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# Biosecurity for Dairy Farms: Controlling Access

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- Why & Introduction
- Seven Steps to Biosecurity
- How Are We Doing?
- Be Prepared!

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# Biosecurity for Dairy Farms: Controlling Access – Why?

We've long been concerned about 'classical disease'
- Brucellosis, TB, Mastitis, …

Now we're wary of things beyond those diseases…
- Microbial Food Safety (Salmonella, E coli, …)
- Chemical Residues (Antibiotics, Pesticides, …)
- Unintentional & Intentional Contaminants

**Luckily, techniques to control 'classical' diseases are applicable in dealing with the new dangers**

**Also, just because we *recognize* 'new' dangers does not mean the old ones have gone away!**

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## Biosecurity on Dairies: Introduction

Biosecurity Definition =

- *Decreases chance agent enters farm;*
- *Decreases its ability to spread in a farm*

Focuses, then, on risk factors that are manageable...

- **Protect the herd**
- **Look at animal sources**
- **Introduction methods for new animals**
- **Minimize outsiders**

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## Biosecurity : Seven Steps

1. Closed Herd
2. Protect via Vaccination
3. Protect via Isolation
4. Source of Replacements
5. Test Purchased Cattle
6. Isolate New Cattle
7. Control Farm Traffic

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## Biosecurity : Step 1- Keep a Closed Herd

No cattle enter the farm; no cattle come back to the farm

A herd is NOT CLOSED if…

- **Animals go off-site & come back**
- **Herds share fence-lines or equip't**
- **Other folk transport animals**

Very difficult in these days of economic stresses that push a herd to grow

***NAHMS '96 – 1 in 5 dairies are closed; 44% brought in outside animals***

Remember: LEGAL movement spread FMD in the UK…

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## Biosecurity : Step 2 - Protect via Vaccination

An essential component

***NAHMS '96 – Some give NO vacc's to heifers (14%) or cows (19%)***

Each farm (& program) is unique

When/how it's done is important!

- **Stress decreases response**
- **Manufacturers' recommendations**

***NAHMS '96 – 48% of dairies using killed vaccines did not follow recommendations***

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## Biosecurity : Step 2 - Protect via Vaccination

Vaccine Inequalities

- 15 disease/classes...
  - *3/15 = none*
  - *8/15 = probs*
  - *4/15 = good*
- Problems ...
  - *stop signs, not infection*
  - *confuse testing*
  - *limited host response*

| Disease | Vaccine +/?/- |
|---|---|
| Bovine Leukosis | - |
| Bovine Spong Enceph | - |
| Bovine Vir Diarrhea | + |
| Brucellosis | + |
| Clostridia | + |
| E Coli, Rota/Corona | ? |
| Foot & Mouth | ? |
| Hairy Heel Warts | ? |
| Johne's Disease | ? |
| Leptospirosis | ? |
| Mastitis, contagious | ? |
| Mastitis, environ'tal | ? |
| Mastitis, *Mycoplasma* | - |
| Respir, IBR/BRSV/PI3 | + |
| Salmonellosis | ? |

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## Biosecurity : Step 3 - Protect via Isolation

Keep calves from heifers, heifers from cows~

*NAHMS '96 – 1 in 3 farms allow calf contact with other cattle*

Keep people/equip't/other animals from cattle

*NAHMS '96 – 80-90% of dairies allow dogs/cats to contaminate cattle, water, or feed*

Limit wildlife contact/habitat (brush/hi grass; wildlife)

*NAHMS '96 – 50% of dairies allow deer to contaminate cattle, water, or feed*

Don't share feed, water, equip't twixt ill & healthy

*NAHMS '96 - 45% of farms have maternity stalls; 55% also use them for fresh/ill animals*

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## Biosecurity : Step 4 - Source of Replacements

Bring in animals from herds with ...

- **Known health status**
  - ***It's often better to get herd- vs indiv-tests***
- **Effective vaccine programs**
  - ***Be sure they do it right!***

No mixed shipments

Transport in clean vehicles

Buy heifers

- **Easier to isolate & get on program than cows**

***NAHMS '96 - ~ 1 in 5 isolate heifers (avg 17+ days); 1 in 18 quarantine cows (avg 12 days)***

Get Health info

- **DHIA SCC's; Mastitis; Herd tests**

***NAHMS '96 - Half to 2/3's use NO pre-purchase tests; 1 in 4 test milkers for mastitis***

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## Biosecurity : Step 5 - Test New Cattle

Test Bought Cattle for ...

- **Brucella & TB**
- **Mastitis (*Staph aureus, Strep ag, Mycop*)**
- **Heel Warts**
- **Others ???**

Look into Herd Histories for ...

