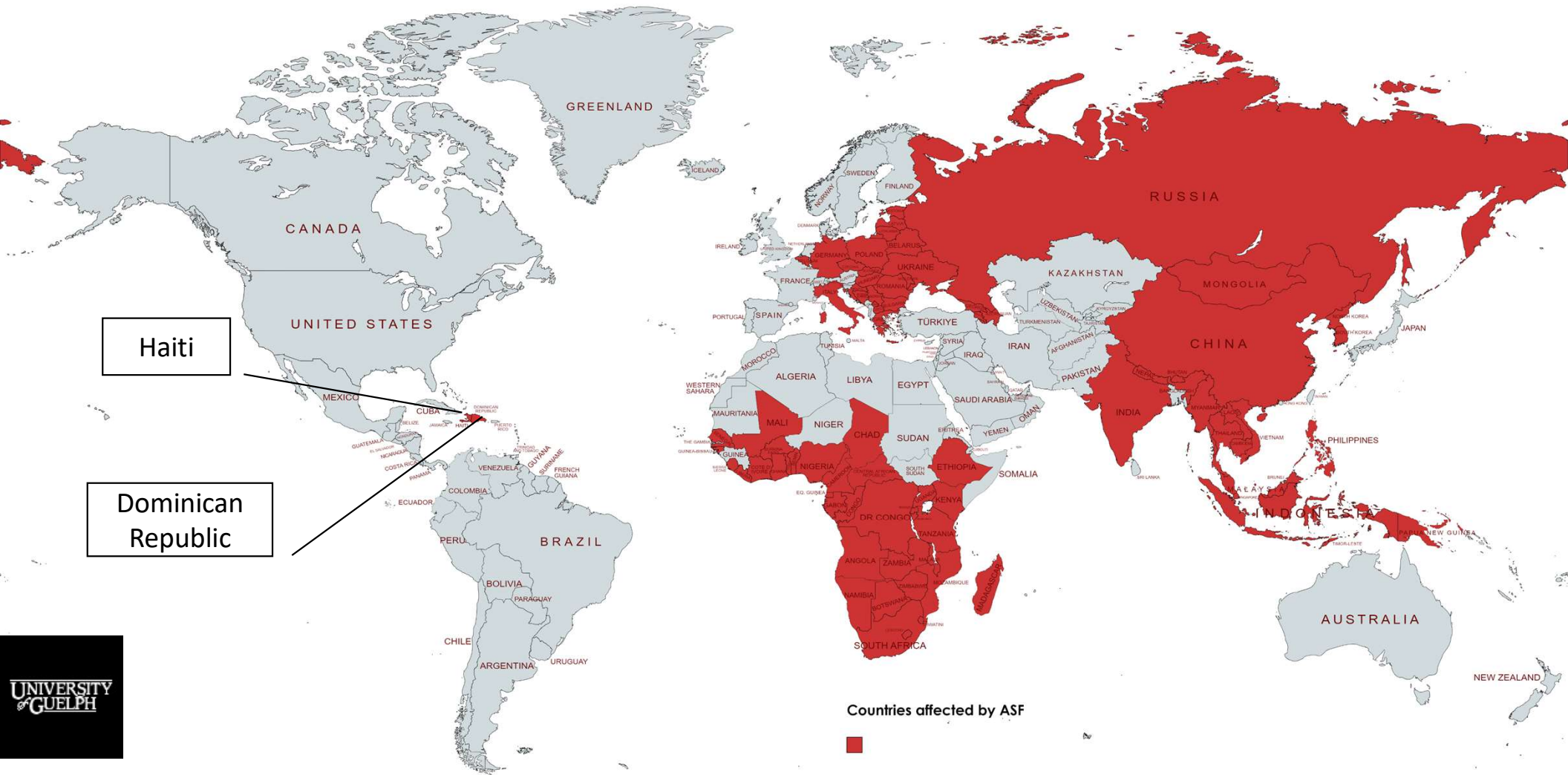




Above Ground Burial

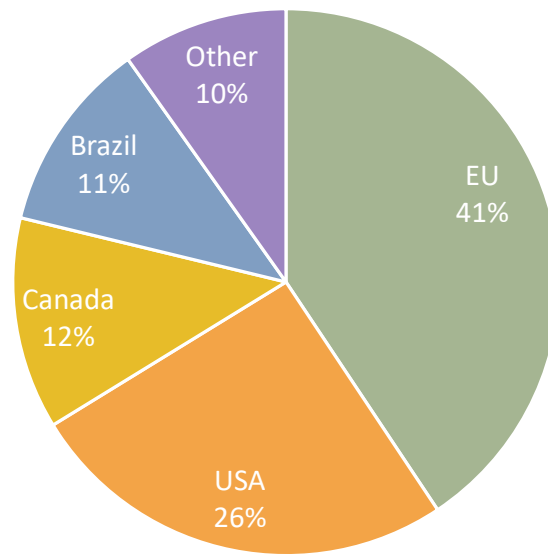
MSc. Candidate Vanessa Matten

African swine fever



Global Pig Trade

Total Exports



USDA, 2022

If a major disease hit Canada...



