

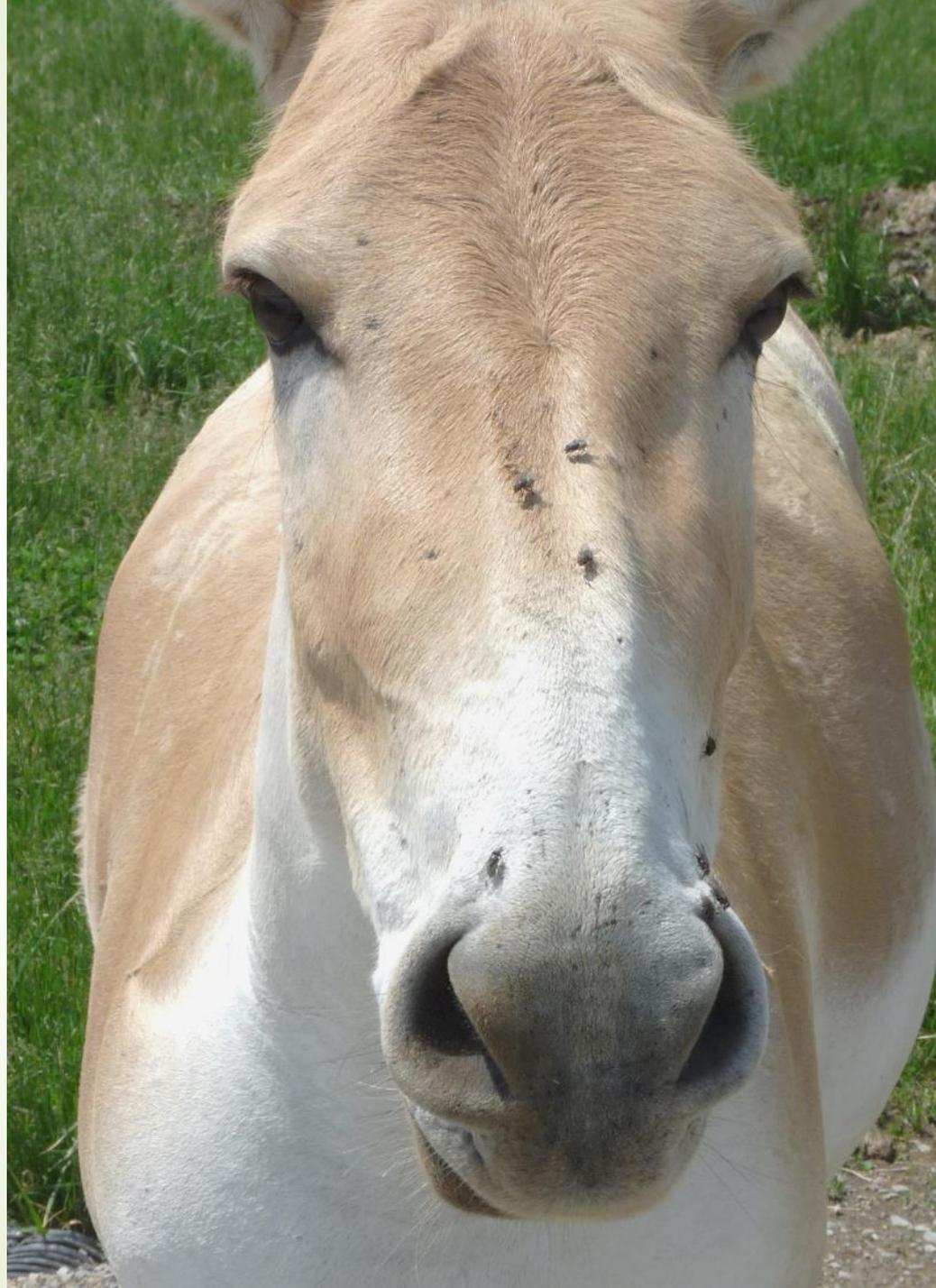
Updates on Equid Reproductive Initiatives



