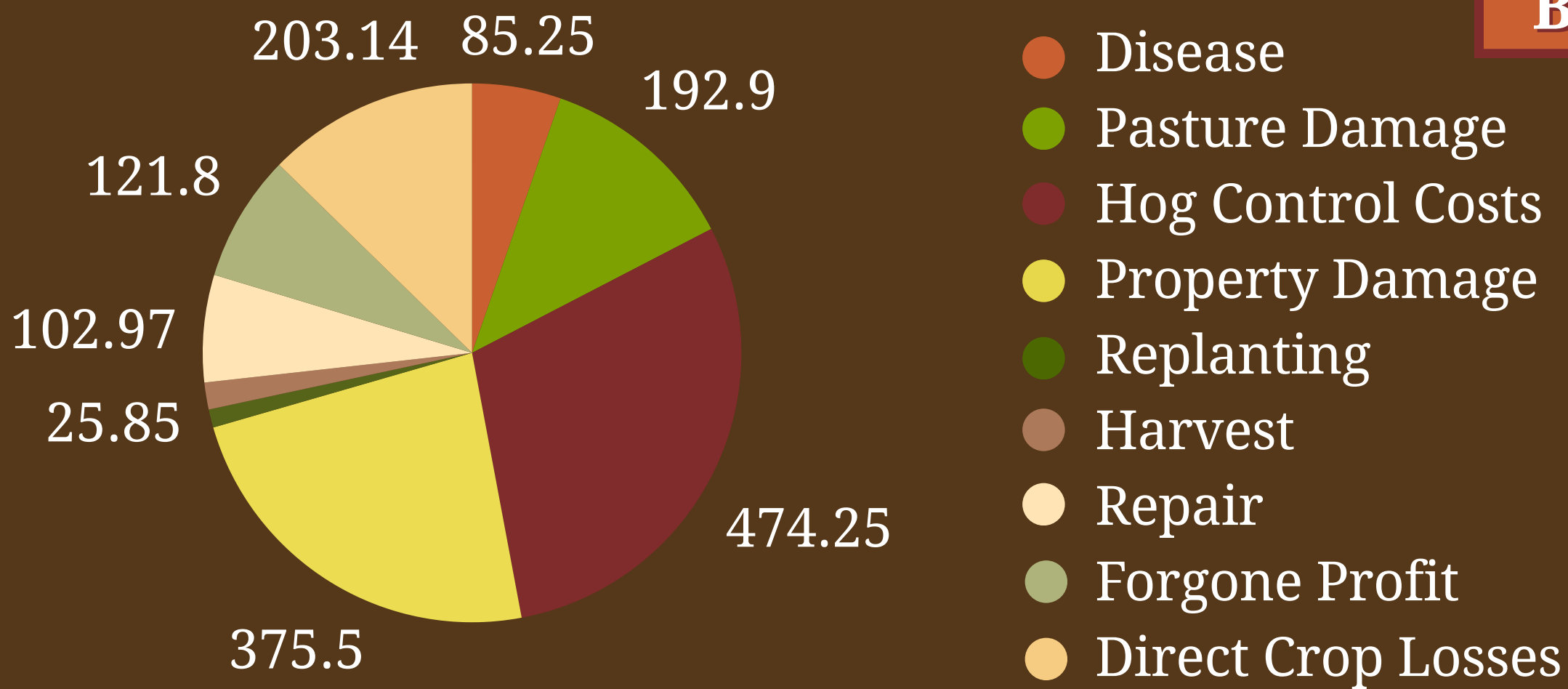


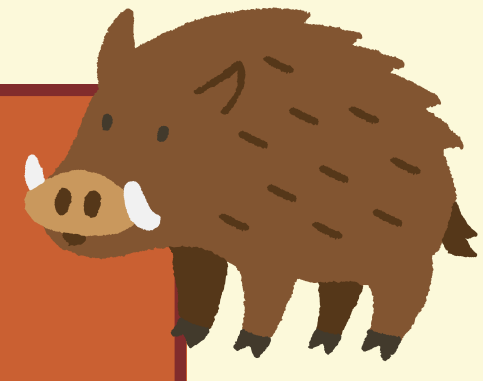
Deepali Kanchanavally, Lauren Brandt, Kayli Keophy, William Soranno, Jin Hao Cao

