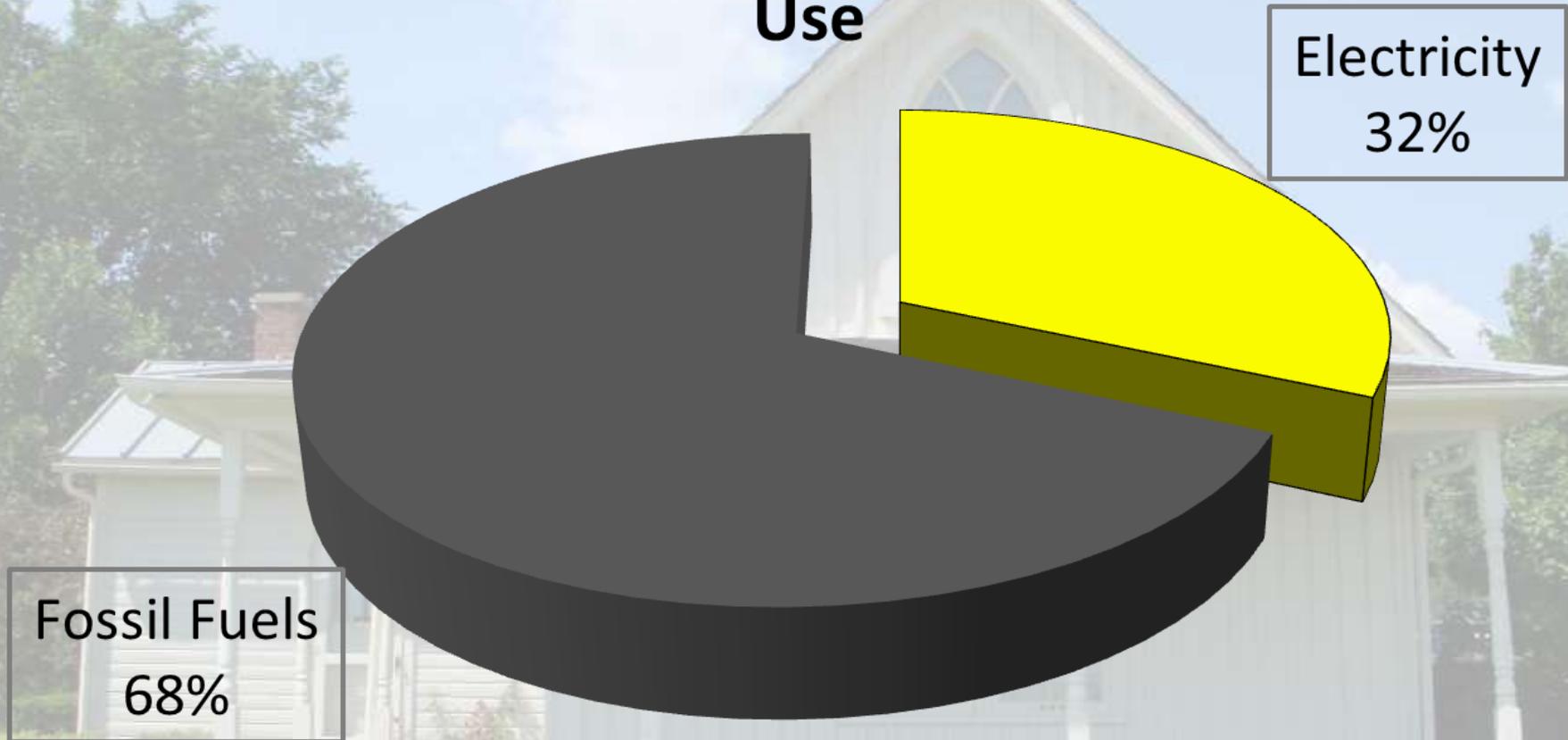


Home Grown Fuel at the University of Iowa

IDEA Annual Conference
June 29, 2015

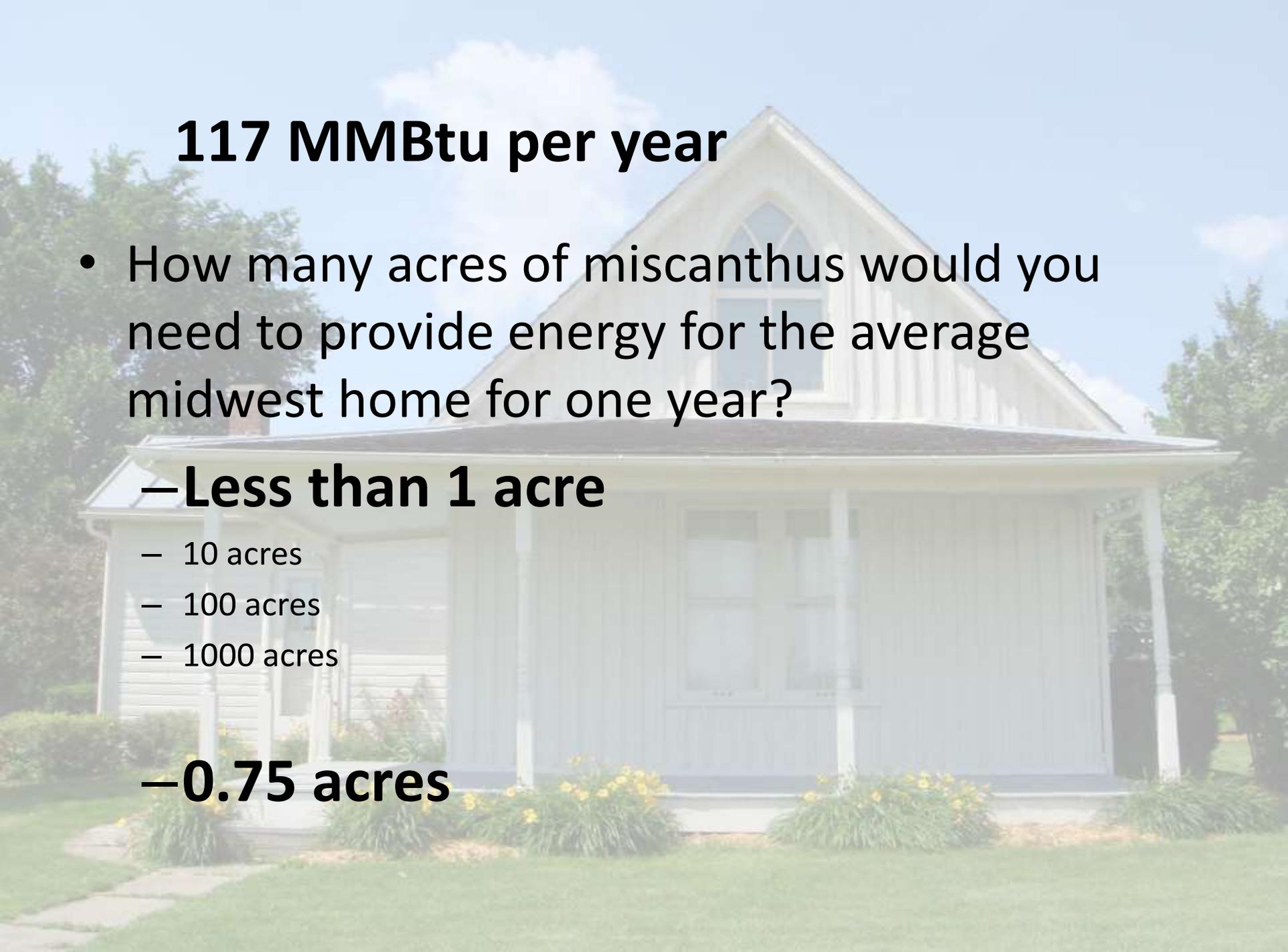
Average Midwest Home Annual Energy Use



117 MMBtu per year

117 MMBtu per year

- How many acres of miscanthus would you need to provide energy for the average midwest home for one year?
 - Less than 1 acre
 - 10 acres
 - 100 acres
 - 1000 acres



