The Cervidae Health Research Initiative: Promoting deer health to the farmed deer industry in Florida

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CHeRI
CERVIDAE HEALTH
RESEARCH INITIATIVE

CERVIDAE HEALTH RESEARCH INITIATIVE

Mission Statement: This initiative seeks to promote interdisciplinary science, education and outreach that increase the health and production of captive cervids in a sustainable manner and promotes the health of native wildlife and the ecosystems in which they live.

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Focal Farm HD Surveillance in White-tailed Deer

Research Goal

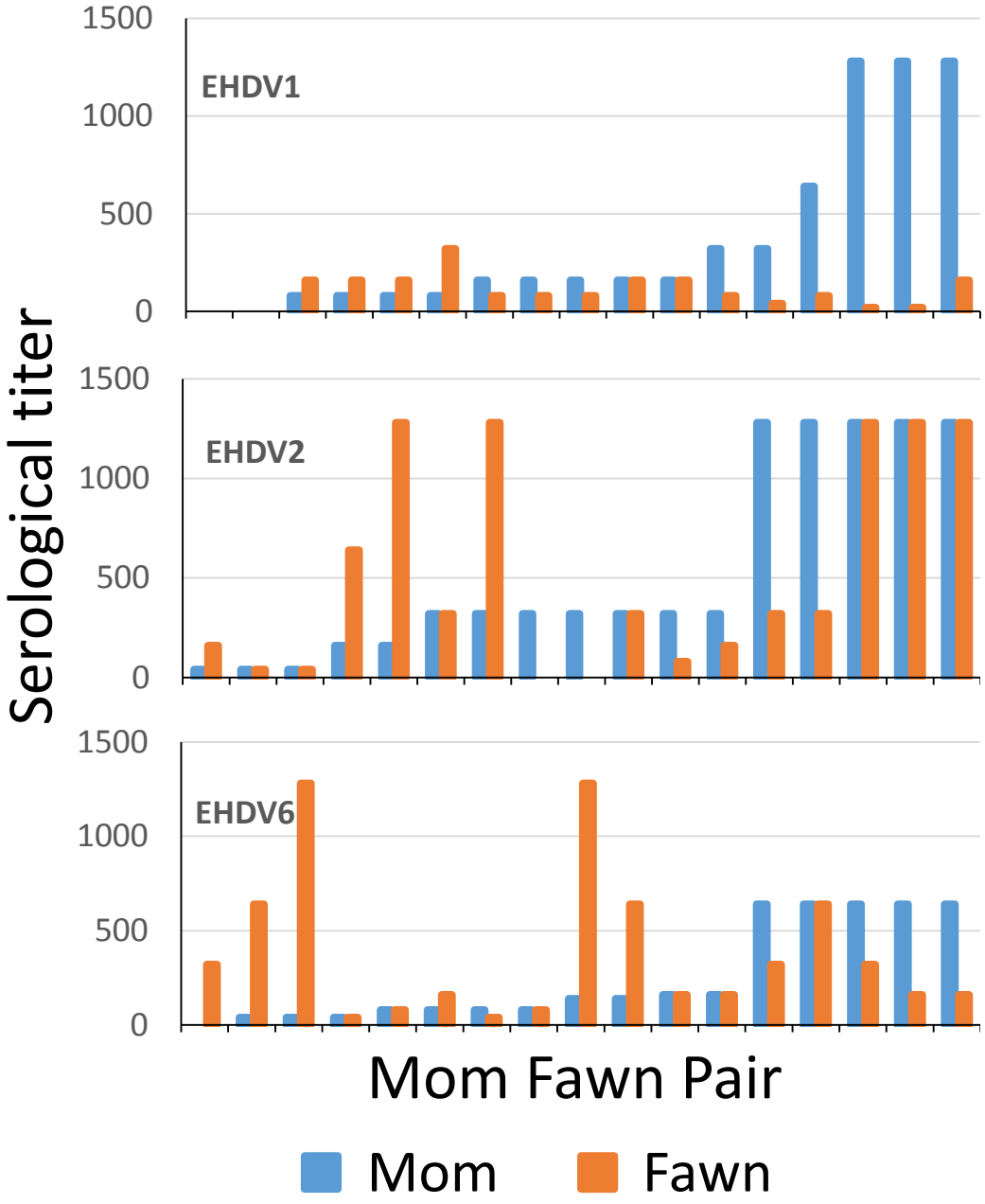
- Understand the epidemiology of HD in Florida

Application Goal

- Inform vaccine protocols

How efficient is maternal antibody transfer?
How long do antibodies last?