Cost of Feral Hogs to Farm Operations (in millions)



USDA APHIS National Wildlife Research Center

\$1.5 BILLION ECONOMIC DAMAGES expected in 2026



The Problem

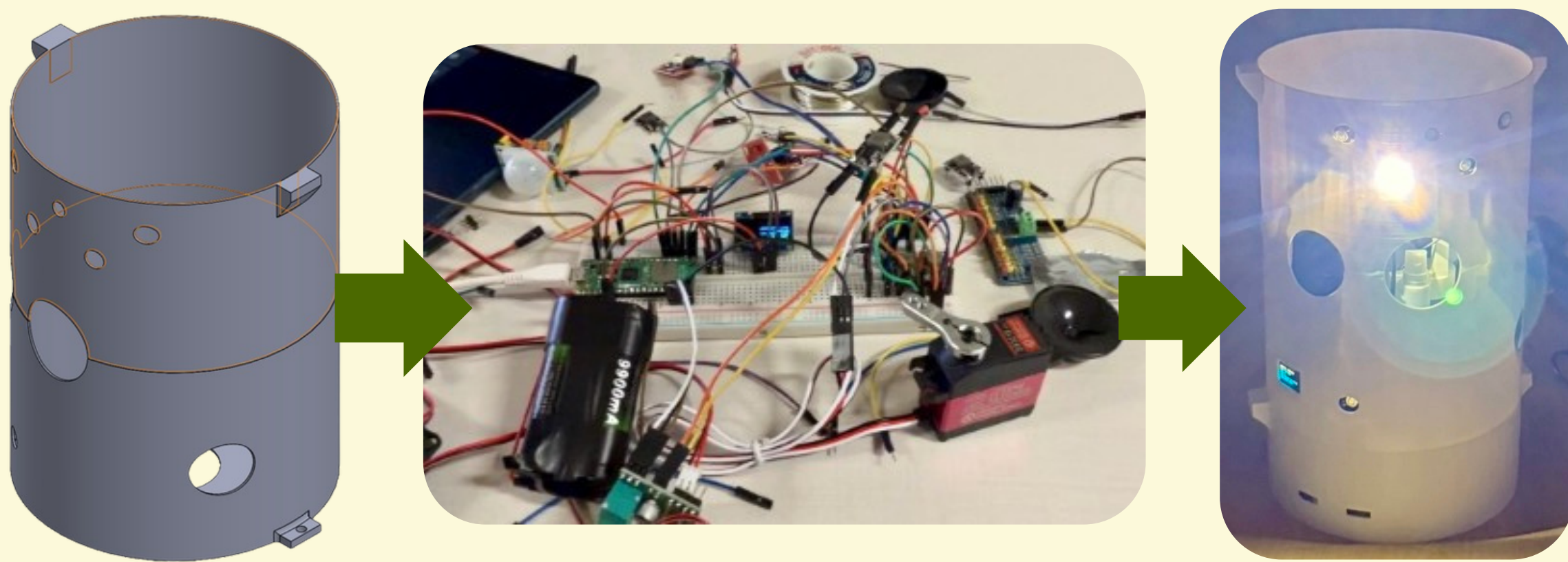
- High reproduction rate
- Causes severe soil disruption through rooting and wallowing
- Destroys crops, native vegetation, and soil structure
- Spreads diseases and parasites
- Able to learn and adapt

Current Efforts

Hunting | Aerial shooting | Trapping | Fencing | Birth Control
PASSIVE ENGAGEMENT → HABITUATION & LEARNING → INEFFECTIVE

Our Solution

- Thermal detection-based deterrent system
- Uses randomized multi-sensory outputs (light, sound, scent)
- Prevents behavioral adaptation through unpredictability
- Targeted activation reduces energy use and increases efficiency