117 MMBtu per year

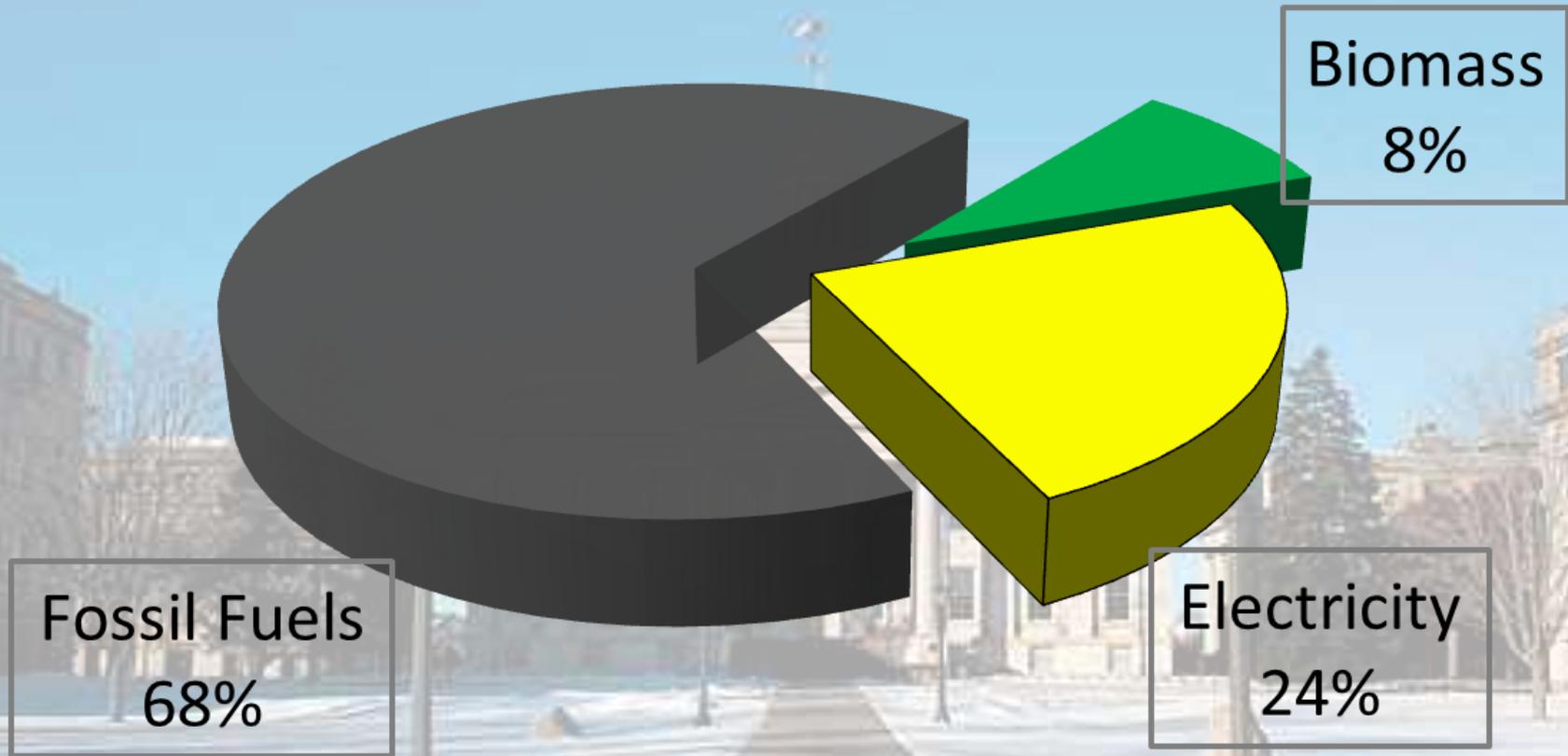
- How many acres of miscanthus would you need to provide energy for the average midwest home for one year?