- **Mastitis/Udder Health Problems**
- **BVD**
- **Bluetongue/Bovine Leukemia**
- **Johne's**
- **Heel Warts**
- **Others ???**

Need source herd history; Need to know market

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## Biosecurity : Step 6 - Isolate New Cattle

- 15-30 day Quarantine!
- Separate from other cattle
  - **Airspace?**
  - **Contact?**
  - **Shouldn't share …**
    - ***Feeders***
    - ***Waterers***
    - ***Grooming***
    - ***Lanes***
- Medicated foot bath
- Good milking practices
- Check new animals' body temp & attitude regularly
  - **Call Vet if a problem**
- Start your own vaccinations while in quarantine

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## Biosecurity : Step 7 - Control Farm Traffic

- Limit access (Fences, gates, locks, signs)
- Parking away from animal/parlor areas
- Sign-in & Sign-out all visitors
- Provide boots/coveralls; <u>at least</u> clean clothes
- <u>All</u> visitors use foot bath and brush; wash hands
- Minimize who contacts animals and where they live/travel
- Pick-ups or Drop-offs done without drivers/ handlers/ trucks exposing herd
- Use your own stuff (halters, ropes, wraps)
- Before using, clean items that left farm

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## Biosecurity : Step 7 - Farm Traffic (Risk Areas)

What are HIGH RISK AREAS to protect?

- **Milking Parlor and Bulk Tank**
  - ***Think about New York***
- **Calves**
  - ***Most susceptible group***
- **Maternity Area**
  - ***Most stressed group***
- **Feeds & Feeding Equipment**
  - ***Travel/"contact" all animals/areas***
- **Wells and Waterers**
  - ***Contacts all animals/areas as feed/wash***
- **Hospital Pens**
  - ***Stressed; easy to misrepresent***

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## Biosecurity : Step 7 - Farm Traffic (Risky Visitors)

Ranking the HIGH RISK VISITORS to most watch out for…

- **OTHER ANIMAL CONTACTS (Vets, AI techs, Other producers, Cull/Dead trucks, Hoof Trimmers, …)**
- **COMPLACENT PEOPLE (Neighbors, Family, Workers, Delivery drivers, Service personnel, *YOU*, …)**
- **DIFFICULT TO CONTROL (Groups [schools/foreign?], Milk trucks, Feed trucks, Inspectors, Power company, …)**

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## Biosecurity : How Are We Doing?

Does Biosecurity really make any difference in animal health?

*NAHMS '96 - The more animals a dairy buys from outside, the more it experiences disease (explains 16-100% of prevalence variation)*

*NAHMS '96 - About four-fifths of studied disease classes (Mastitis, Lameness, Respiratory, Abortion) show decreased prevalences in closed herds (P<0.1)*

Yes, it works

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## Biosecurity : Be Prepared ! ! ! ! ! ! ! !

Think now about getting plans & stuff available ...

**To Disinfect people @ ingress &/or egress; Vehicle tire/undercarriage wash & decontamination**

***Where? How? With what?***

**To Isolate Production Classes / Sections of farm**

***Physical, labor, equipment; Outsider Risk Ranks vs Area Protection-Need levels***

**To Identify High-ground / Safe places**

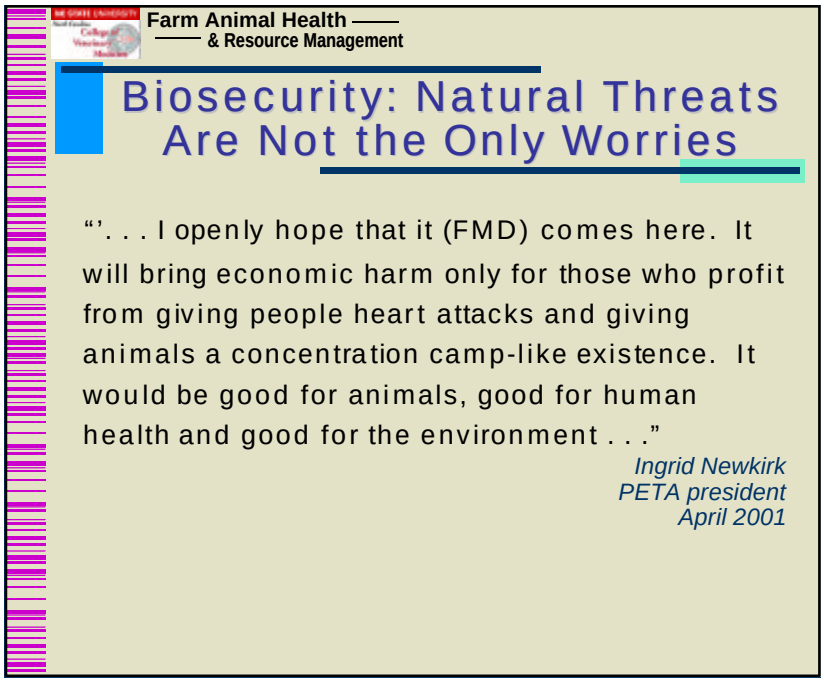
***Getting there, staying there***

**To Select On-Farm burial sites**

***Ground and water contamination***

**To Survive Multi-day Evacuation (hurricane, spill, accident, terrorism, …)**

***Prioritize needs, labor, feed, animal welfare***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Biosecurity: Natural Threats Are Not the Only Worries
"'. . . I openly hope that it (FMD) comes here. It will bring economic harm only for those who profit from giving people heart attacks and giving animals a concentration camp-like existence. It would be good for animals, good for human health and good for the environment . . ."
Ingrid Newkirk
PETA president
April 2001