Development and Implementation of Innovative Food Safety Training Tools for the Production and Distribution of Microgreens

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Problem Statement / Issue Definition:

- Microgreens share characteristics with both sprouted seeds and petite greens.
- Food safety issues may emerge as the number of indoor microgreens producers increases.
- Currently, training and preventive controls specific to the microgreens industry—and controlled environment agriculture (CEA) generally—are lacking.

The **long-term goal** of this project is to decrease potential food safety risks related to the production and distribution of microgreens, an emerging salad crop for which minimal information is available.

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Approach / Methods:

1. Characterize production and distribution aspects of the microgreens industry.
2. Determine barriers to implementation of GAPs within microgreens operations using environmental assessments.
3. Utilize science-based evidence to develop commodity-specific training for producers of microgreens.
4. Utilize science-based evidence and regulatory standards to develop commodity-specific guidance documents for buyers and regulators of microgreens.
5. Deliver and evaluate novel outreach materials targeting producers, buyers, and regulators of microgreens.

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Results / Outcomes:

- Nationwide Consumer Survey
  - 660 respondents who prepare and eat microgreens
    - Overall, confident in handling and preparing microgreens
    - Lack clarity on the difference between microgreens and sprouts
    - Unsure of microgreen food safety risks
    - Disconnect between reported practices and knowledge

https://all-about-microgreens.org/

https://doi.org/10.1016/j.foodcont.2022.109470

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Results / Outcomes:

- Content analysis of web-based microgreens grower training materials
  - Google = 86; YouTube = 137
  - Minimal coverage of food safety principles with several areas minimally or not addressing specific information
  - Often unclear or presenting conflicting information
  - Quality and alignment of microgreens training materials with the PSR need to be improved

https://doi.org/10.1016/j.jfp.2022.100021

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Results / Outcomes:

- Semi-structured interviews with microgreens growers (N=48)
  - Unsure about FSMA regulations specific to their operations.
  - Challenge with climate control
  - Cleaning, sanitizing, and disinfecting terms were often used interchangeably.
  - Desire for a single source of microgreens safety information.
  - Current produce safety training doesn't address issues relevant to microgreens growers.

https://doi.org/10.1016/j.foodcont.2023.109836

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Results / Outcomes:

- Novel Outreach Materials
  1. **Website**: https://all-about-microgreens.org
     - Labeling
     - Record keeping
     - Regulatory information link to PSA resources
  2. **Animation**: Overview - “food safety is a part of food quality”: everything that touches your greens should be sanitary
  3. **Interactive**: Surfaces - what comes into contact with microgreens
  4. **Animation**: Clean v. sanitize
  5. **Video**: Sanitize - how to select an appropriate sanitizer (reading labels)
  6. **Animation**: What's H_2O_2 good for?
  7. **What's Video**: Removing Seed Hulls

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Home | Consumers | Growers | About | Contact

Overview Video

Food quality includes food safety

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ON DEMAND COURSE

Keep Surfaces Clean - Interactive

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PLAY

More Videos:

Cleaning and Sanitizing

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Picking a Sanitizer

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Removing Seed Hulls

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Downloadables

Labeling

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Record Keeping

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What about the rules

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Where to get help

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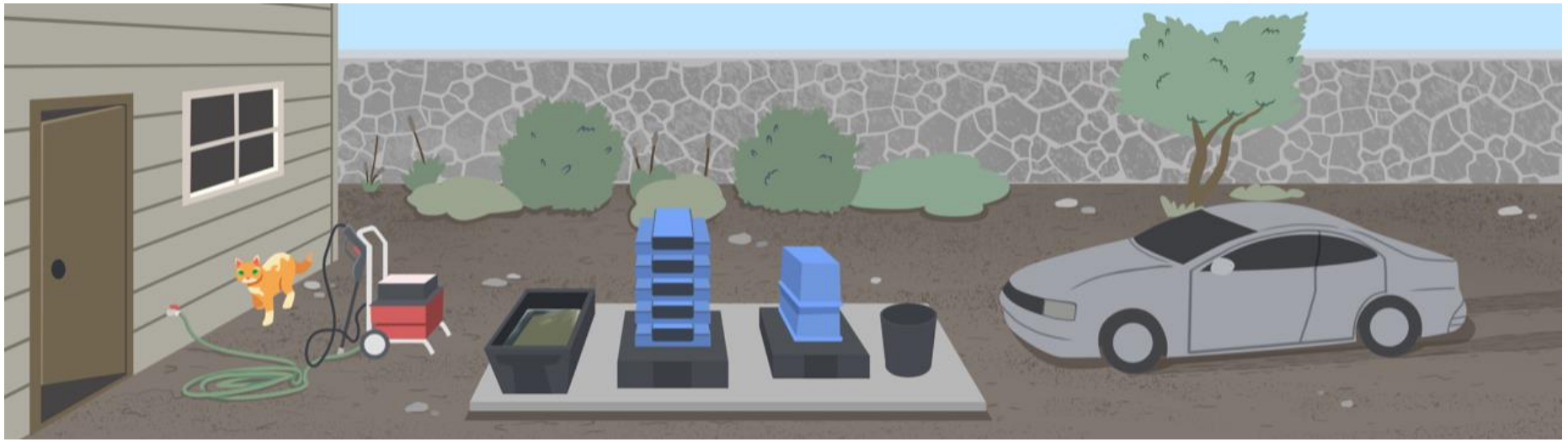