Maternal antibody transfer



Antibody loss

By **September 7**
(89-99 days later)

EHDV1: 15 of 18
Lost antibodies

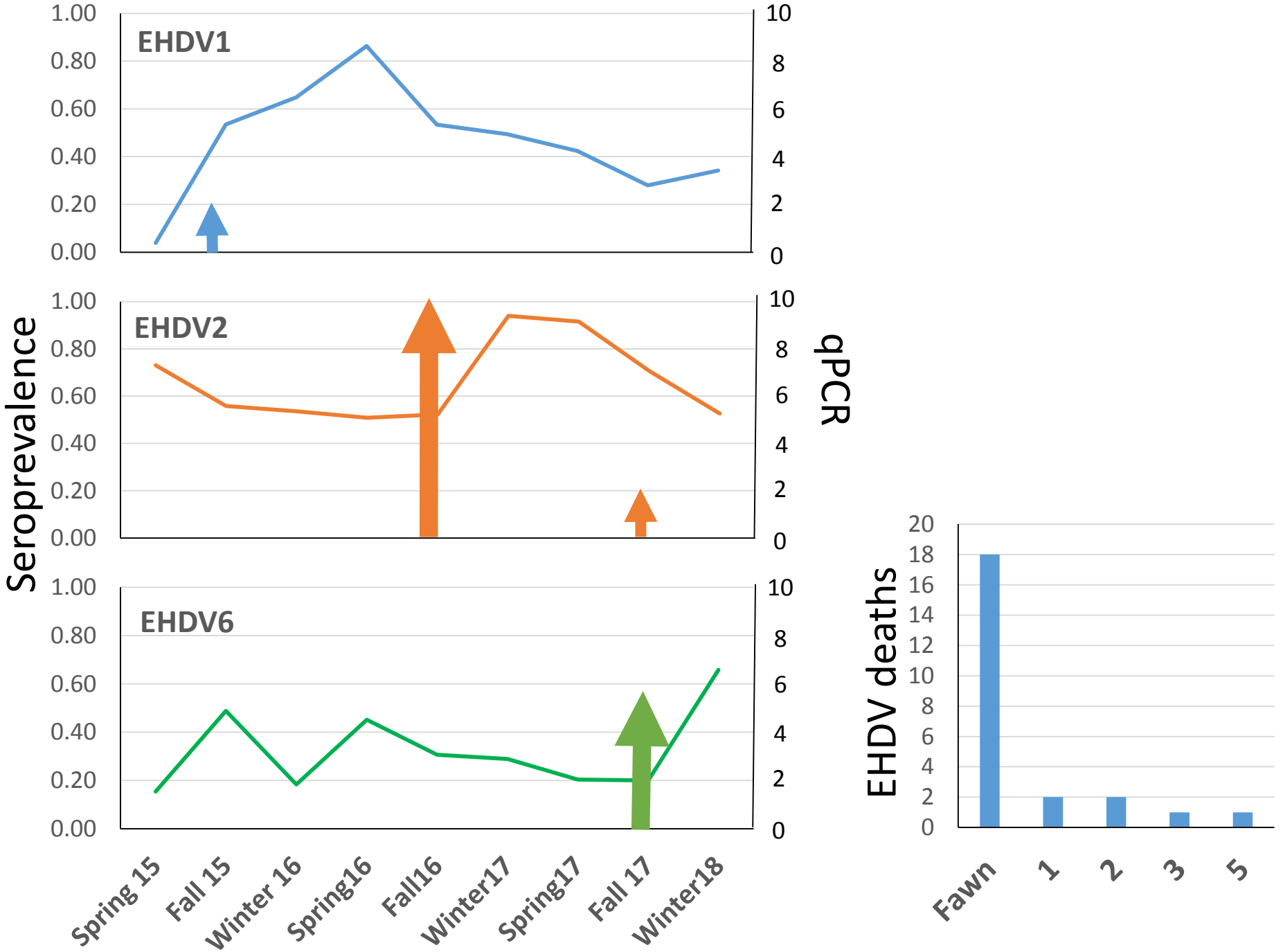
EHDV2: 11 of 18
Lost antibodies

EHDV6: 16 of 18
Lost antibodies

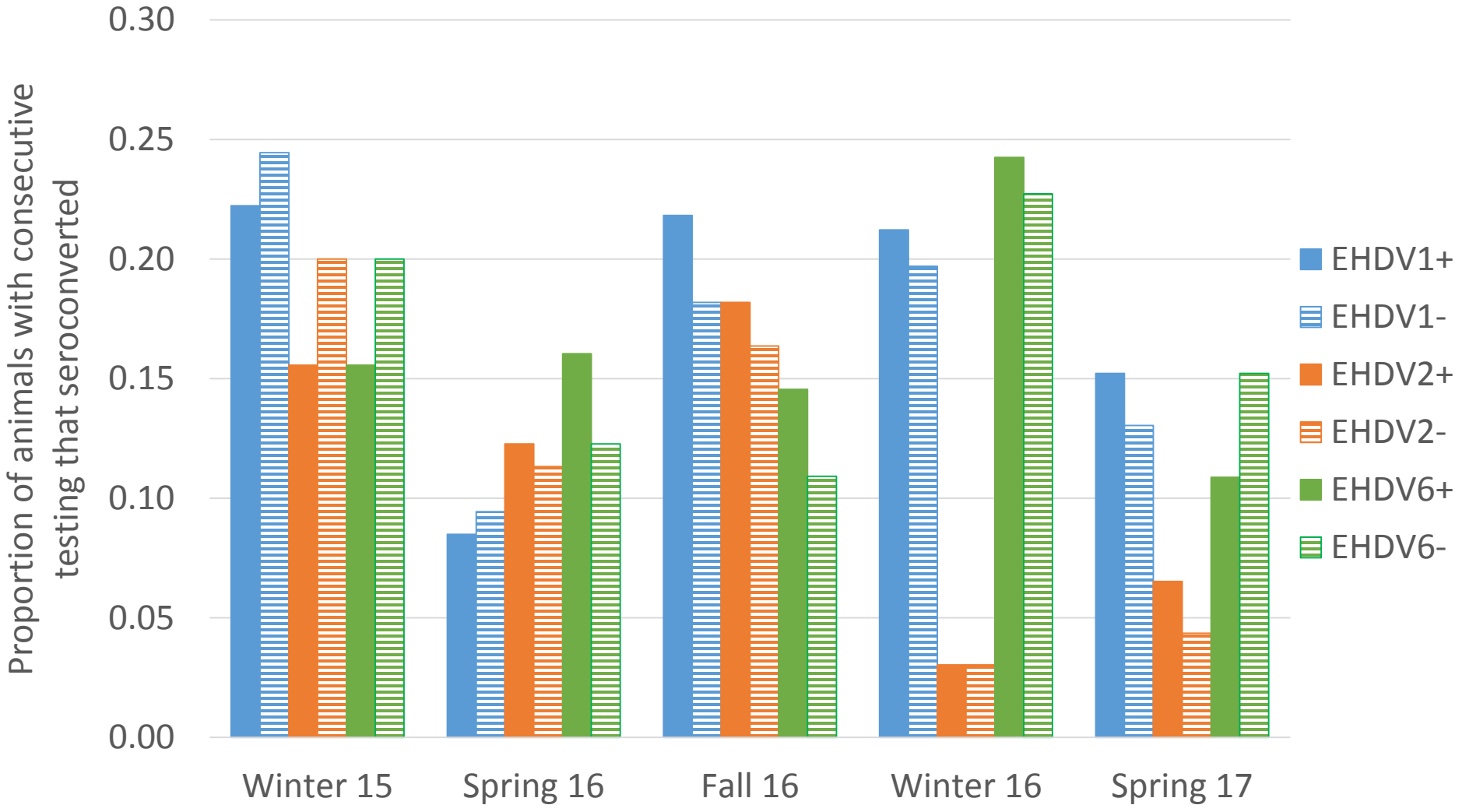
Antibody transfer from mom to fawn is efficient BUT, not protective during EHDV season

Vaccinating mom will not protect fawn when fawns need it most

When are deer exposed to the virus?
When do they die from the virus?
How common is each serotype?


EHDV1
EHDV2
EHDV6
Seroprevalence
qPCR
1.00
0.80
0.60
0.40
0.20
0.00
10
8
6
4
2
0
Spring 15
Fall 15
Winter 16
Spring16
Fall16
Winter17
Spring17
Fall 17
Winter18
EHDV deaths
20
18
16
14
12
10
8
6
4
2
0
Fawn
1
2
3
5

Seroconversion



Take Home Message:

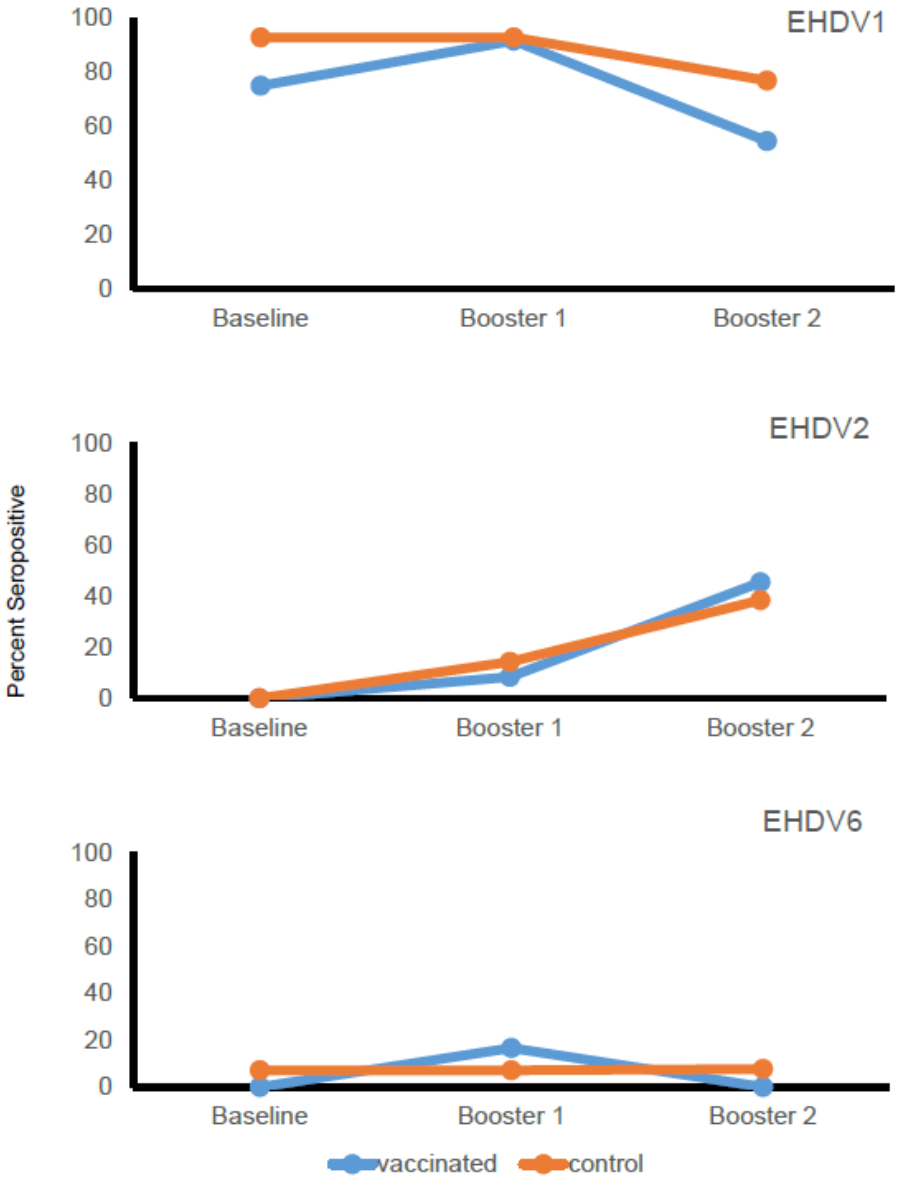
- Antibodies are short-lived, but animals frequently re-exposed
- We see exposure at all times of year

Priority is to protect fawns from EHDV
Complex circulation, all three serotypes a threat

Trivalent vaccine is needed
Vaccine boosters will likely be needed

Can we use focal farms to understand efficacy of upcoming vaccines?

Autogenous vaccine does not produce homologous antibodies
n=26 fawns at 0, 30 and 120 days



Florida deer farms will be crucial in field testing vaccines

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Focal Farm HD Surveillance in White-tailed Deer

- Describes the ephemeral nature of antibody production
- Shows how dynamic the circulation of viruses are
- Provides a venue for vaccine field trials