– Less than 1 acre

- 10 acres
- 100 acres
- 1000 acres

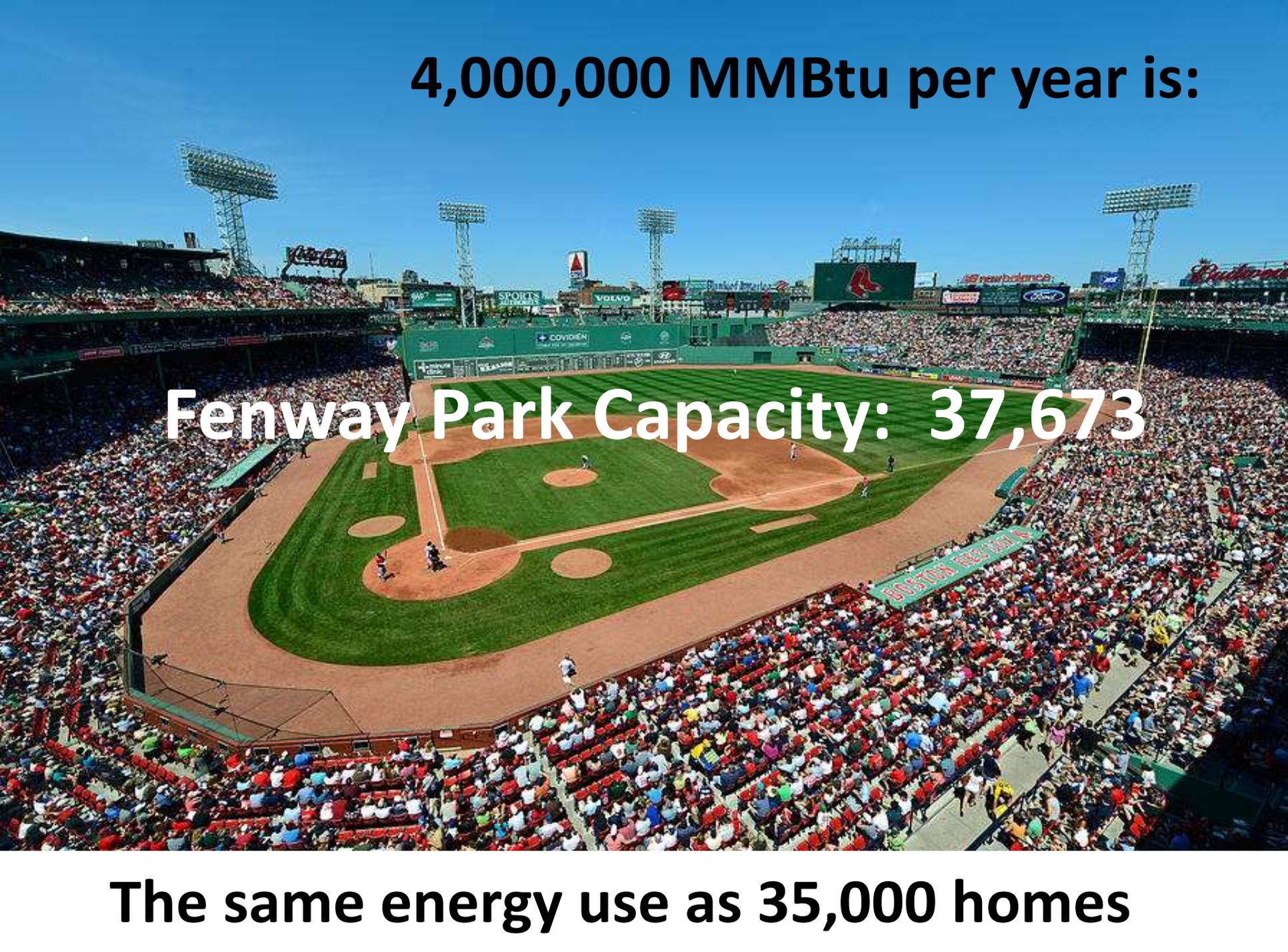
– 0.75 acres

UI 2010 Baseline Energy Use



4,000,000 MMBtu per year

4,000,000 MMBtu per year is:

An aerial photograph of Fenway Park baseball stadium during a game. The field is green with brown dirt base paths. The stands are packed with a large crowd of spectators. Several large stadium lights are visible in the background against a clear blue sky. The text "Fenway Park Capacity: 37,673" is overlaid in white on the field area.

Fenway Park Capacity: 37,673

The same energy use as 35,000 homes

4,000,000 MMBtu per year

- What is the UI annual energy budget (fuel and electricity) for 2015-2016?
 - \$1 Million
 - \$30 Million
 - \$200 Million
 - \$3 Billion

4,000,000 MMBtu per year

- What is the UI annual energy budget (fuel and electricity) for 2015-2016?