Overwhelmed
disposal facilities



Limited land
space for burial

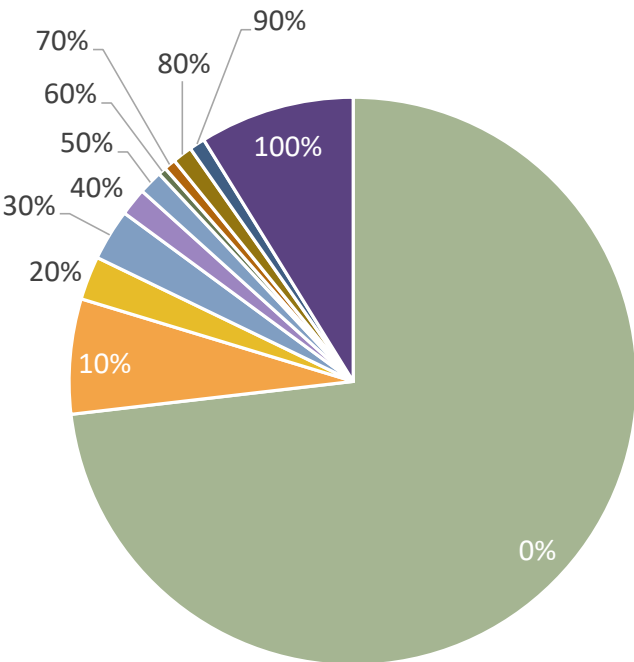


Lack of training
for composting

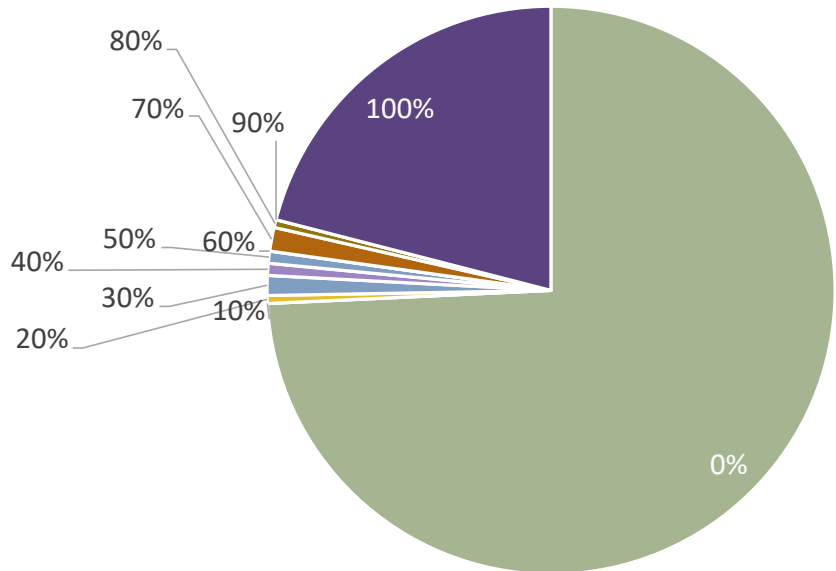


Limited carbon

On farm disposal capacity by premises in Ontario



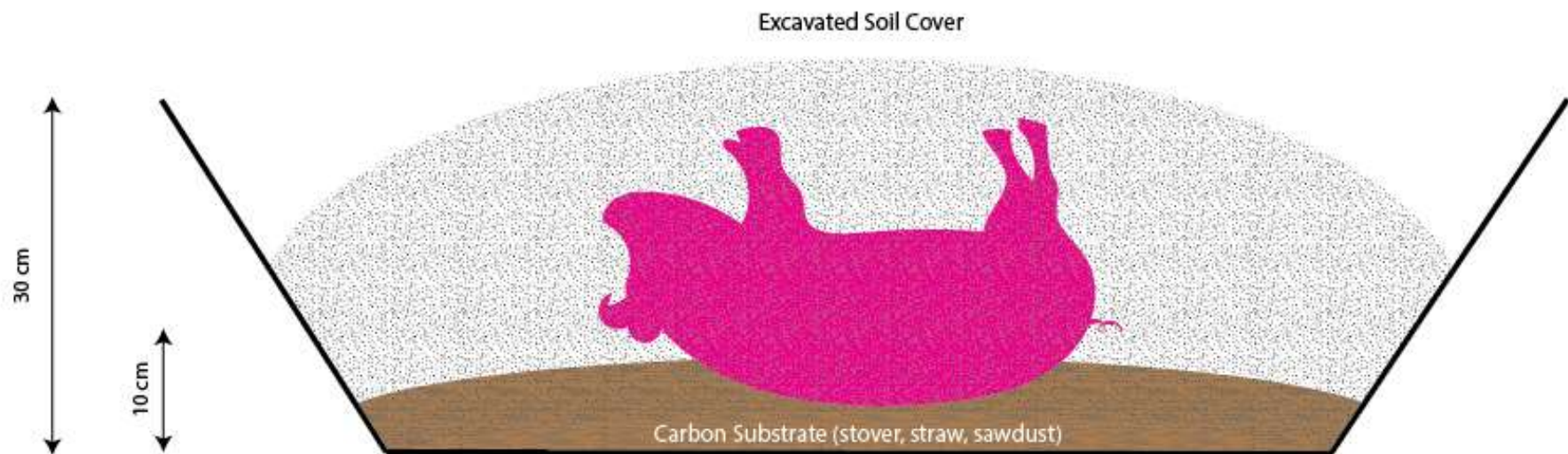
% of land available for burial



% of land available for composting

Data provided by Ontario Pork

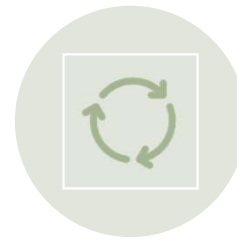
Above Ground Burial



Research Objectives



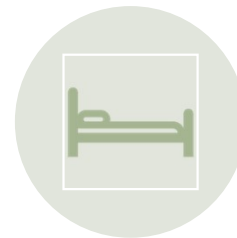
Determine efficacy of ABG for swine mortality disposal in Ontario



Compare impact of bedding materials on mortality degradation.



Determine the seasonal kinetics of mortality degradation.