CERVIDAE HEALTH RESEARCH INITIATIVE

CHeRI

University –Industry Partnership

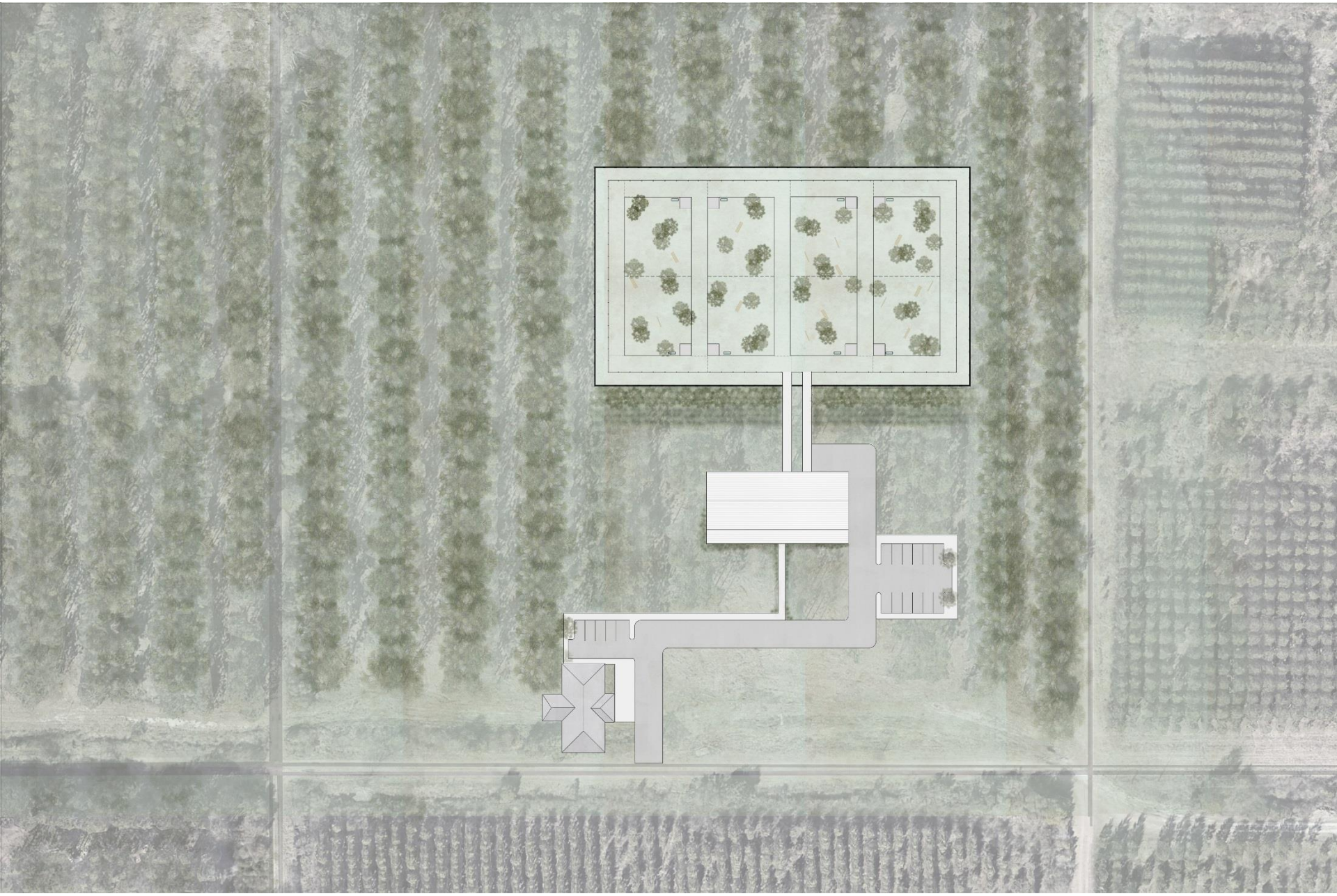
UF IFAS Cervid Health Teaching & Research Unit

Teaching

- Train the next generation of veterinarians
- Provide continuing education to the industry
- Educate the public about deer farming

Research

- Focus on diseases that reduce profitability
- Design pesticides that are easier and cheaper to use
- Identify disease resistance genes
- Breed deer resistant to EHDV and CWD




122' - 0"
63' - 0"
COVER OUTDOOR CLASSROOM
DEMONSTRATION LAB
(27' X 13')
STORAGE
LABORATORY
(13' X 12')
NECROPSY
(13' X 12')
STORAGE
WORK STATION
DEER RUN / WORKING AREA
(25' X 32')
EQUIPMENT STORAGE
(30' X 14')
STORAGE
(29' X 17')
BREAK ROOM
(16' X 16')
REF
OPEN OFFICE
(18' X 16')
ENTRY
OFFICE
(10' X 12')
OFFICE
(FUTURE)
(10' X 12')
CUSTODIAL
LOCKERS
WOMEN'S
RESTROOM
MEN'S
RESTROOM
COVER PORCH

Thank you, SETDA!

- For kicking off the fundraiser
- For facilitating the film production with Keith

What's next? Fundraising!

- Naming opportunities
- Tax benefits
- Many ways to give

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Younger age classes more susceptible to infection with EHDV