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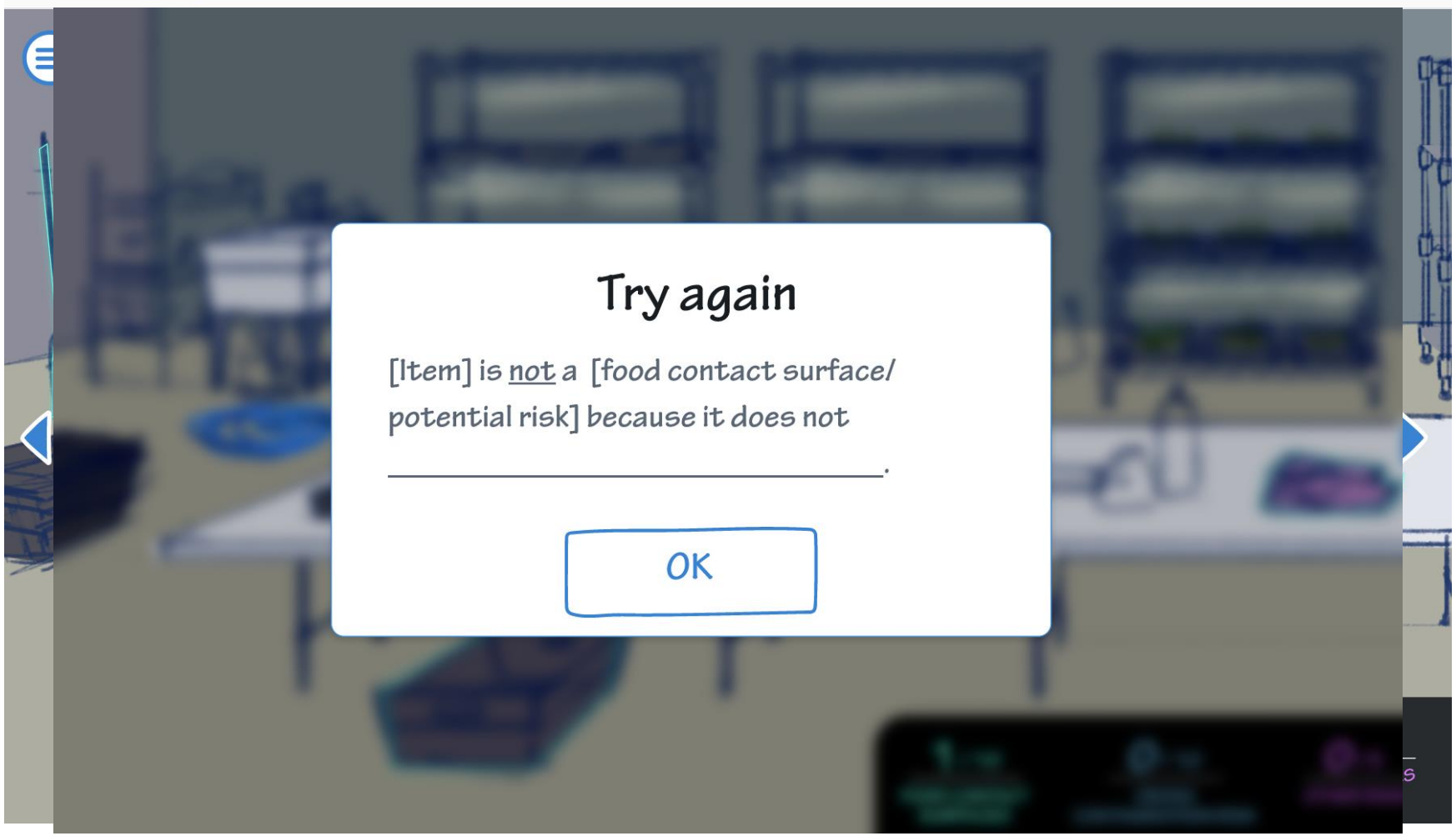