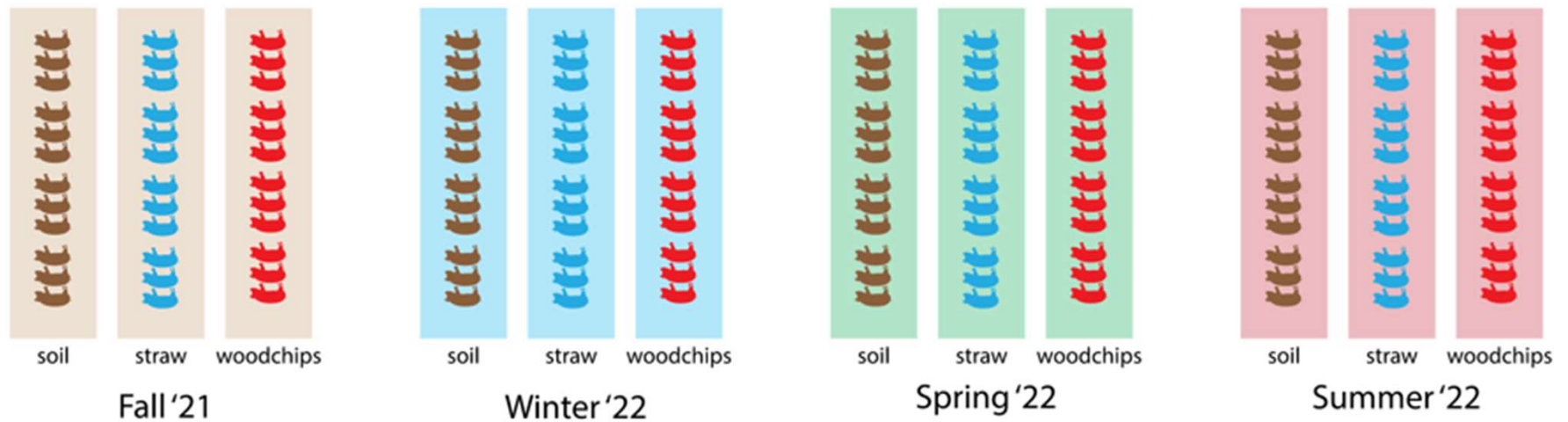


Determine the time required for complete decomposition



Methods-Small AGB Trial

Study Design- Small AGB





Scavenging