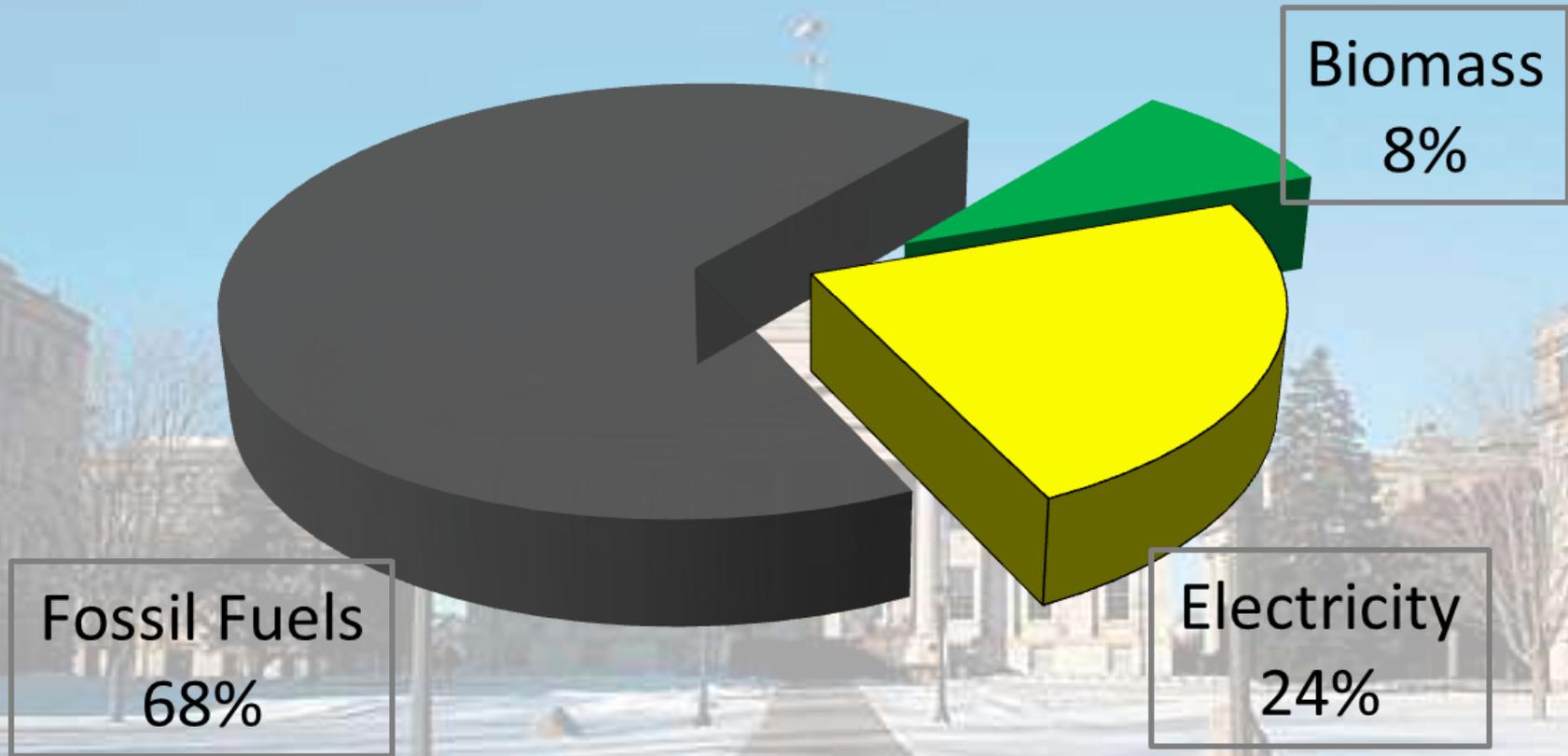
- \$1 Million

- **\$30 Million**

- \$200 Million

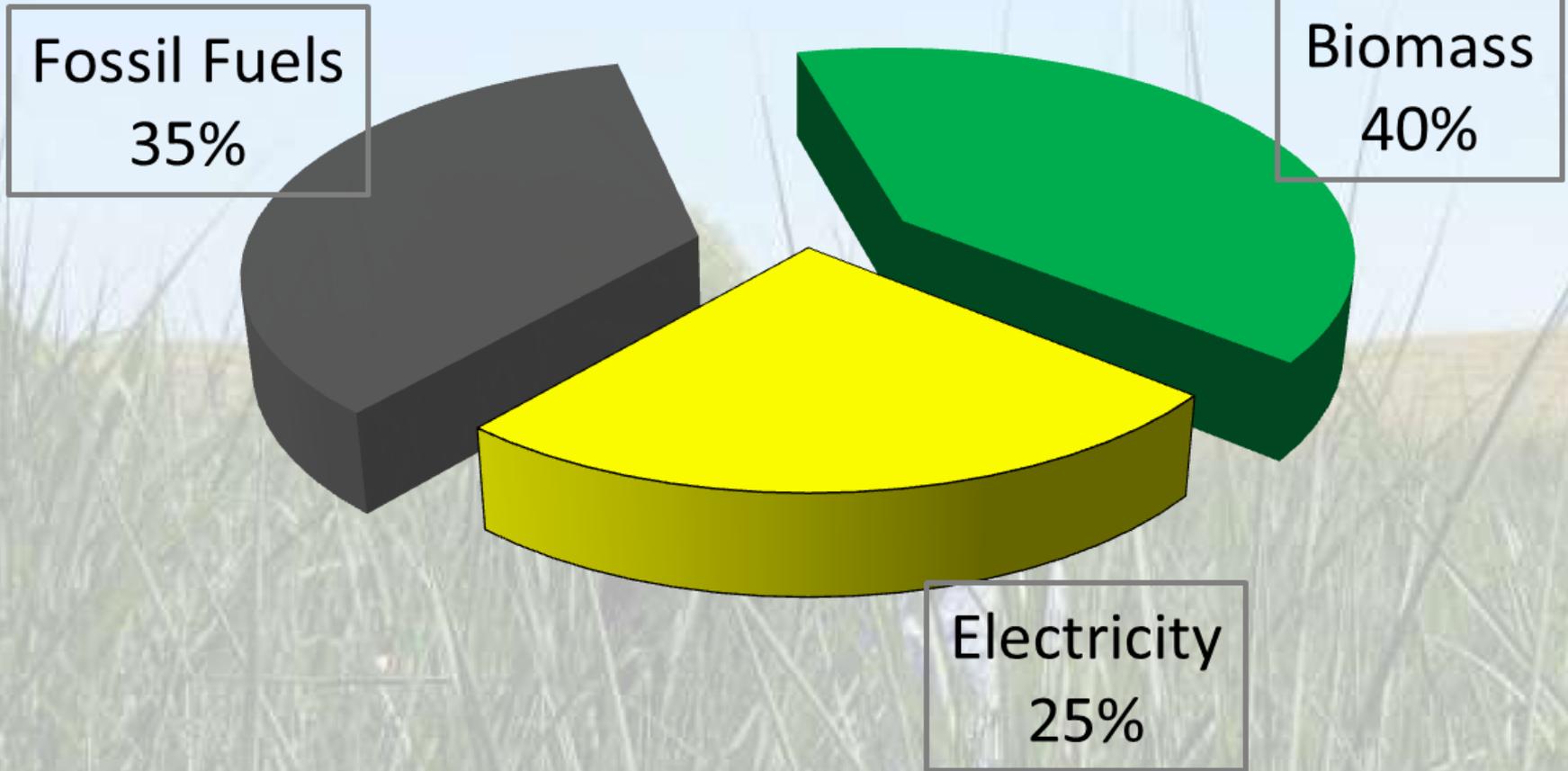
- \$3 Billion

UI 2010 Baseline Energy Use



4,000,000 MMBtu per year

UI 2020 Projected Energy Use



4,000,000 MMBtu per year

40% biomass at UI is...

Boston Garden capacity: 17,565



the same energy as 14,000 homes

Benefits of Biomass at UI



UI wood chip storage River Trading Company Muscatine, IA







Science-based Trials of Rowcrops Integrated
with Prairie Strips www.prairiestrips.org

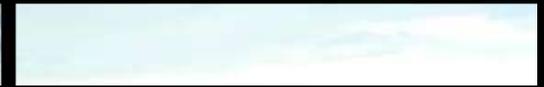
Slide courtesy of Matt
Helmert, Iowa State
University.



