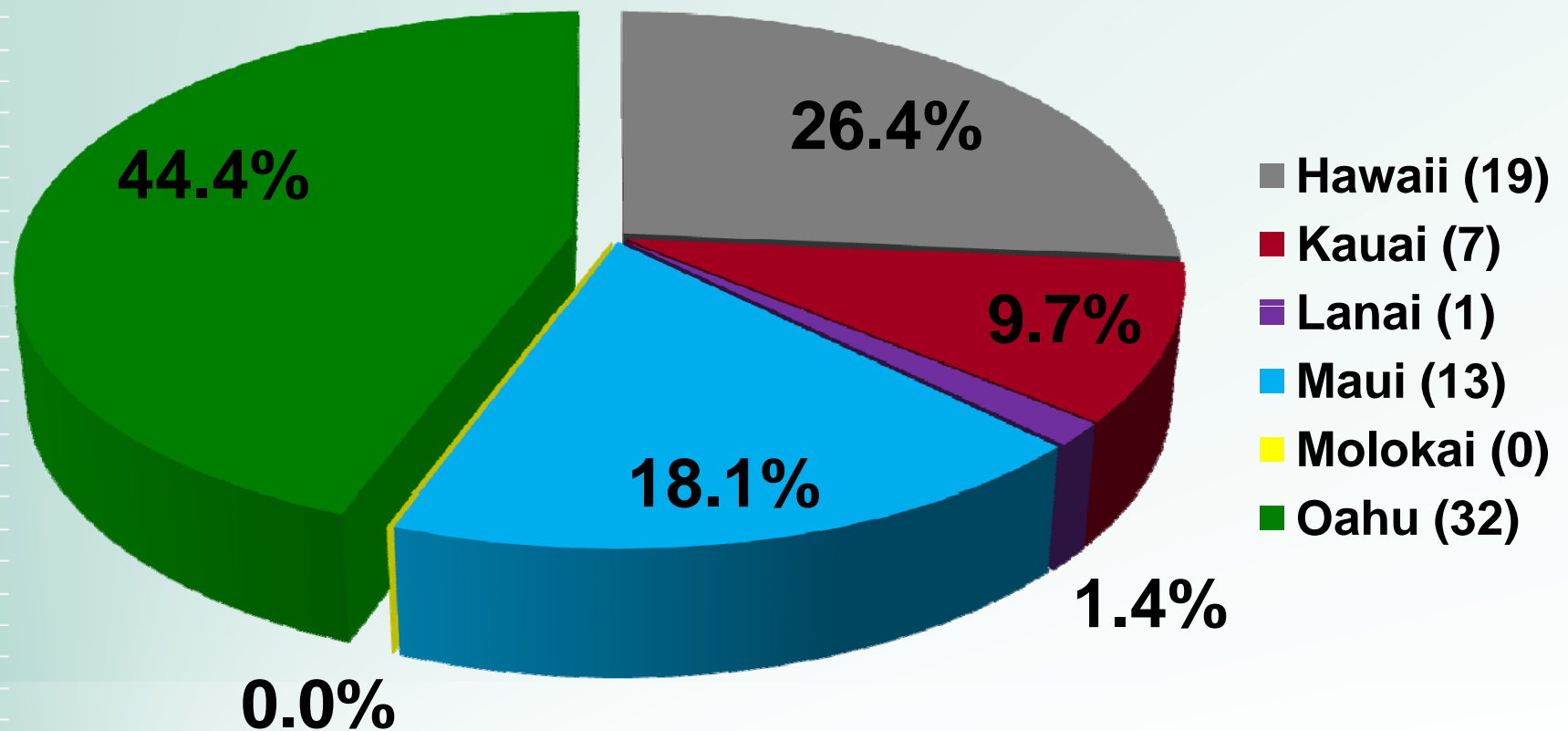
58 Head Superintendents

Designed for head superintendents

53/58 = 92% response rate



Survey Respondents by Island



How big are we?

