


**National Air Quality Site
Assessment Tool
NAQSAT**

Beef Case Study

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 National Air Quality Site Assessment Tool Purdue Extension
Knowledge to Go
1-800-EXT-INFO

Beef Case Study

<http://naqsat.tamu.edu/beef/?key=5dca6729>

- Large high plains drylot
 - Dust is the major concern
 - Manure solids are stockpiled and sold offsite
 - Runoff retention basin

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Purpose: The National Air Quality Site Assessment Tool (NAQSAT) has been developed for the voluntary use of livestock producers and their advisors or consultants. It is intended to provide assistance to livestock and poultry producers in determining the areas in their operations where there are opportunities to make changes that result in reduced air emissions. Air emissions research from livestock production systems is increasing every year. NAQSAT is based on the most accurate, credible data currently available regarding mitigation strategies for air emissions of ammonia, methane, volatile organic compounds, hydrogen sulfide, particulates, and odor.

NAQSAT was designed to provide information and education, only. It is not intended to provide emissions data and/or regulatory guidance. All users receive a report of priority areas where improvements can be made, regardless of the amount of emissions produced by the facility. These priorities are not a reflection of risk, but rather a relative evaluation of current production systems based on the most accurate data and understanding of management systems currently available. The report generated cannot be used to compare one livestock facility to another because the evaluation is of a facility relative to its potential given current understanding of management practices and mitigation options.

Scores for each emission are generated upon online completion of NAQSAT. Scores reflect the degree to which an operation has incorporated all of the possible practices needed that would effectively minimize air emissions from the facility. Trade-offs may exist within a housing type that all categories of emissions cannot effectively be minimized. The tool considers the impact of diet, housing management, manure handling management, and transport, land application of manure, neighbor relations, and internal and nearby road management practices. Once areas where changes could be made are identified, resources to help implement changes are identified for the user. A user can run NAQSAT a second time with a proposed change included to determine the impact a change would have on emissions.

Select a species to begin:

Swine


Dairy

Beef

Broiler Chickens

Laying Hens

Turkeys



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Note: Do not use your browser's back button to navigate this form.
 Save often using the **Save Progress** buttons at the end of each section.

- ▾ Animals and Housing
- ▾ Feed and Water
- ▾ Collection and Transfer
- ▾ Manure Storage
- ▾ Land Application
- ▾ Mortalities
- ▾ On-farm Roads
- ▾ Perception

☞ [Select a new species and start over](#)

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▾ **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:


- Under roof - Enclosed pens
- Under roof - Enclosed pack
- Dry lot
- Concrete lots

- ▾ Feed and Water
- ▾ Collection and Transfer

Housing type:

- Under roof - Enclosed pens
- Under roof - Enclosed pack
- Dry lot

Surface comparison for average pen condition: (Click on an image below; your selection will highlight in green.)

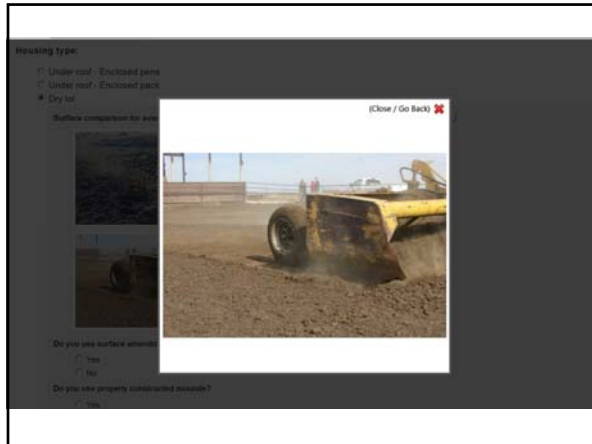


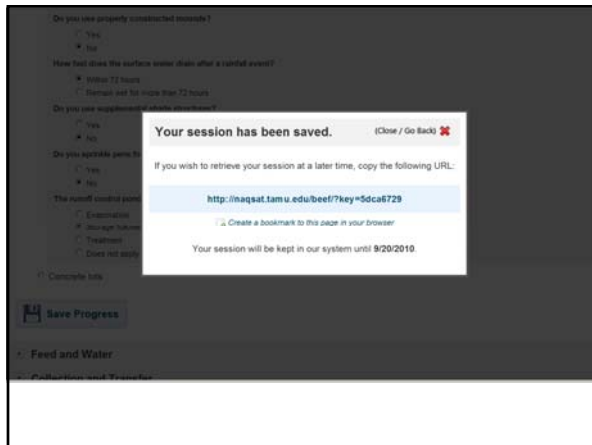
Do you use surface amendments (straw, wood chips)?

