

## Rules for the Control of Ammonia from Dairy Farms in Idaho

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WESTAR Fall Business Meeting  
Boise, ID  
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### Background - Environmental Issues Relating to Dairies

- Emissions of Concern
  - Ammonia (NH<sub>3</sub>)
  - Volatile Organic Compounds (VOC)
  - Fugitive dust
  - Hydrogen Sulfide (H<sub>2</sub>S)
  - Fine particulates (PM<sub>2.5</sub>)
  - Ozone
  - Visibility

## Brief History of Idaho Dairy Issues

- In May 2004, Idaho Environmental group sued a dairy claiming dairy was required to obtain an air quality permit (PTC).
- In September 2004, US District Court Judge ruled that dairies over 100 tpy must obtain PTC's
- In January 2005, Environmental group and dairy industry agreed to enter negotiated rule making and they agree on threshold numbers of dairy cows that emit 100 tpy

## History (Cont)

- During the 2004/2005 legislature, industry sponsored legislation that changed our air rules to take out fugitive emissions in minor source applicability determination
- EPA publish a correction to Idaho's SIP excluding State TAPs from the SIP

SUMMARY: Animal Unit (AU) or mature cow threshold to produce 100 ton NH<sub>3</sub>/year

Animal Unit (AU) Basis	Drylot	Free Stall/Scrape	Free Stall/Flush
	AU (100 t NH <sub>3</sub> ) Threshold		
No land app	7089	3893	2293
27% volatilization <sup>1</sup>	6842	3827	
80% volatilization <sup>2</sup>	6597	3700	
	Total Cows (100 t NH <sub>3</sub> ) Threshold		
No land app	5063	2781	1638
27% volatilization <sup>1</sup>	4887	2733	
80% volatilization <sup>2</sup>	4569	2643	
<sup>1</sup> Assumes: Expected level of N->NH <sub>3</sub> volatilization for: drop-hose or ground level liquid manure application			
<sup>2</sup> Assumes: Expected level of N->NH <sub>3</sub> volatilization for: center pivot or other conventional sprinkler irrigation liquid manure application			

## Dairy Rule for the Control of Ammonia Emissions (Final April 2006)

- Establishing a rule based on Best Management Practices for ammonia on dairies
- Individual BMP values established
- Must employ 27 total points of BMPs
- Exemption for emergency conditions
- Compliance assistance and inspections done by Idaho Dept. of Agriculture
- Enforcement Authority retained by DEQ

Table - Ammonia Control Practices for Idaho Dairies.

System	Component	Ammonia Control Effectiveness 1			Compliance Method <sup>3</sup>
		Open Lot	Freestall Scrape	Freestall Flush	
Waste Storage and Treatment Systems	Synthetic Lagoon Cover	15	20	20	1
	Geotextile Covers	10	13	13	1
	Solids Separation	3	3	3	3, 4
	Composting	4	4	4	1
	Separate Slurry and Liquid Manure Basins	6	10	-	1
	In-House Separation	0	12	0	1
	Direct Utilization of Collected Slurry	6	10	-	1, 3, 4
	Direct Utilization of Parlor Wastewater	10	10	10	1

## Advantages of the Rule

- The rule addresses the pollutant of concern (NH<sub>3</sub>) which could only be done through the agreement of the dairy industry and the environmental group
- The rule allows for seasonal and market changes
- Allows flexibility for dairy farmer to change BMP's at any time

## Implementation of the Dairy Rule

- The rule became effective on July 1, 2006
- All applicable sources registered by July 16, 2006 (39 sources)
- Initial Inspections have been completed
- Results