- **9,537 acres of golf course turf**
- **5,719 acres of golf course turf in 1987**
(Hollyer & Cox)
- **Almost 100% increase since 1987**

N = 51



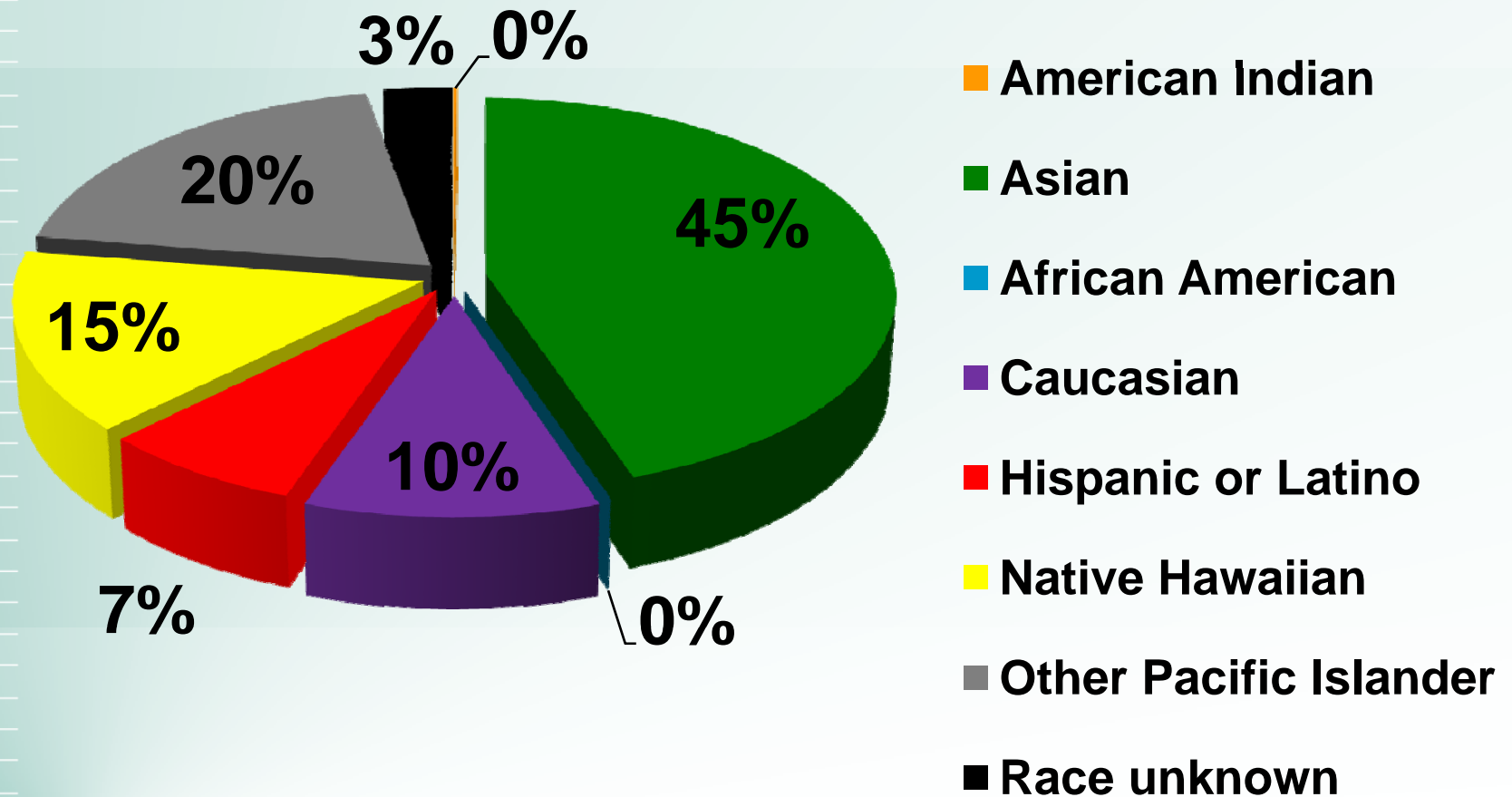
How many people do we employ?

<u>Classification</u>	<u># in 2007</u>
Management	191
Office support	37
<u>Labor</u>	<u>703</u>
TOTAL	903
Cox & Hollyer (1987)	605

