

Environmental Factors Affecting Dairy Production



Carissa Itle

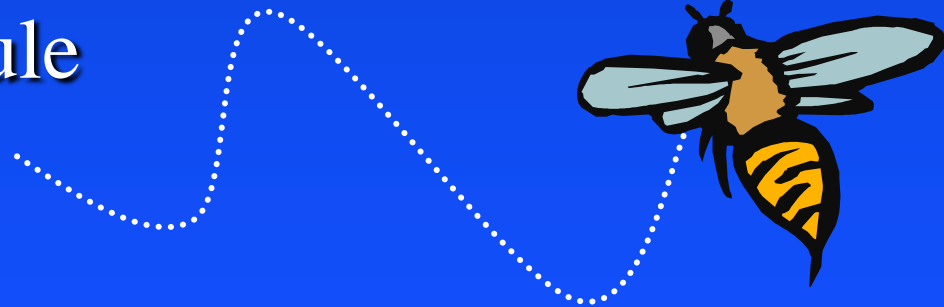
Director of Environmental Programs
National Milk Producers Federation

Southern Dairy Conference

February 2001

The Latest Buzz

- Background
- Unified AFO Strategy
- Comprehensive Nutrient Management Plans
- CAFO Rule
 - ◆ NPDES Permit Revisions
 - ◆ Effluent Limitation Guidelines
- TMDL Rule



Background

■ Animal Feeding Operation

- Stables, confines, and feeds or maintains animals for a 45 days in any 12 month period and
- Does not sustain any crops, vegetation forage growth, or post-harvest residues during the normal growing season.

Background

- Concentrated Animal Feeding Operation
 - More than 1,000 animal units or
 - Between 301 and 1,000 animal units and wastes are discharged into U.S. waters.
 - Zero discharge exemption

Background

- Any AFO of any size may be *designated* a CAFO if determined to be a significant contributor of pollution.

Based on:

- ◆ Size and location relative to U.S. waters
- ◆ Means of conveyance to U.S. waters
- ◆ Slope, vegetation, rainfall, etc.

Background

■ Animal Units (AU's)

- ◆ Measures equivalent numbers of different animals

- ◆ Dairy AUs =

mature cows (milking or dry) x 1.4

- ◆ 700 mature dairy cows = 1,000 AU

- ◆ 200 mature dairy cows = 300 AU

Background

- Why CAFO status *matters*
- CWA Section 502
 - ◆ CAFOs are identified as point sources
 - ◆ Required to obtain National Pollutant Discharge Elimination System (NPDES) permits.
- AFOs - voluntary programs

Background

- EPA estimates 13,000 CAFOs
 - ◆ 1,000+ AU: 9,000
 - ◆ 300-1,000 AU: 4,000
- Currently about 2,520 NPDES permits
 - ◆ Why the difference?
- Solution?

Background

What does all of this mean to dairy?

■ Dairy AFOs:

◆ <u>Total</u>	=	116,870	100%
◆ Small (<200)	=	109,740	94%
◆ Medium (200-700)	=	5,680*	5%
◆ Large (>700)	=	1,450*	1%

