This is the Beef Cattle Short Course.

Bovine Leukemia Virus
Lymphoma
Malignant lymphoma
Lymphosarcoma
BLV
Enzootic Bovine Leukosis
Cow cancer

Disease of Dairy Cattle?
Retroviruses

Human Immunodeficiency Virus (HIV)

Human T-cell leukemia virus

Equine Infectious Anemia Virus (EIA) - Coggins test

Feline Leukemia Virus

Feline Immunodeficiency Virus
What are the odds?

Beef:
- 1999 = 10.3%
- 2017 = >70% beef slaughterhouse 33.6% Ab +
- 2018 = 38% herds +

Dairy:
- 1960s = 10%
- 2018 = 46.5% cows; 94.2% herds +

Prevalence in our beef herds = 15-30%??

Infected → 30% develop persistent lymphocytosis (circulating the virus) → 2-5% will develop lymphosarcoma

Reasons why we care:

1. Persistent infection - ↑ mortality, ↓ production & overall longevity of herd, ↓ immune system function, ↑ risk of other infections
2. Cost strain on beef industry
   a. Producer
   b. Packer

Condemnation
   $380-460 lost/case
   BLV is #1 cause of carcass condemnation

Criteria
3. The Divide

U.S. population ↑
1000 people move to Florida every day

Land mass ↓ = Stocking densities ↑

Stocking densities ↑ = Disease transmission ↑
4. Exportation

No regulation or control programs for BLV in U.S.

Eradication: Australia, New Zealand, most European Union including the UK

- Live animals
- Semen
- Embryos
- Biologics
5. Zoonotic potential?

BLV and Breast Cancer: A Missing Link?

59% of the cancerous samples used in the study and 29% of the tissue samples from women without breast cancer were exposed to the virus.

While researchers cannot say that BLV causes breast cancer, the relationship between the two is notable enough to warrant further studies.

Source: UC Berkeley News

Cherri Jeong/Daily Cal Staff

Buehring et al.
Transmission

Infected: **blood**, saliva, semen, milk

Vectors/Control

- Used needles
- Re-using palpation sleeves
- Dehorners, tattoo guns, implant guns, ear marking knife
- Biting flies

>12.5% prevalence = Basic control pays $$
Questions?