Average turnover rate (06-07) = 14% N = 30



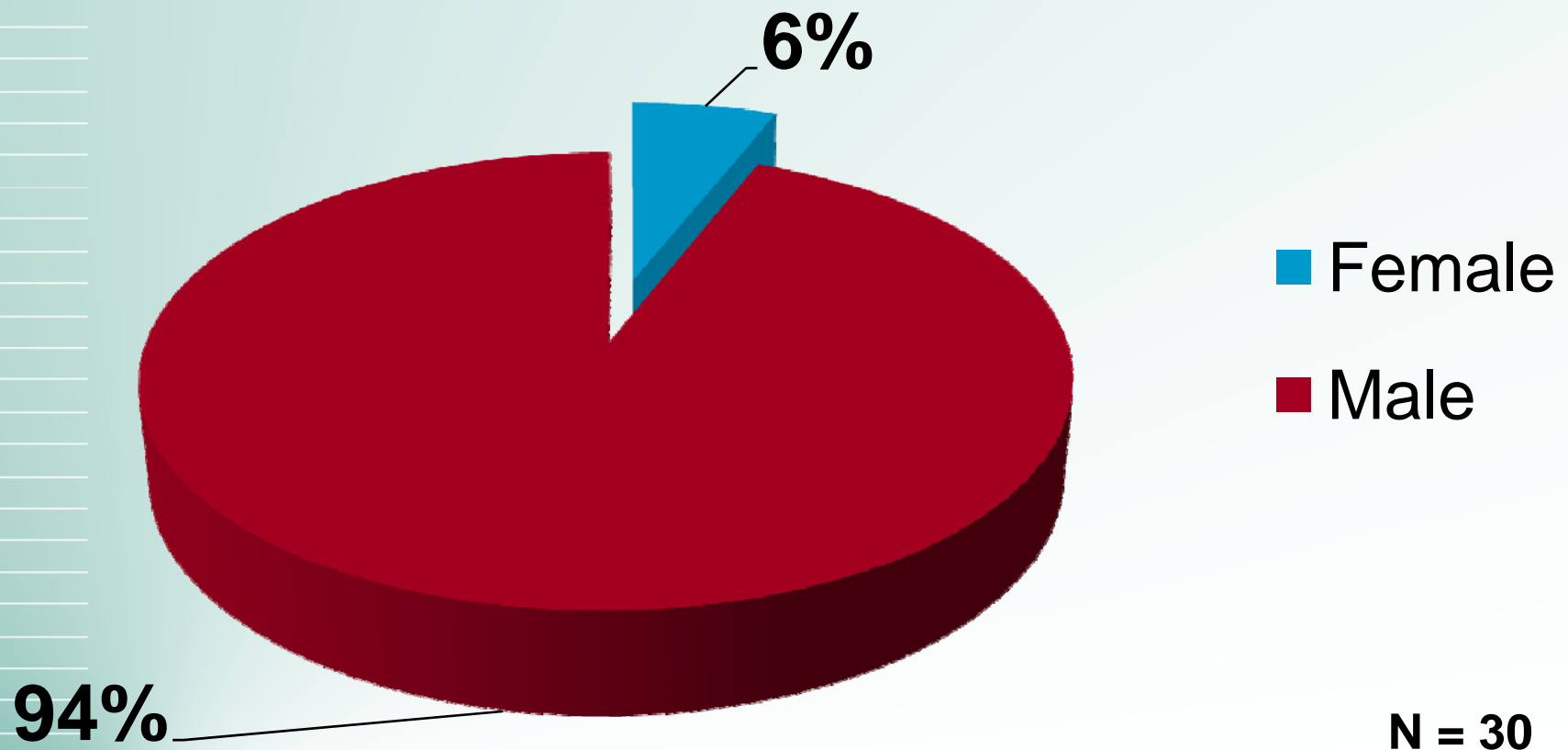
Ethnicities of Golf Course Maintenance Employees in 2007



N = 30



Gender of Golf Course Maintenance Employees in 2007



What are we growing?

<u>Turfgrass Species</u>	<u>Total Acres</u>
Bermudagrass (Common)	4168
Bermudagrass (Hybrid)	4268
<u>Seashore paspalum</u>	<u>657</u>

