National Air Quality Site Assessment Tool NAQSAT

Background

- Livestock producers are under increasing pressure to mitigate air emissions:
- Mitigation strategies are expensive to implement
  - Identify opportunity for greatest impact
  - Select correct management action to control emission of concern
- Because of management and structural variability in operations, these are site specific decisions.

Project components

Development of an on-farm air quality assessment tool designed to evaluate where mitigation strategies will have the greatest impact

Goals

- Online availability (free!)
  - http://naqsat.tamu.edu/
- Farmer friendly
- Site specific
- Must complement currently available tools
  - Iowa State "Air Management Practices Assessment Tool"[1]

Funding

- USDA-NRCS Conservation Innovation Grant and partners

University partners

- Colorado State University
- Iowa State University
- Michigan State University
- Oregon State University
- Penn State University
- Purdue University
- Texas A&M University
- University of California, Davis
- University of Georgia
- University of Maryland
- University of Minnesota
- University of Nebraska

Animals and Housing

Note to User: Many farms may use more than one of the listed choices below. In order to allow the use of NAQSAT as a "What If" tool only one of the choices can be selected at a time. The user can click on "Get Results" for that selection and see how changing the answer will affect their results. If only a general overview is desired, identifying the predominant practice will accomplish that result.

Housing type: Select the photo that best represents your facility for each set of photos revealed below.

- ○ Pasture
- ◉ Freestall/Tiestall/Stanchion/Confinement

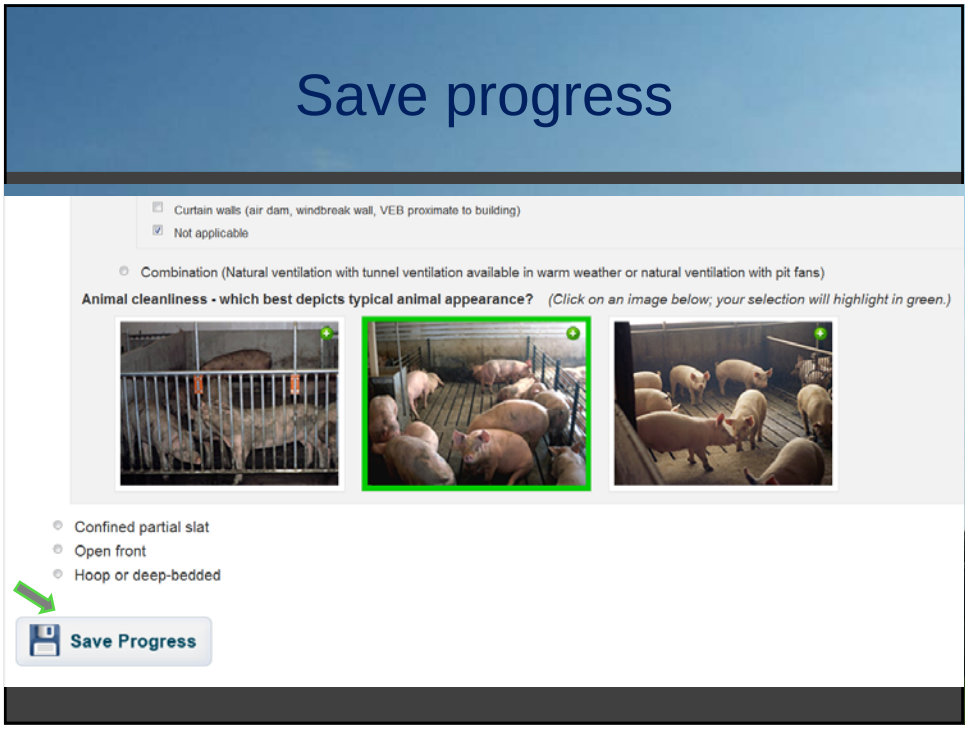
Bedding conditions: *(Click on an image below; your selection will highlight in green.)*