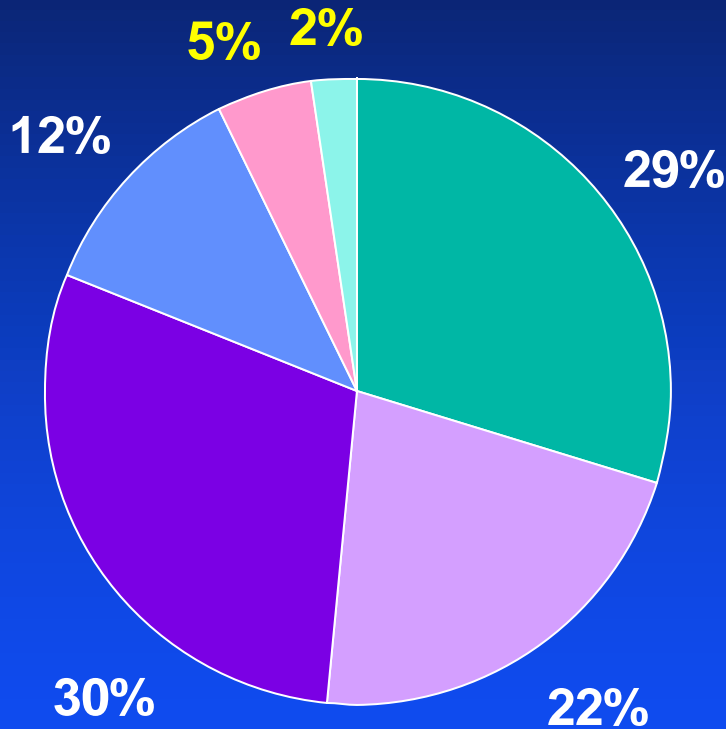
*Potential CAFO Groups

EPA estimates using 1997 Ag Census data

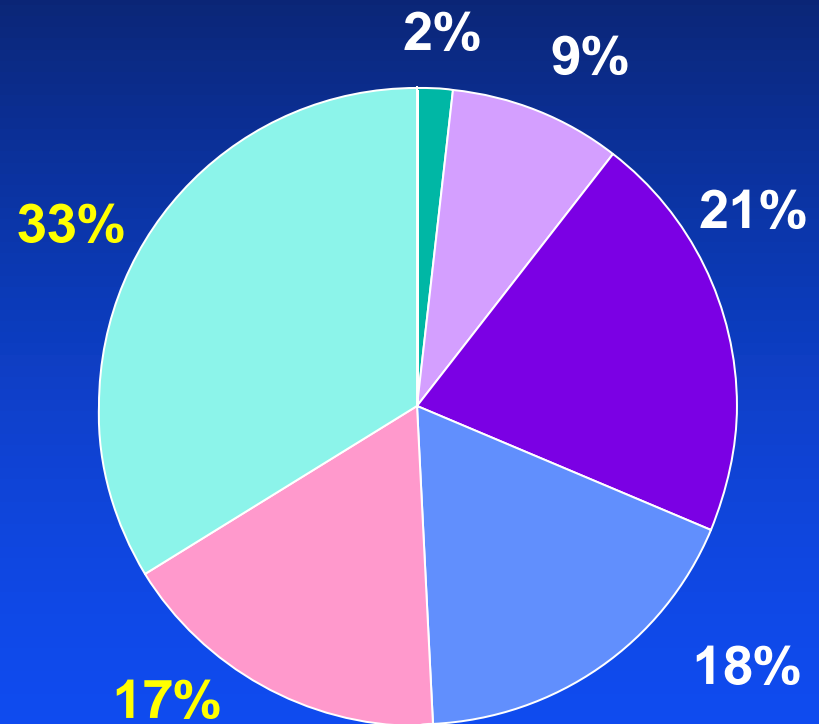
Background

U.S. Dairy Herds by Size Groups

Share of Operations



Share of Milk



1-29 Head

30-49 Head

50-99 Head

100-199 Head

200-499 Head

500+ Head

Federal Initiatives

Unified National AFO Strategy

March 1999

- Clean Water Action Plan- February 1998
- EPA & USDA aim to minimize water quality and public health impacts from AFOs
- Not a new regulation
- Goal: All AFOs should develop CNMPs
 - ◆ Most voluntary
 - ◆ All AFOs by 2009

Unified National AFO Strategy

Continued

- Outlines supporting changes
 - ◆ Comprehensive Nutrient Management Plans
 - ◆ CAFO Permitting Guidance- existing regs*
 - ◆ EPA's "CAFO Rule"
 - ◆ NPDES permit revisions
 - ◆ Effluent Limitation Guideline revisions

CNMP Technical Guidance

December 2000

- Comprehensive Nutrient Management Plans
 - ◆ Manure and wastewater handling and storage
 - ◆ Land treatment practices
 - ◆ Nutrient management
 - ◆ Record keeping
 - ◆ Feed management
 - ◆ Other utilization activities

CNMP Technical Guidance

Continued

- Relies heavily on NRCS Practice Standards
 - ◆ FOTG Code 590: Nutrient Management
 - ◆ Will fully implement 590 by May 2001
- Sample CNMPs due Feb 2001
- Resource concerns
 - ◆ By 2009, estimate 272,000 CNMPs
 - ◆ Capacity for 8-9,000/year
 - ◆ Cost to Producers: \$5,000 - \$200,000?

EPA's "CAFO Rule"

Draft December 2000 / Final December 2002

- Proposed Rule - December 15, 2000
 - ◆ NOT delayed by President Bush
- Public comments through May 14, 2001
- March public outreach sessions
- Final Rule- December 15, 2002

EPA's "CAFO Rule"

Changes to CAFO Definition

- CAFO size threshold: 2 options
 - ◆ 2-tiered at 500 AU (350 dairy) or 750 (525)
 - ◆ 3-tiered with middle-tier changes
 - ◆ Designation for both
- Substantial operational control
- "No potential to discharge" exemption
- Agricultural stormwater exemption

EPA's "CAFO Rule"

Changes to Permit Elements

- Design for 25 year/24-hour storm
- Zero discharge- including groundwater
- Adds management practices
- Record keeping
- Permit Nutrient Plans (PNP)
- Public involvement

EPA's "CAFO Rule"

Land Application Provisions

- Agronomic rates for N and P
- 100 foot setbacks
- Timing restrictions
- Manure transfer provisions

Total Maximum Daily Load Rule

July 2000

- CWA Section 303: TMDL
 - ◆ Calculation of the amount of pollutant a waterbody can receive and still meet standards
- “303(d) Lists”
 - ◆ States list impaired waters then develop TMDLs
 - ◆ Allocate reductions among sources
 - ◆ Enforce with existing mechanisms

TMDL Rule

Continued

- Long ignored - lawsuits rekindled
- Nonpoint source ruling
- Final TMDL Rule- July 13, 2000
 - ◆ Effective October 2001?
 - ◆ New TMDLs enforced June 2002
- What does it mean to dairy?

Food for Thought

- Air quality
- Endangered species
- Hypoxia in the Gulf of Mexico
- Wetlands
- Climate change and agriculture
- Alternative technologies
- Financial/technical assistance

Dairy Processors

- Toxic release inventory reporting
- Stormwater regulation enforcement
- Wastewater compliance

Dairy Farming & the Environment

Outlook

- Stepped-up enforcement of existing regs.
- New CAFO regs by December 2002
- CNMP development
- TMDL implementation

Dairy Farming & the Environment

Outlook

- Education of producers/regulators/consumers
- Industry must be proactive
 - ◆ NMPF Role

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