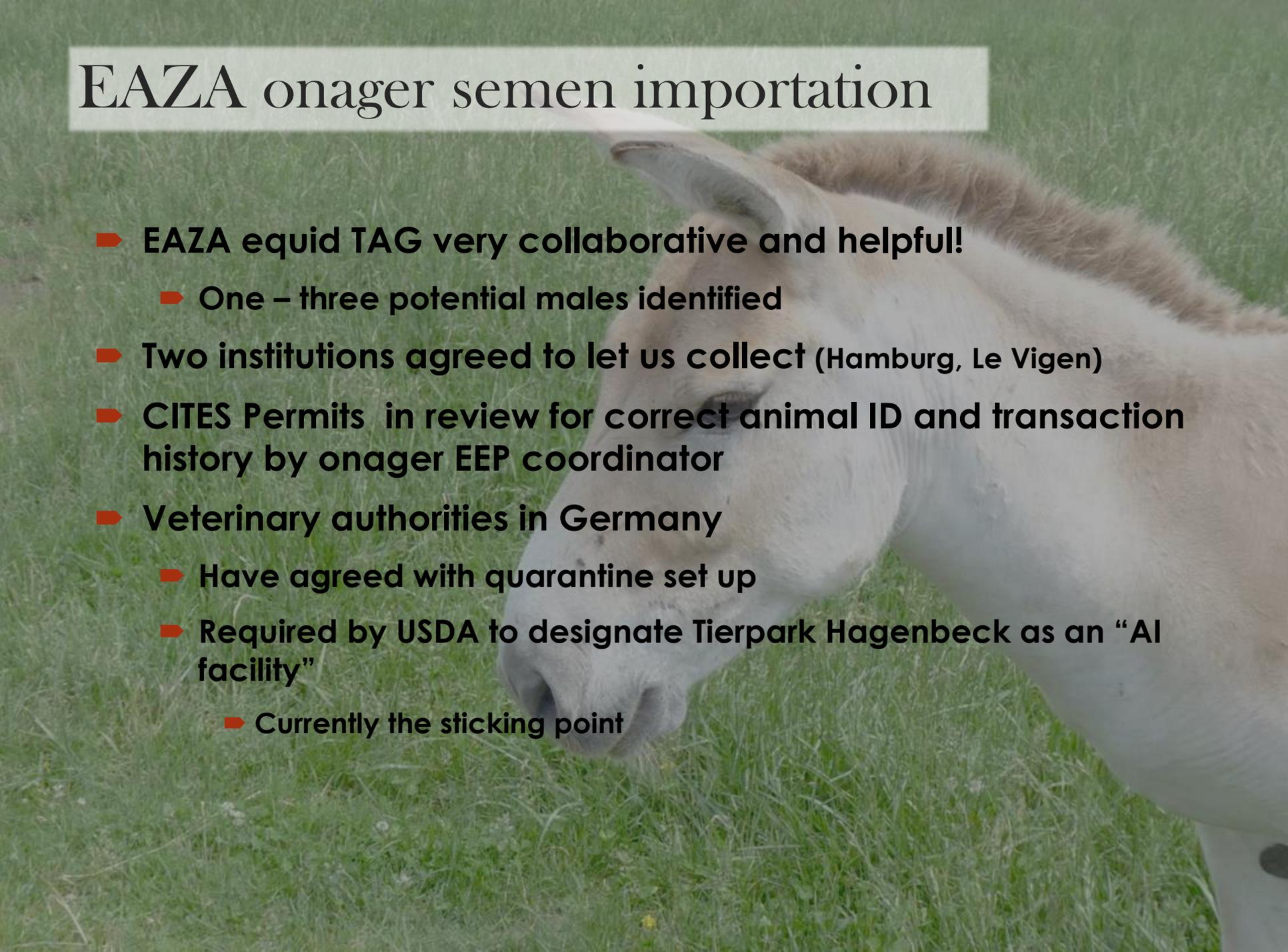
Photo credit: Kate Archibald

To Discuss

- **Status of importing onager semen from EAZA**
- **Projects to improve AI in Equids**
 - **Estrus synchronization**
 - **AI attempt in SWA**
 - **AI in P-horses**