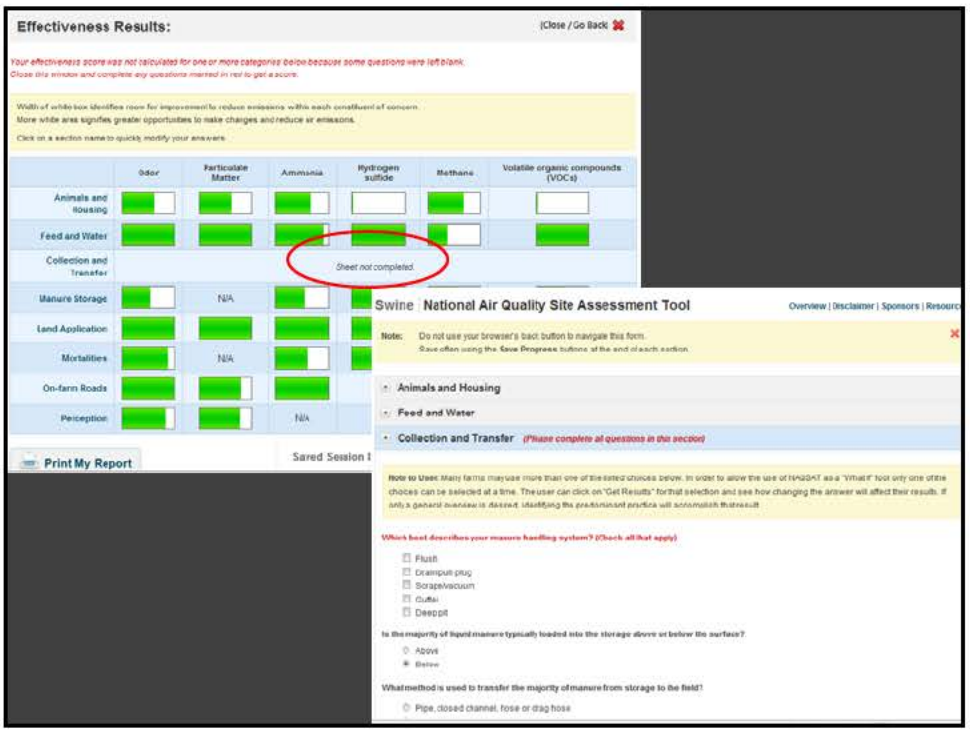


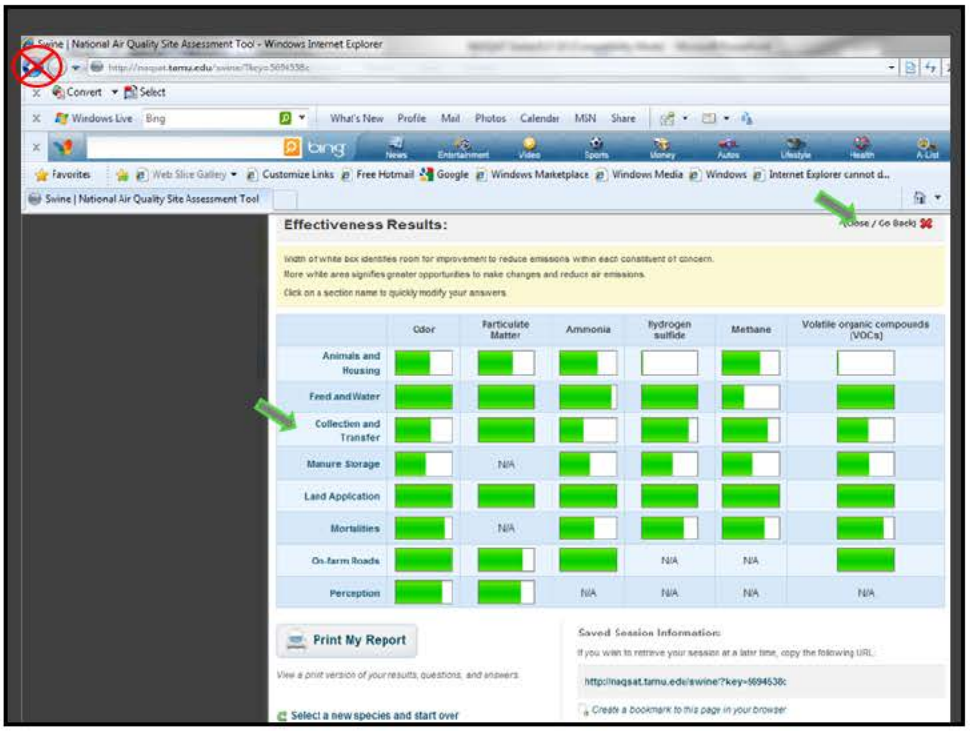

Percentage of floor **manure** covered:

- ◉ Up to 25%
- ○ 26 to 50%
- ○ >50%

Save progress




Effectiveness Results:
[Close / Go Back
Your effectiveness score was not calculated for one or more categories below because some questions were left blank.
Close this window and complete any questions marked in red to get a score.
Width of white box identifies room for improvement to reduce emissions within each constituent of concern.
More white area signifies greater opportunities to make changes and reduce air emissions.
Click on a section name to quickly modify your answers.
Odor
Particulate Matter
Ammonia
Hydrogen sulfide
Methane
Volatile organic compounds (VOCs)
Animals and Housing
Feed and Water
Collection and Transfer
Sheet not completed.
Manure Storage
Land Application
Mortalities
On-farm Roads
Perception
N/A
Print My Report
Saved Session I
Swine National Air Quality Site Assessment Tool
Overview | Disclaimer | Sponsors | Resourc
Note: Do not use your browser's back button to navigate this form.
Animals and Housing
Feed and Water
Collection and Transfer (Please complete all questions in this section)
Which best describes your manure handling system? (Check all that apply)
Flush
Drainpull-plug
Scrape/vacuum
Gutter
Deep pit
Is the majority of liquid manure typically loaded into the storage above or below the surface?
Above
Below
What method is used to transfer the majority of manure from storage to the field?
Pipe, closed channel, hose or drag hose



What it doesn't do

- Not an emissions estimator!!!
- Not easily used as a regulatory standard
  - Results will not be quantitative
- Scores not comparable across sites
- No overall score is provided
- Tradeoffs will be evident when different scenarios are run

What it can do

- Scores are as a percent of what the best possible management would produce given the set of physical conditions present
- Help producers assess current situation
  - Provide satisfaction
- Help producers in future
  - Direct management
  - Direct capital improvements

management + technology= score

not a facility score

Thank you

Background photos credit:
Ben Darling, MSU