



United States Department of Agriculture



LATEST FINDINGS: CARCASS MANAGEMENT AND DECONTAMINATION

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Carcass Management in 1929 FMD Outbreak



Carcass Management in 2015 HPAI Outbreak





Finished Compost Used to Fertilize Crops



THEN (2011):
8 People x 4 Hours =
32 Labor Hours

NOW (2016):
1 Person x ½ Hour =
0.5 Labor Hour



White House Subcommittee Foreign Animal Disease Threats Interagency Working Group



COMPOSTING

Findings: works in large poultry outbreak

Future: expand training





RENDERING

Findings: recycles carcasses into fuel

Future: expand collaboration and research

GASIFICATION

Findings: Potential for 25 tons/day

Future: Upgrade component metals



MOBILE INCINERATION

Findings: Need better units than the ones from 2015 HPAI

Future: Test off-the-shelf units



[Watch the video >](#)

WASTE TO ENERGY

Findings: Some states are evaluating this option

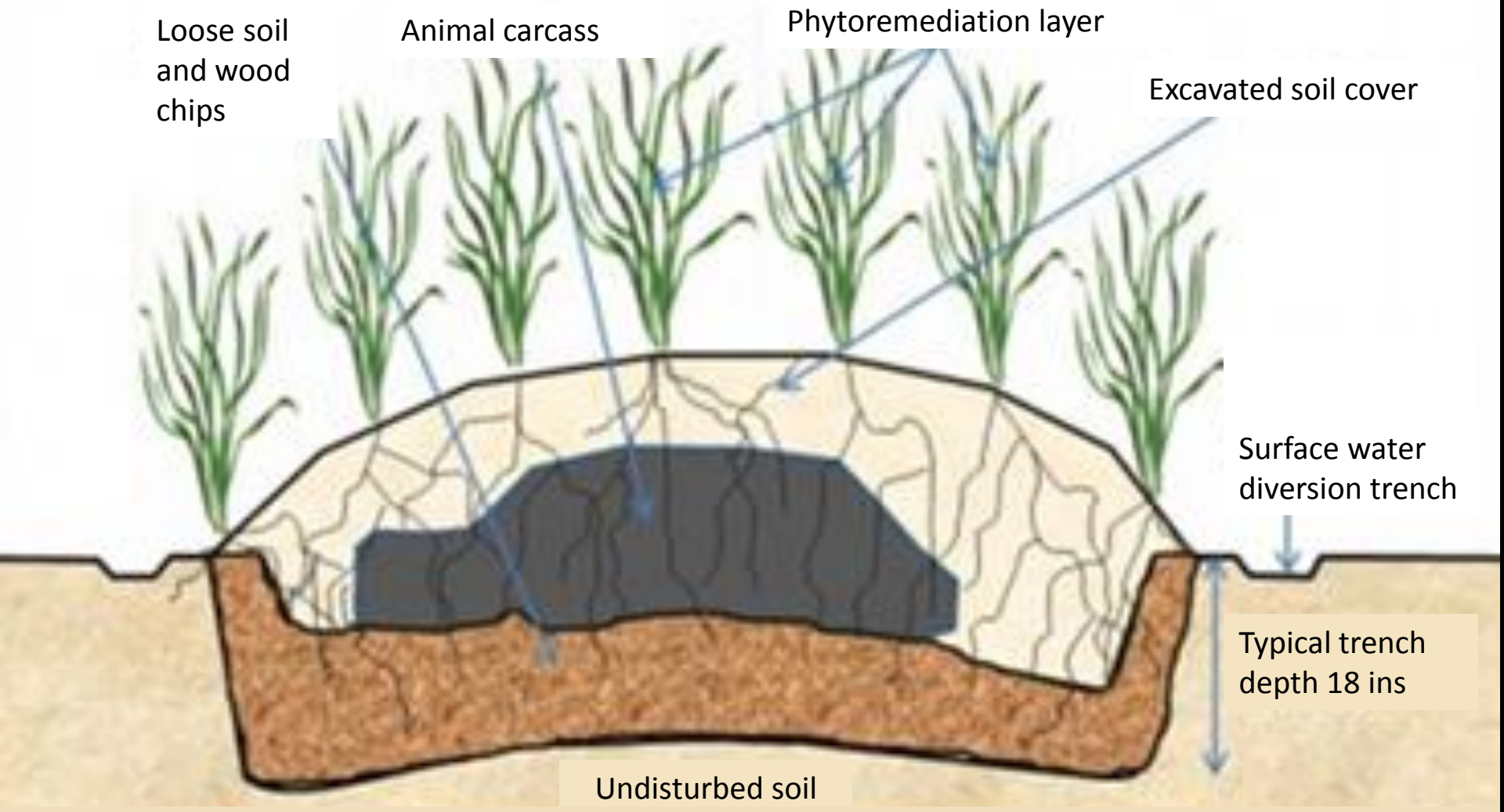
Future: Develop a standard protocol



ABOVE GROUND BURIAL

Findings: State of Virginia pilot shows promise

Future: Expand research



NON-FREEZING WASH TUNNEL

Findings: Reduces decon time and cost

Future: Test robotics and commercialize



WHEEL WASH

Findings: Visibly cleans vehicle

Future: Validate with lab tests





LOGISTICAL INFRASTRUCTURE

Findings: Insufficient carcass management capacity in major livestock production areas of US