100% crops



10% prairie



100% prairie

Photo credit: Jose Gutierrez



100% crops



90% crops : 10% prairie



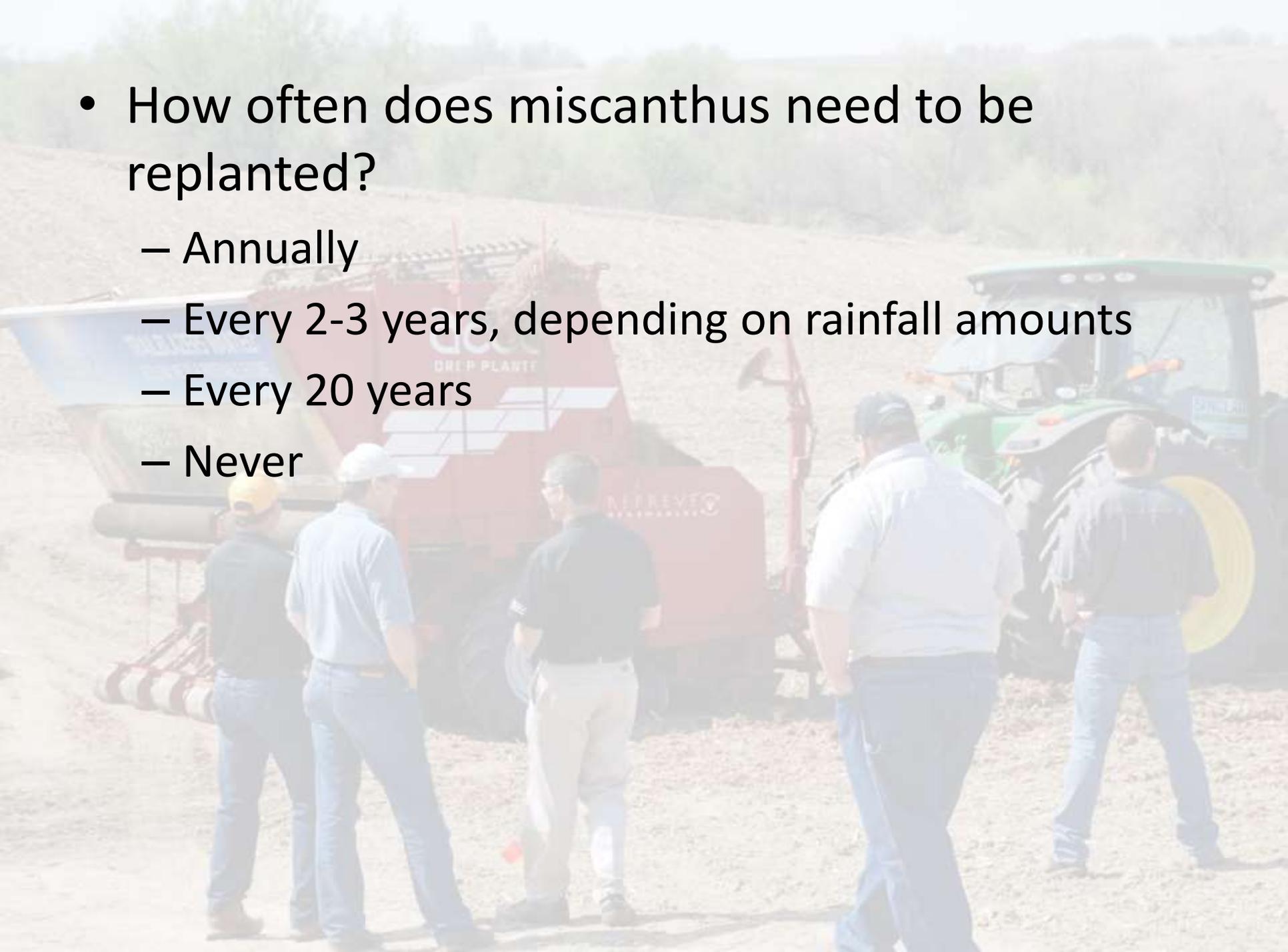
100% prairie

(Helmert, M.J., et al., *Sediment removal by perennial filter strips in row-cropped ephemeral watersheds*. Journal of Environmental Quality, 2012. 41(5): p. 1531-1539.)

Planting Day 2014
Dan Black Farm
13 Acres



- How often does miscanthus need to be replanted?
 - Annually
 - Every 2-3 years, depending on rainfall amounts
 - Every 20 years
 - Never



- How often does miscanthus need to be replanted?
 - Annually
 - Every 2-3 years, depending on rainfall amounts
 - **Every 20 years**
 - **Never**