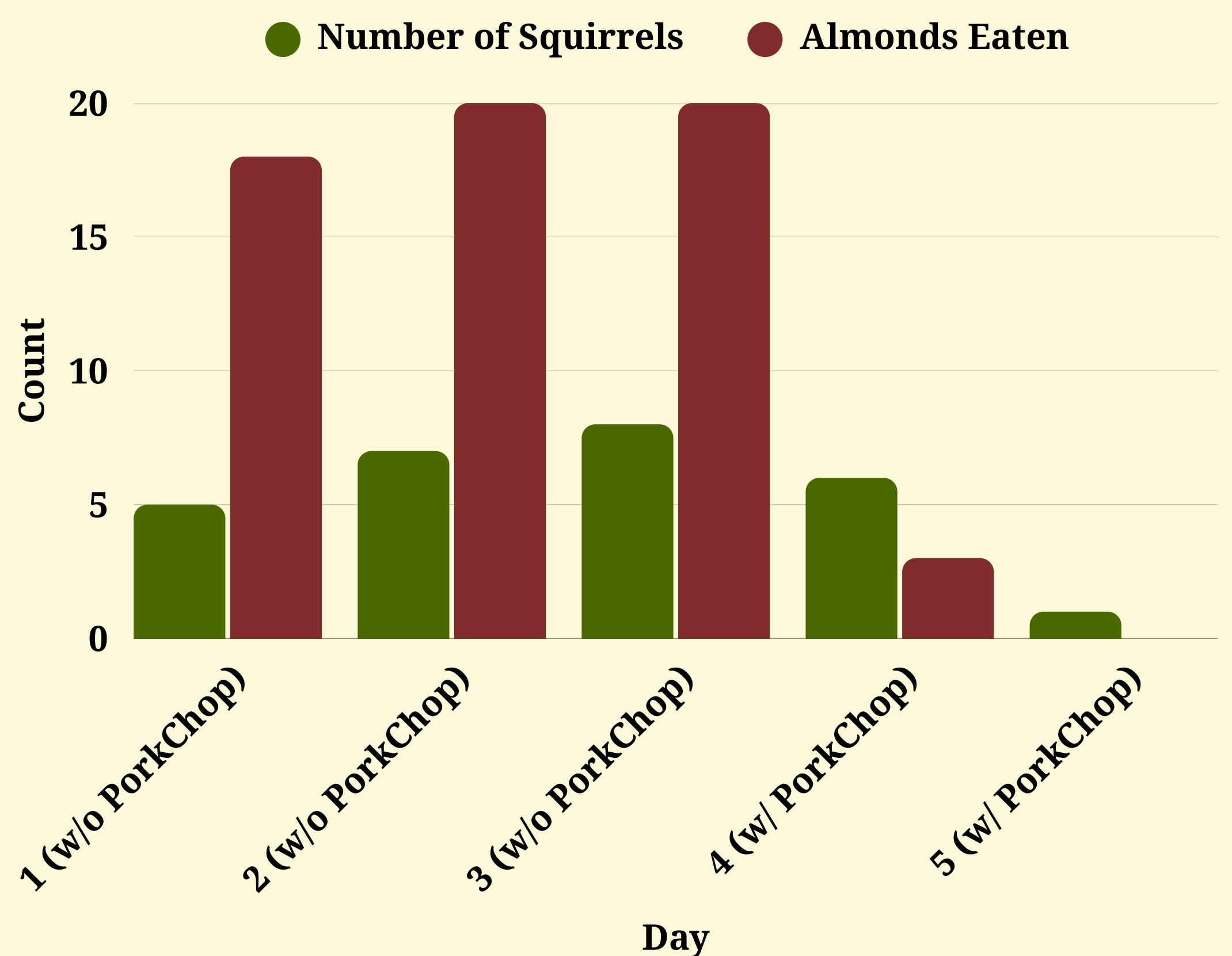
Experiment

WHAT WE DID:

- Pile of 20 of almonds per day near areas with high squirrel populations
- Placed the device to scare squirrels away from the almonds
- Observed the frequency of squirrel encounters and almonds that remained at the end of the day



Squirrel Experiment



Sales, Scales, and Details

Early Adopters

- Farmers in the South
 - Low-cost (~\$150/unit)
 - Minimal maintenance
 - Wide coverage → fewer devices needed

Looking Ahead

- Small scale tests (Cumberland Island)
 - Patrick Helm (Park Ranger & Wildlife Biologist)
- Expand to other invasive species