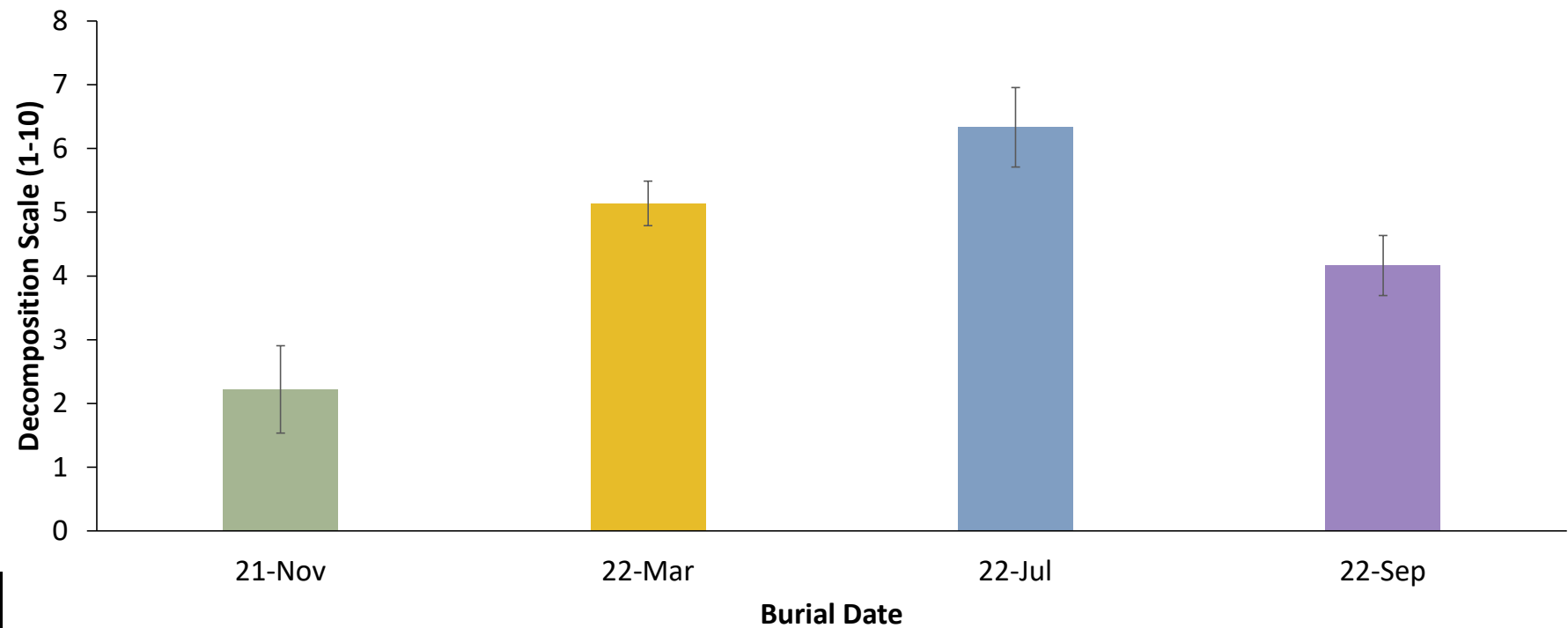
Scavenging and erosion



Erosion and collapse

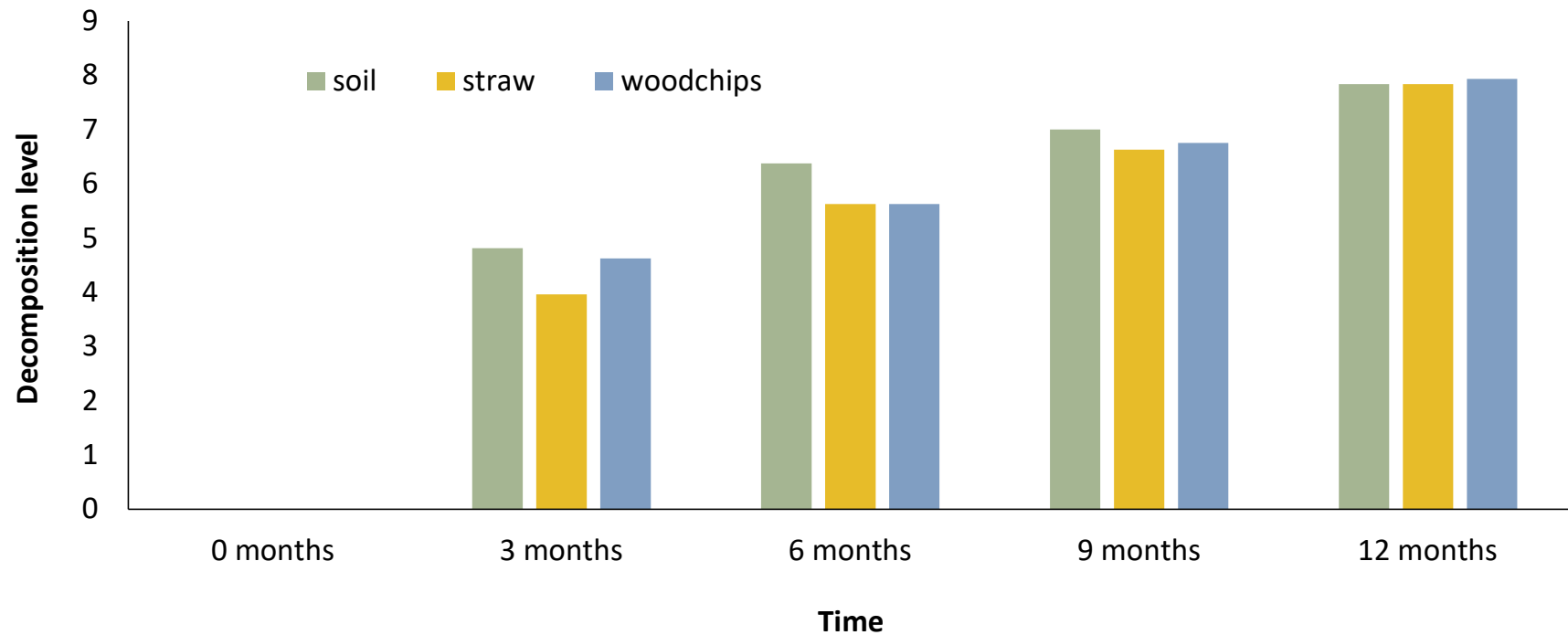
Challenges

Average decomposition after 3 months