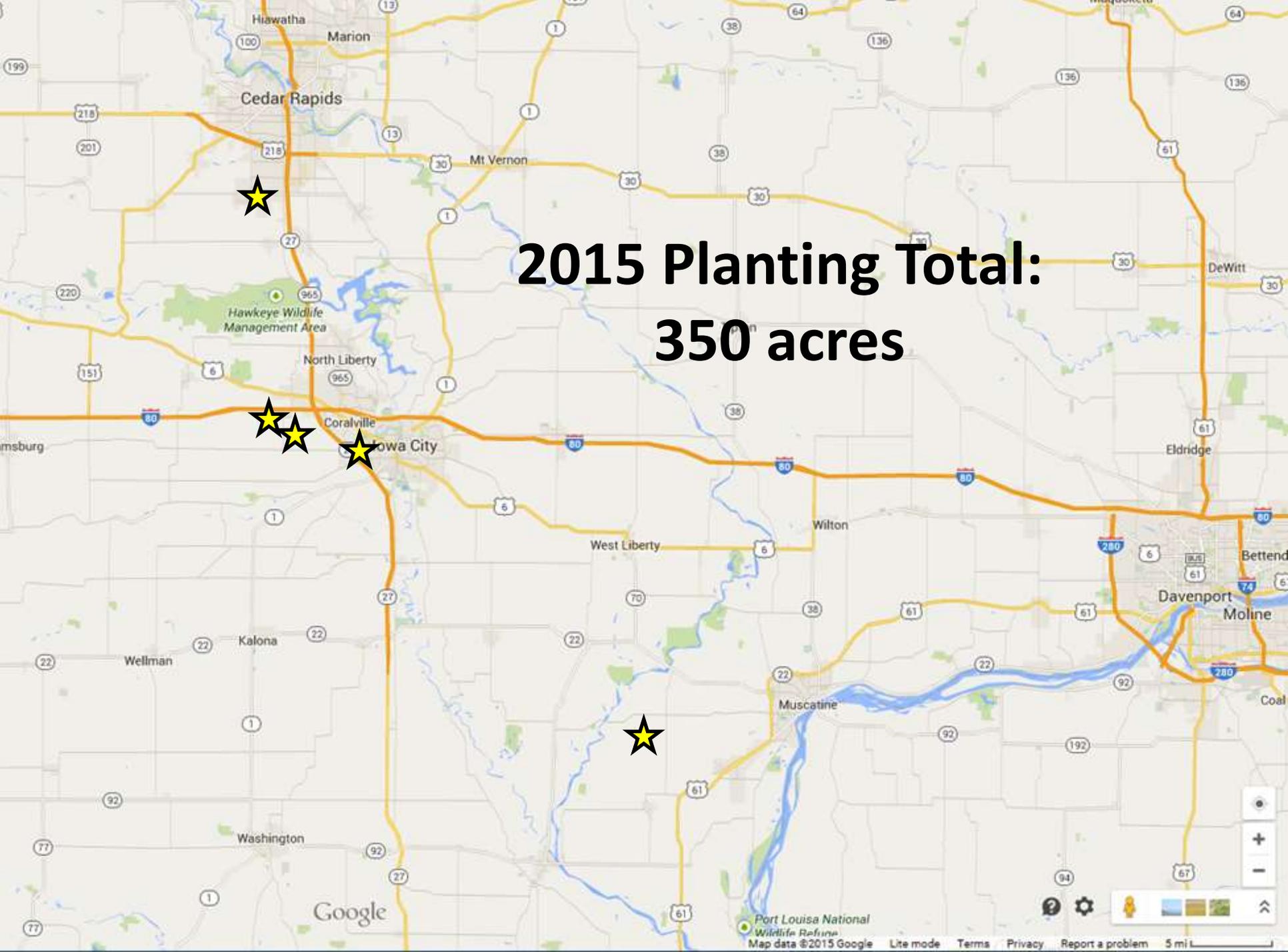


Field Day September 2015

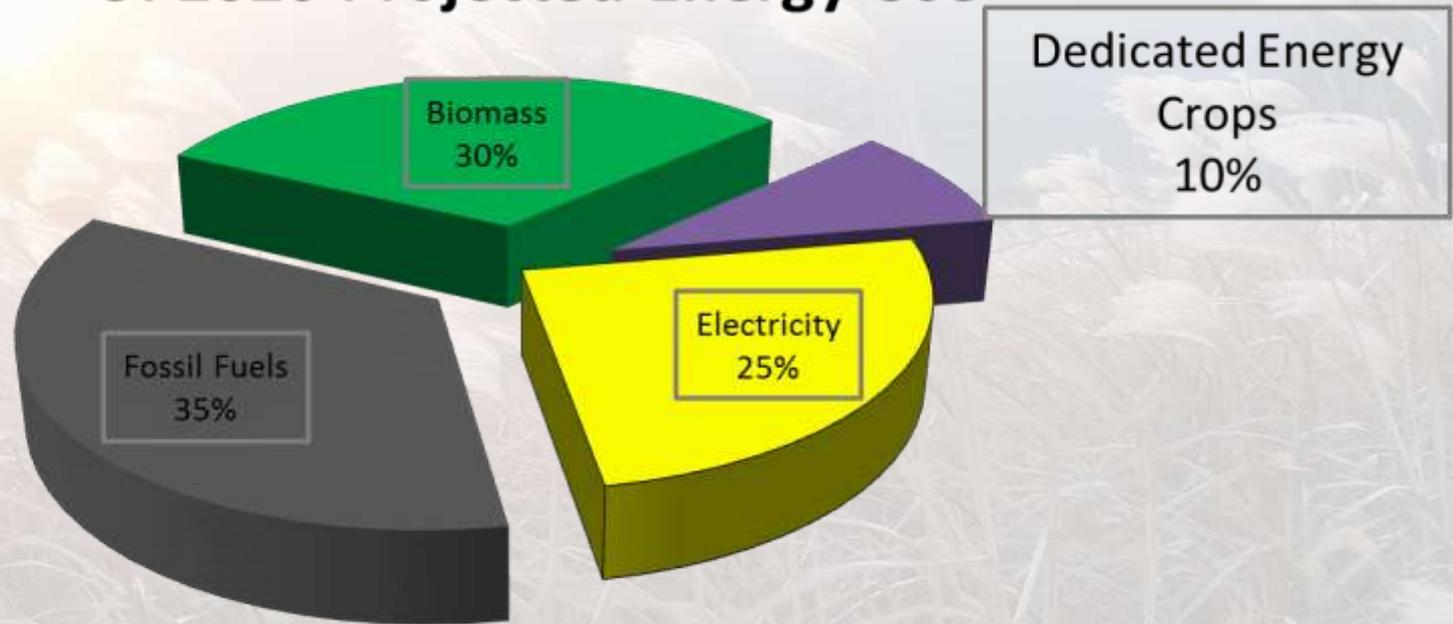
Dan Black Farm



**2015 Planting Total:
350 acres**



UI 2020 Projected Energy Use



The 400 acres planted so far is equal to the annual energy use of 475 homes...



**Most conference participants homes 100%
renewable**





Thank you for your attention.

Ben Fish
University of Iowa