Future: Explore vaccination and managed harvest



PRETREATMENT FEASIBILITY STUDY

Findings: Enclosed grinding with citric acid can sanitize infected carcasses before transport

Future: Perform field studies





CARCASS MANAGEMENT EXPOSURE ASSESSMENT

Findings: outdoor staging of carcasses from natural disaster has potential risks

Future: Develop protocol to cover staged material and contain liquids

LEACHATE MANAGEMENT EXPOSURE ASSESSMENT

Findings: landfills concerned that viruses survive in landfill leachate

Future: finalize exposure assessment to quantify risk, if any



SECURE TRANSPORT EXPOSURE ASSESSMENT

Findings: Negligible risk if lined, covered, leak-resistant trucks are used

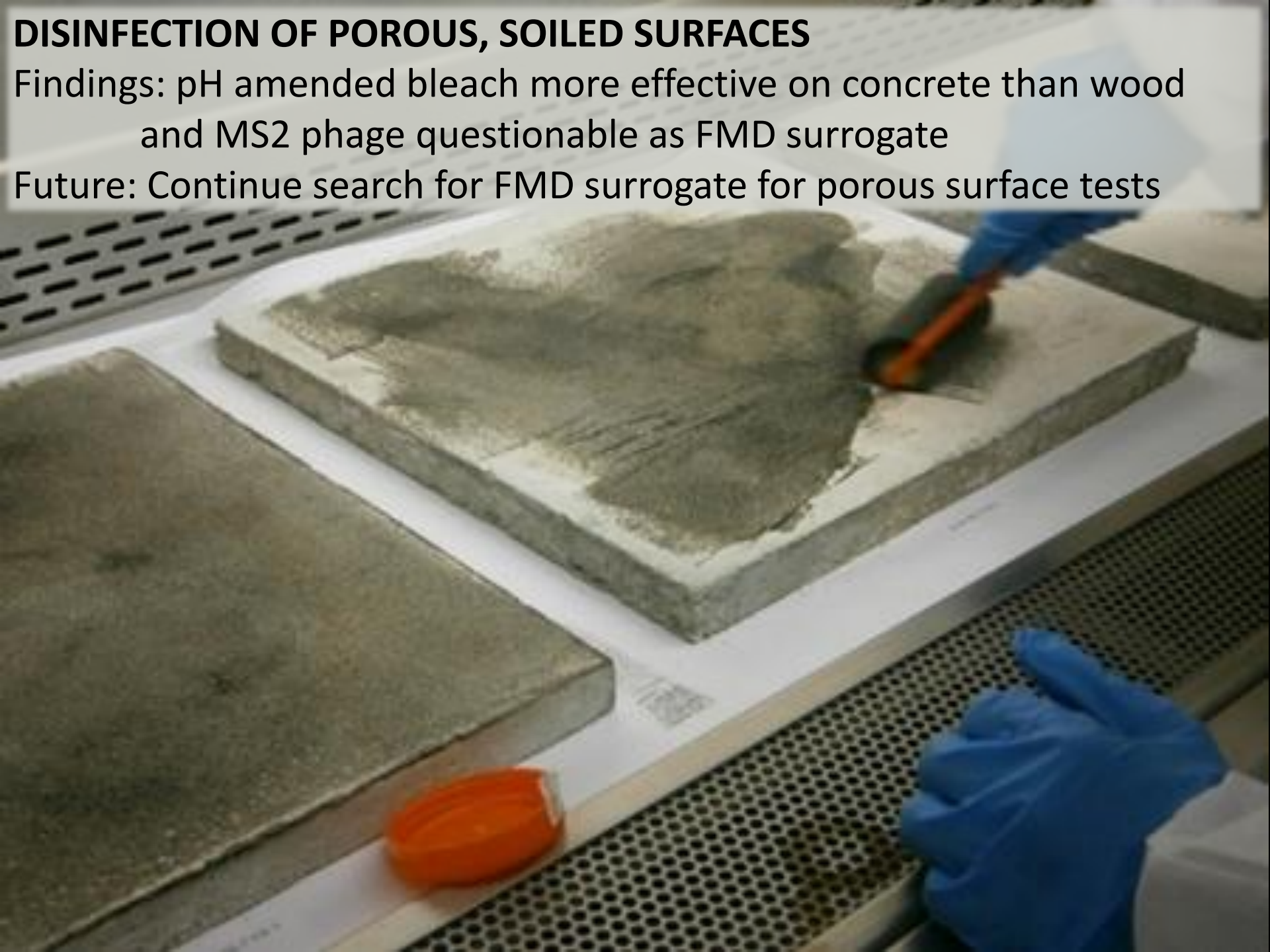
Future: Develop standard, validated protocol