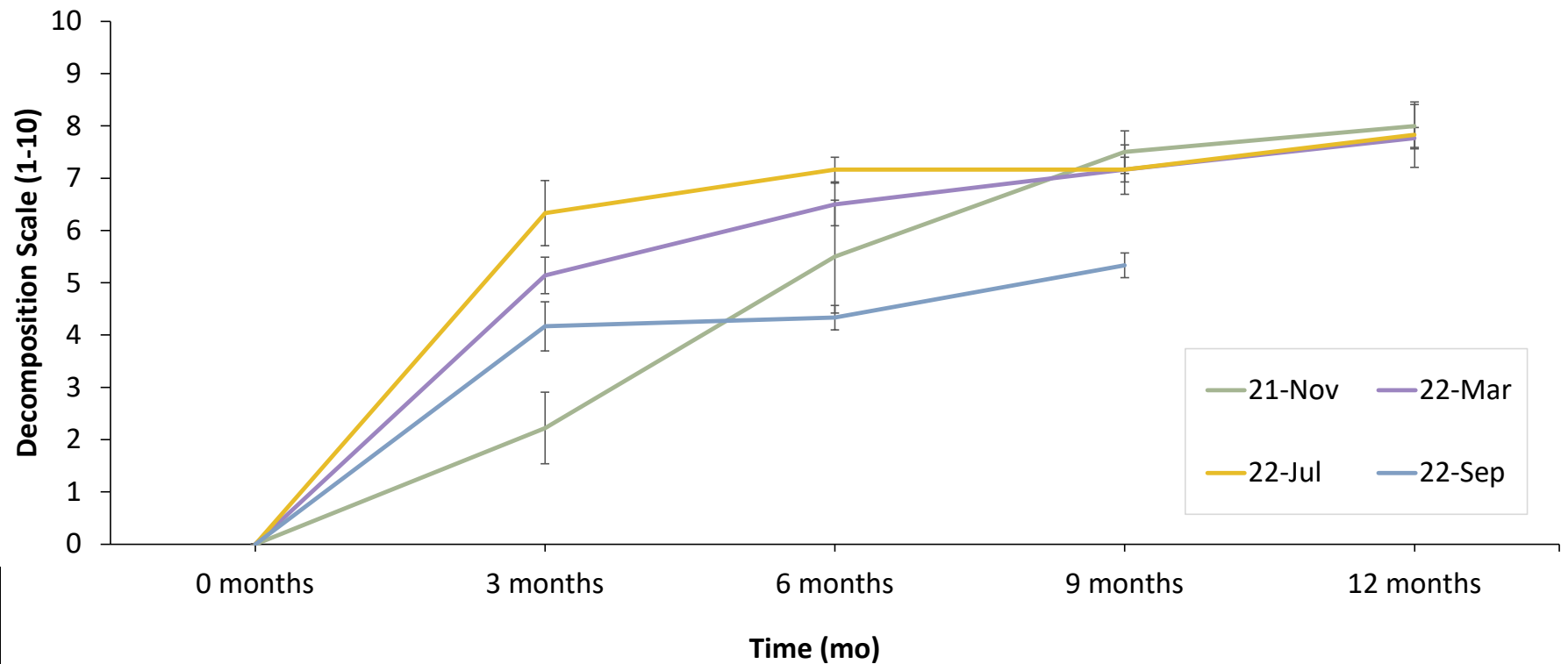


Bedding Material Comparison

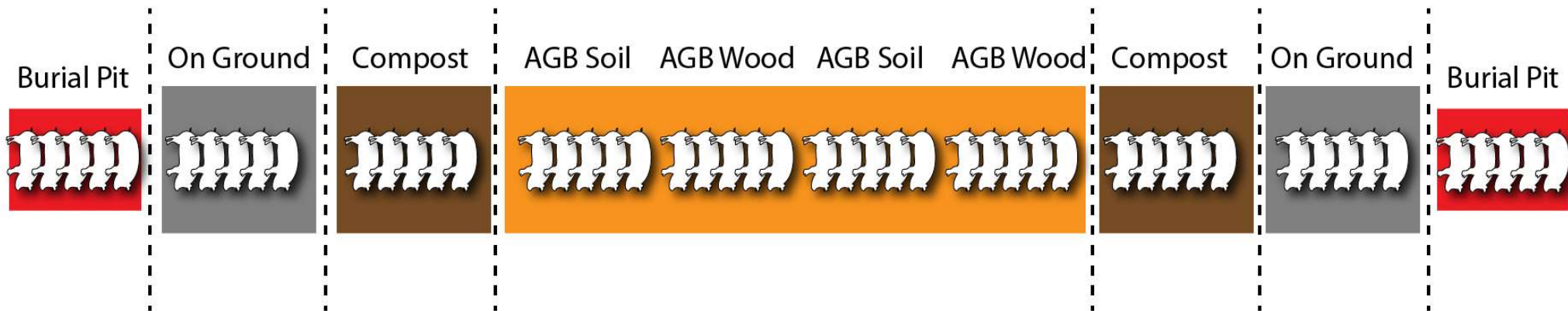
Soil, Straw, and Woodchips are not significantly different.