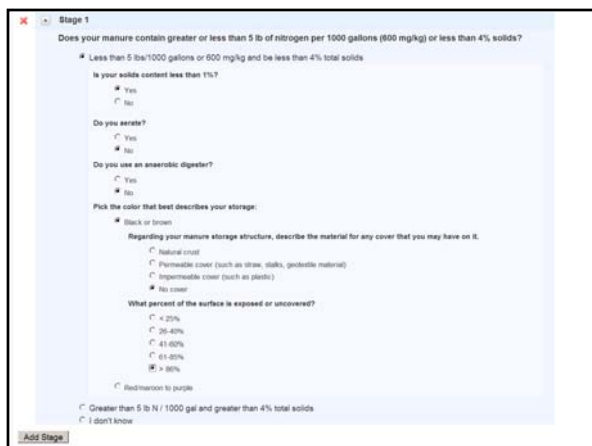
- Yes
- No

Do you use properly constructed mounds?

- Yes







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				<i>Check not completed</i>		
Feed and Water				<i>Check not completed</i>		
Collection and Transfer						
Manure Storage						
Land Application	N/A					
Mortalties		N/A				
On-farm Roads				N/A	N/A	
Perception			N/A	N/A	N/A	N/A

[Print My Report](#)

Saved Session Information:
If you wish to retrieve your session at a later time, copy the following URL:
<http://naqsat.lams.edu/beef?they=65ca4729>
Create a bookmark to this page in your browser
Your session will be kept in our system until 8/20/2010

Select a new species and start over
(Only your new URL, not the right or you will lose this session!)

Housing type:

Under roof - Enclosed pens
 Under roof - Enclosed pack
 Dry lot

Surface comparison for average pen condition: (Click on an image below; your selection will highlight in green.)

Do you use surface amendments (straw, wood chips)?
 Yes
 No

Do you use properly constructed mounds?
 Yes
 No

How fast does the surface water drain after a rainfall event?
 Within 72 hours
 Remain wet for more than 72 hours

Do you use supplemental shade structures?
 Yes
 No

	Odor	Particulate Matter	Ammonia	Hydrogen sulfide	Methane	Volatile organic compounds (VOCs)
Animals and Housing						
Feed and Water						
Collection and Transfer						
Manure Storage						
Land Application	N/A					
Mortalties		N/A				
On-farm Roads				N/A	N/A	
Perception			N/A	N/A	N/A	N/A

Section	Particulate Matter	Ammonia	Hydrogen Sulfide	Methane	Hydrogen Cyanide	Water Vapor	Microbial Aerosols
Animals and Housing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feed and Water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collection and Transfer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manure Storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Land Application	N/A						
Mortality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-farm Roads	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Perception	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Land Application

Where does manure go?

Moved offsite (sold or given away) directly from the housing

Composted or stockpiled, then sold or given away

Land applied

Section	Particulate Matter	Ammonia	Hydrogen Sulfide	Methane	Hydrogen Cyanide	Water Vapor	Microbial Aerosols
Animals and Housing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feed and Water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collection and Transfer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manure Storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Land Application	N/A						
Mortality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-farm Roads	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Perception	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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- Animals and Housing
- Feed and Water
- Collection and Transfer
- Manure Storage
- Land Application
- Mortalities
- On-farm Roads
- Perception

Get Results Save Progress Copy Session

Last saved at: 8/20/2010 10:32:37 AM

Select a new species and start over

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- Animals and Housing
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- On-farm Roads
- Perception

Your session has been copied. (Close / Go Back)

Your session has been copied. The copy may be accessed and modified via:
<http://naqsat.tamu.edu/beef?key=7f6d66fd>
 Open this page in a new window

Your current session is still available via the current page
 (http://naqsat.tamu.edu/beef?key=5dca6729)

Both sessions will be kept in our system until 8/20/2010.

Get Results

Select a new species and start over

Reduce dust by spraying roads with holding pond water:

Which is the predominant road-surface treatment used?

- Petroleum products, resins, emulsions as per manufacturer recommendations
- Salts or hygroscopic materials (e. g., magnesium chloride)
- Fresh water
- Holding pond wastewater
- None

	Odor	Particulate Matter	Ammonia	Hydrogen sulfide	Methane	Volatile organic compounds (VOCs)
On-farm Roads				N/A	N/A	
On-farm Roads				N/A	N/A	

Reduce dust by graveling roads:

Unpaved roads are surfaced with: (Check all that apply)

- Caliche/limestone
- Unimproved dirt road
- Washed gravel
- Gravel

	Odor	Particulate Matter	Ammonia	Hydrogen sulfide	Methane	Volatile organic compounds (VOCs)
On-farm Roads				N/A	N/A	
On-farm Roads				N/A	N/A	

	Odor	Particulate Matter	Ammonia	Hydrogen sulfide	Methane	Volatile organic compounds (VOCs)
Animals and Housing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feed and Water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collection and Transfer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manure Storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Land Application	N/A					
Mortality	<input type="checkbox"/>	N/A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-farm Roads	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	N/A	<input type="checkbox"/>
Perception	<input type="checkbox"/>	<input type="checkbox"/>	N/A	N/A	N/A	N/A

Regional/ farm differences

- Pollutants of concern
- Climatic conditions
- Relative contributions from different parts of the operation
- Management/ technology options
- Neighbor relations

Tradeoffs can be common

- Check how your scenarios may affect other pollutants
- Don't want to solve one problem just to create another!