DISINFECTION OF POROUS, SOILED SURFACES

Findings: pH amended bleach more effective on concrete than wood
and MS2 phage questionable as FMD surrogate

Future: Continue search for FMD surrogate for porous surface tests



CARCASS MANAGEMENT DASHBOARD AND TOOLS

Findings: Farms, landfills, renderers and other data is combined with mapping software and cost data to facilitate decision-making

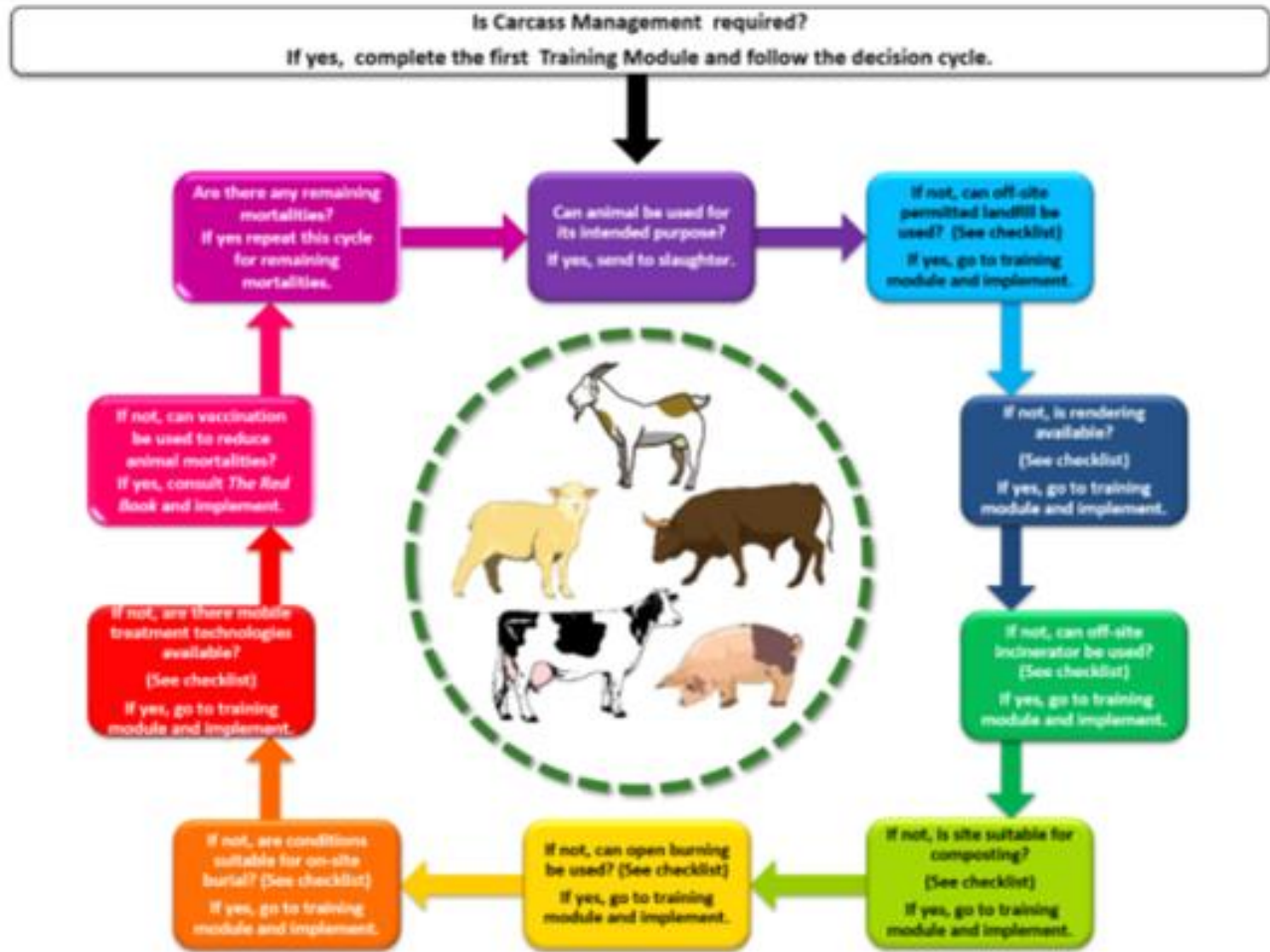
Future: Combine with other carcass management tools into web-interface dashboard



UPDATED ONLINE TRAINING

Findings: Existing APHIS online carcass management training modules were updated with latest information and lessons learned

Future: Publish to APHIS website this winter



Train to Contain

A First Responder's Course in Biosecurity



Resume

Start

This work was made possible with funding from the
Department of Homeland Security, Science and Technology Directorate



IMMERSIVE BIOSECURITY TRAINING

Findings: Immersive game-type training can be an effective teaching tool

Future: Widely distribute game's web address so anyone can use it

THE FUTURE





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