Decomposition Over Time

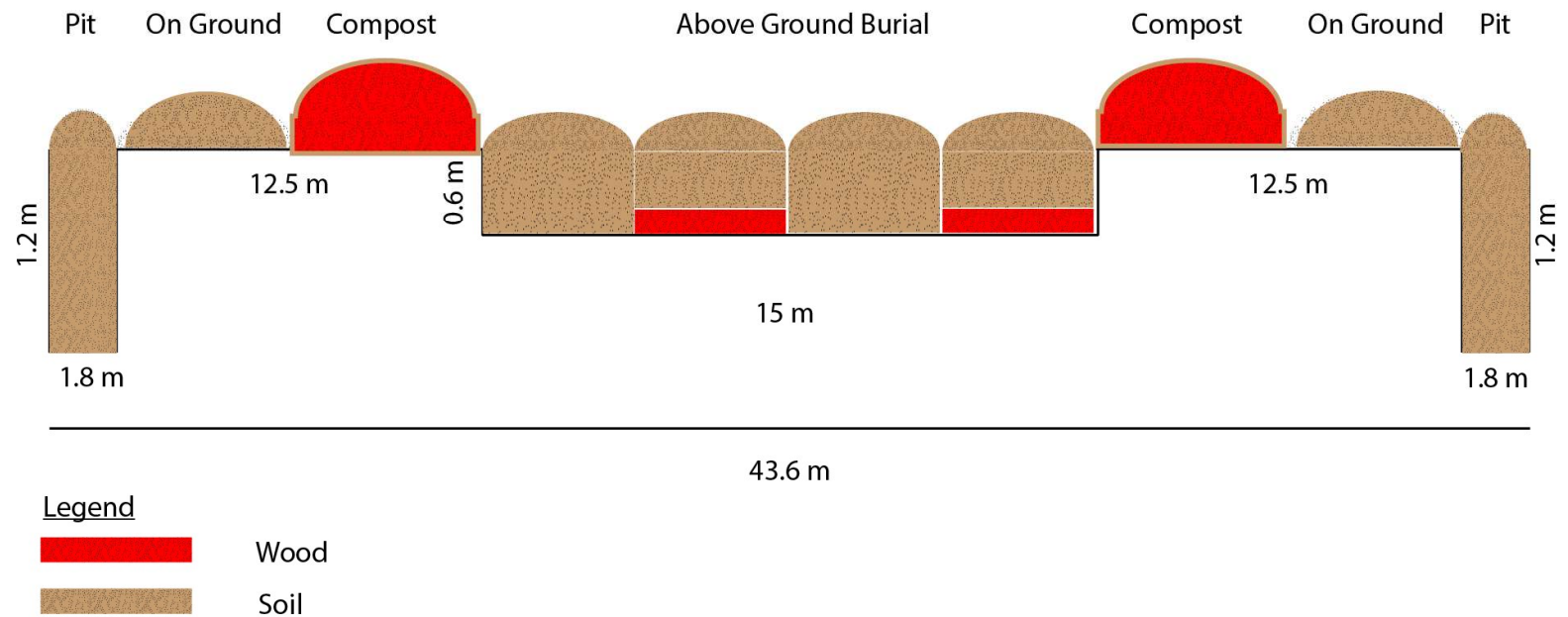


Large Scale Field Trial: Market Hogs

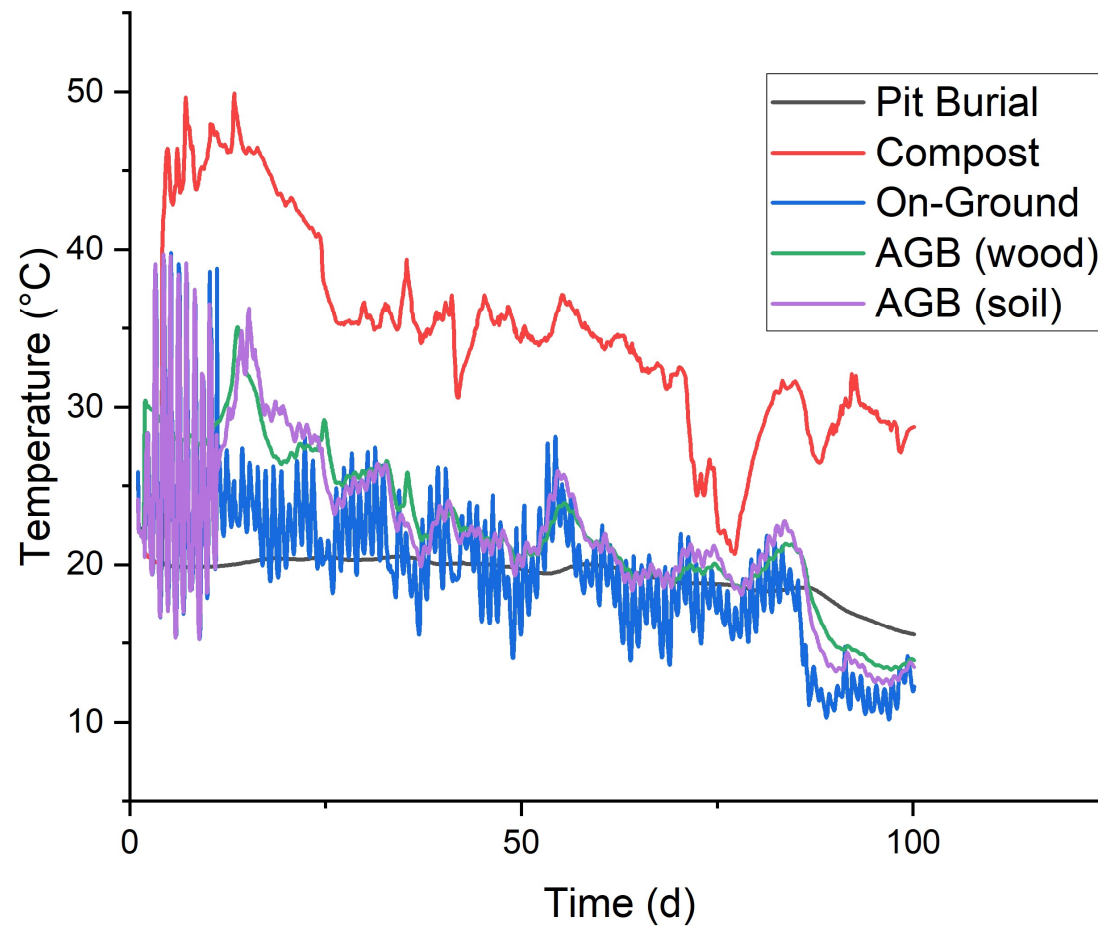


Large Scale Field Trial: Market Hogs

Cross-Sectional Substrate Map



Large Scale Field Trial: First 100 Days



Large Scale Field Trial: First 100 Days

- Experiment was dug, filled, recovered in an afternoon using mini-excavator and skid steer (single operator) → fast!
- Scavenging a minor issue for AGB in first ~7-10 days, no issues later
- Lots of insect activity for on-ground treatment; some for AGB; none noticeable for pit burial or compost
- No leachate visible for any treatment

Before



After



Conclusions

Small AGB



8/10 decomposition
after 12 months



No carbon bedding is
necessary



Pit temperature mirrors
ambient temperatures



Initial pest difficulties

Research Team

Supervisor: Dr. Brandon Gilroyed
Technical Support: Lucas McNea
Technical Support: Kim VanOverloop

Collaborators: Laura Hamilton (Ontario Pork)
Dan Carlow & Team (OMAFRA)
Atwood Resources Inc.



ONTARIO PORK



A side-profile photograph of a pig with brown and white patches, standing on a white background. The pig is facing right.

Thank you

Any Questions?