Over 44% of all new renovations were seashore paspalum in 2007

N = 51

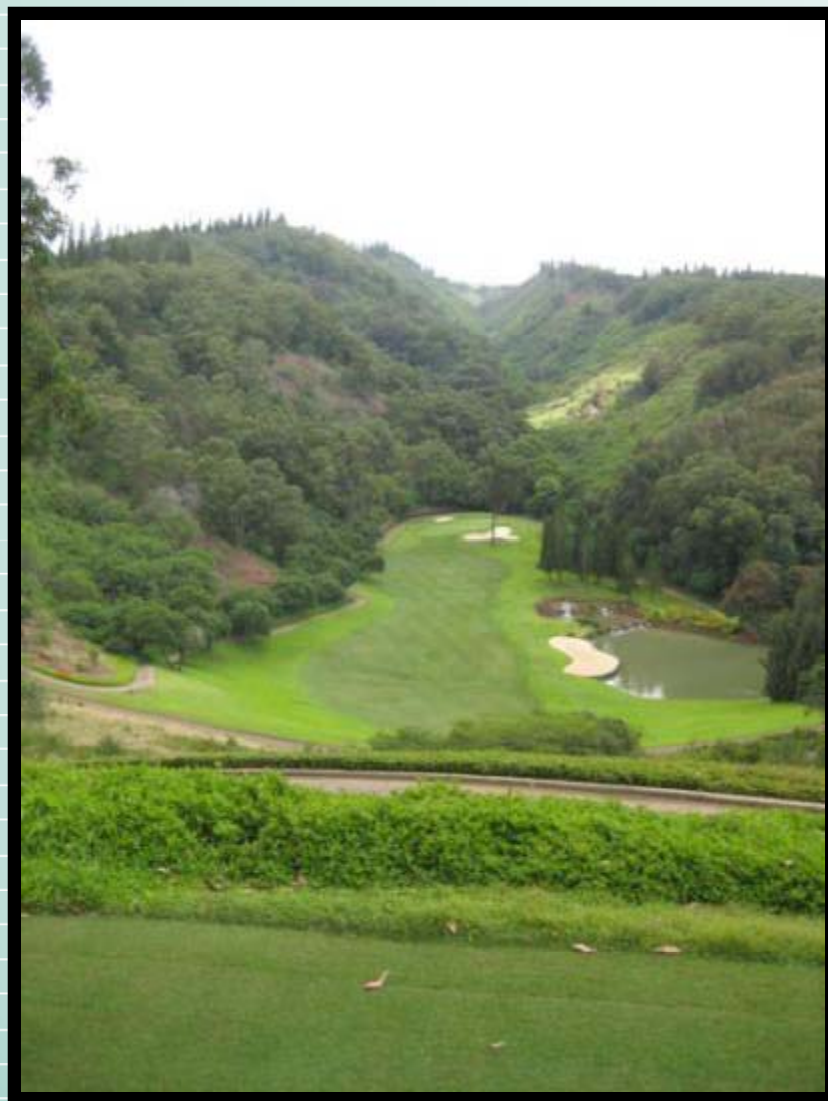


How much are we spending?

<u>Expenditure</u>	<u>Dollars</u>	<u>Dollars/ Acre</u>
Maintenance	\$68.6 million	\$7,198
<i>MI</i>	<i>\$83.0 million</i>	<i>\$866</i>
<i>NJ</i>	<i>\$111.3 million</i>	<i>\$2,924</i>
<i>NY</i>	<i>\$325.1 million</i>	<i>\$3,203</i>

N = 37





**Fewer courses +
Longer season =
More traffic**



**More
maintenance**

**Cost of doing
business in HI**



How much are we spending ?

<u>Expenditure</u>	<u>Dollars</u>	<u>Dollars/ Acre</u>
Labor	\$39.9 million	\$4,192
<i>MI</i>	<i>\$126.2 million</i>	<i>\$1,317</i>
<i>NJ</i>	<i>\$125.6 million</i>	<i>\$3,297</i>
<i>NY</i>	<i>\$325.1 million</i>	<i>\$2,337</i>

21 million TOTAL (Maintenance + Labor) in Hawaii in 1987

N = 35



What are we spending our money on?

2007

<u>Expenditure</u>	<u>Dollars/Acre</u>
Capital imprvmt.	\$1,207 (\$784)
Irrigation equip./repair	\$ 381 (\$51)
<u>Equipment (new)</u>	<u>\$ 313 (\$342)</u>

NY data (2003)







What else?

2007

Expenditure

Dollars/Acre

Herbicides	\$79	(\$31)
Fungicides	\$47	(\$167)
Insecticides	\$26	(\$36)
Fertilizer	\$208	(\$111)
Topdressing sand	\$83	(\$40)
Irrigation water	\$256	(\$11)

NY data (2003)





Water

5,307 irrigated acres

18,118,000 gallons per day

1,900 gallons per acre per day

N = 30

Maintenance Challenges

Out of 18 choices:

Weed management

Labor

Equipment maintenance



Educational Needs

Out of 15 choices:

Weed management

Rootzone management

Equipment maintenance





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Conclusion

- 69 million on maintenance
- 39 million on labor
- Fewer courses, longer playing season
- 900 jobs (reported)
- More responses would give a clearer picture
- Salaries ??

Acknowledgements



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