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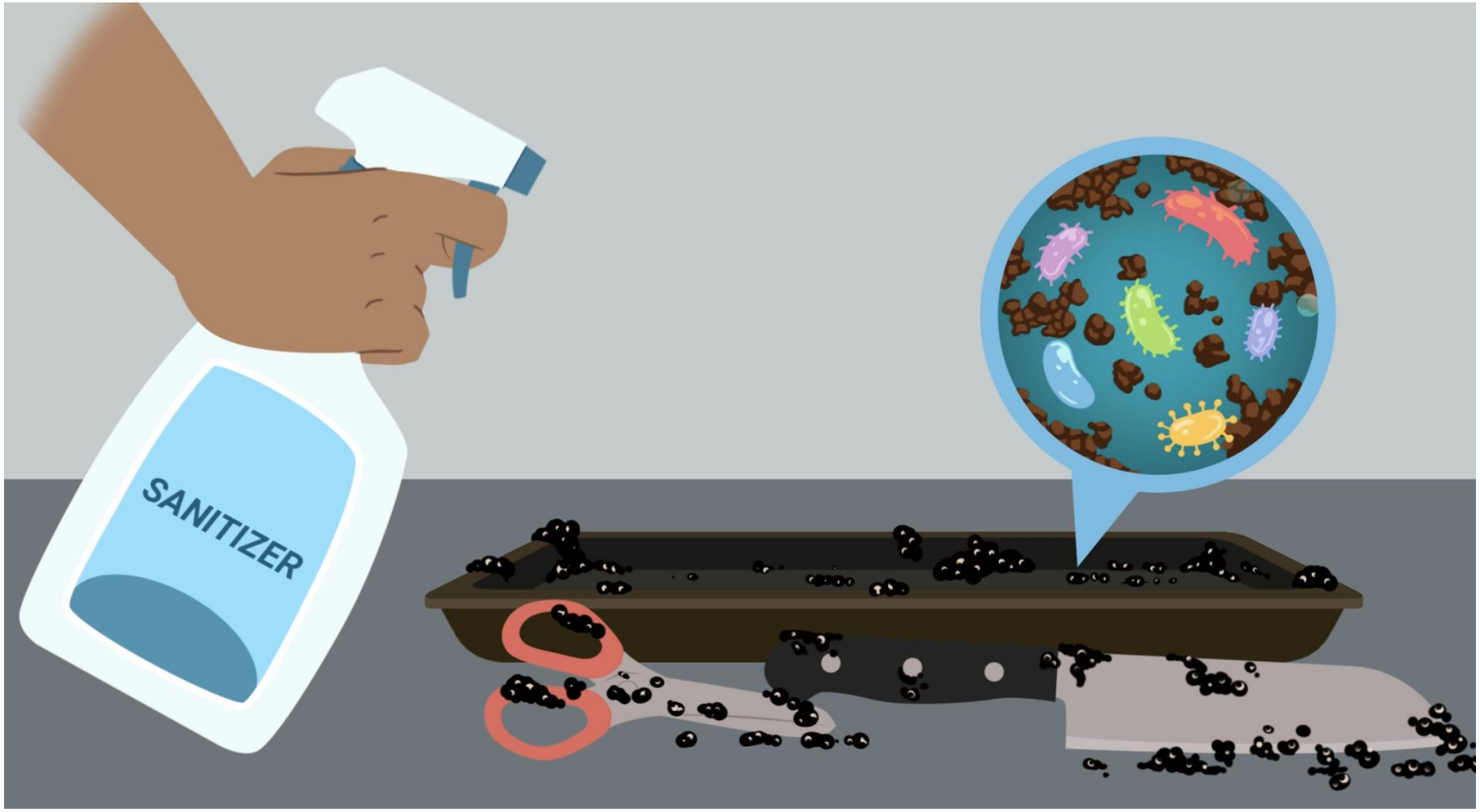

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