EAZA onager semen importation

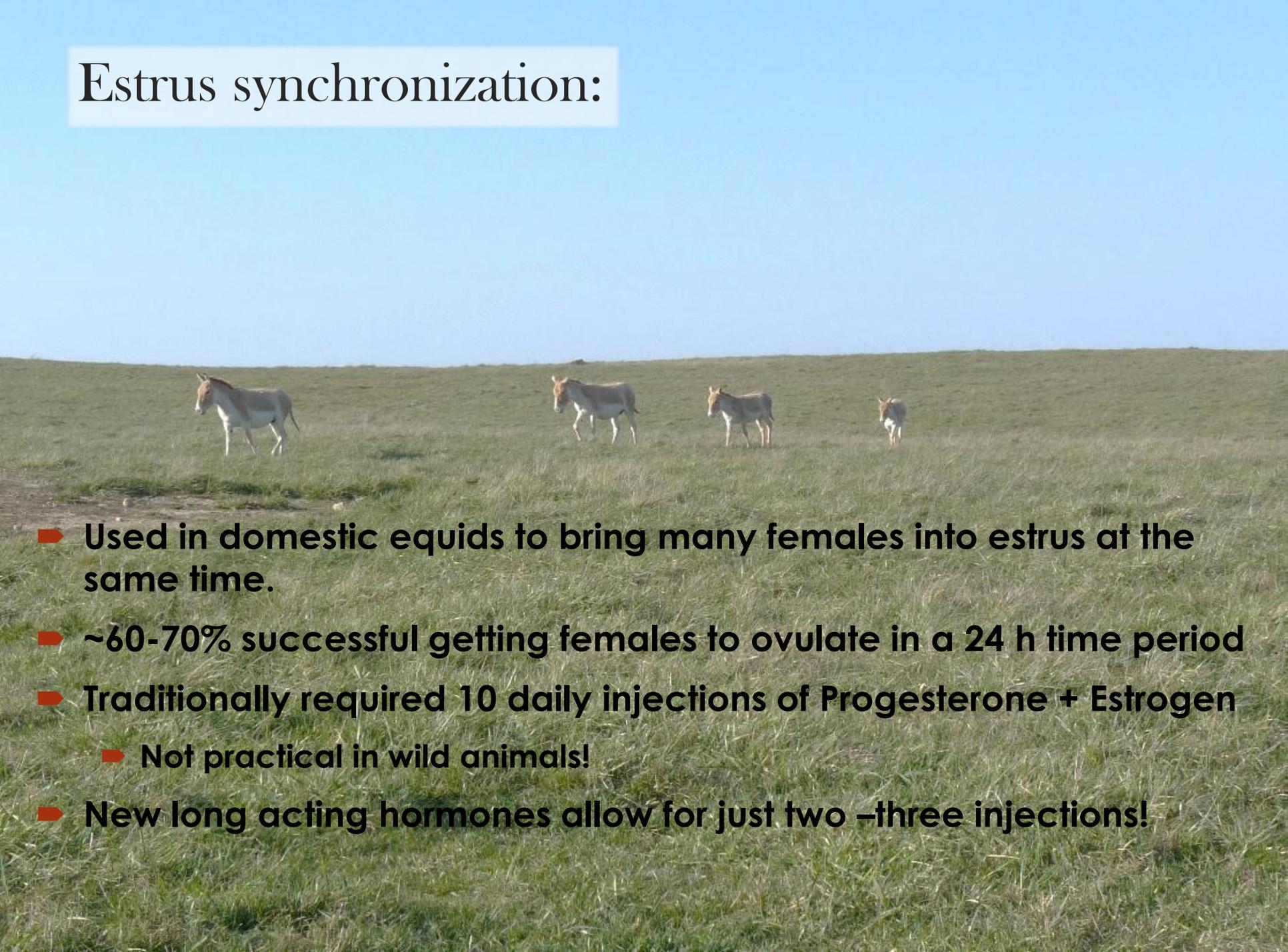


- **EAZA equid TAG very collaborative and helpful!**
 - **One – three potential males identified**
- **Two institutions agreed to let us collect (Hamburg, Le Vigen)**
- **CITES Permits in review for correct animal ID and transaction history by onager EEP coordinator**
- **Veterinary authorities in Germany**
 - **Have agreed with quarantine set up**
 - **Required by USDA to designate Tierpark Hagenbeck as an “AI facility”**
 - **Currently the sticking point**

Improving practicality of AI in equids:

- 
- **Current technique for AI is time and labor intensive!**
 - **Collect urine samples daily to track hormones**
 - **Regular ultrasounds to track follicle development**
 - **Each female is on her own cycle and they don't self-synchronize**
 - **Can take two months to AI a few females**
 - **(need someone on site at all times to perform ultrasounds)**

Estrus synchronization:

- 
- Used in domestic equids to bring many females into estrus at the same time.
 - ~60-70% successful getting females to ovulate in a 24 h time period
 - Traditionally required 10 daily injections of Progesterone + Estrogen
 - Not practical in wild animals!
 - New long acting hormones allow for just two –three injections!

Estrus synchronization in onagers



➤ Six Adult Females

➤ Day 1: P + E long-acting

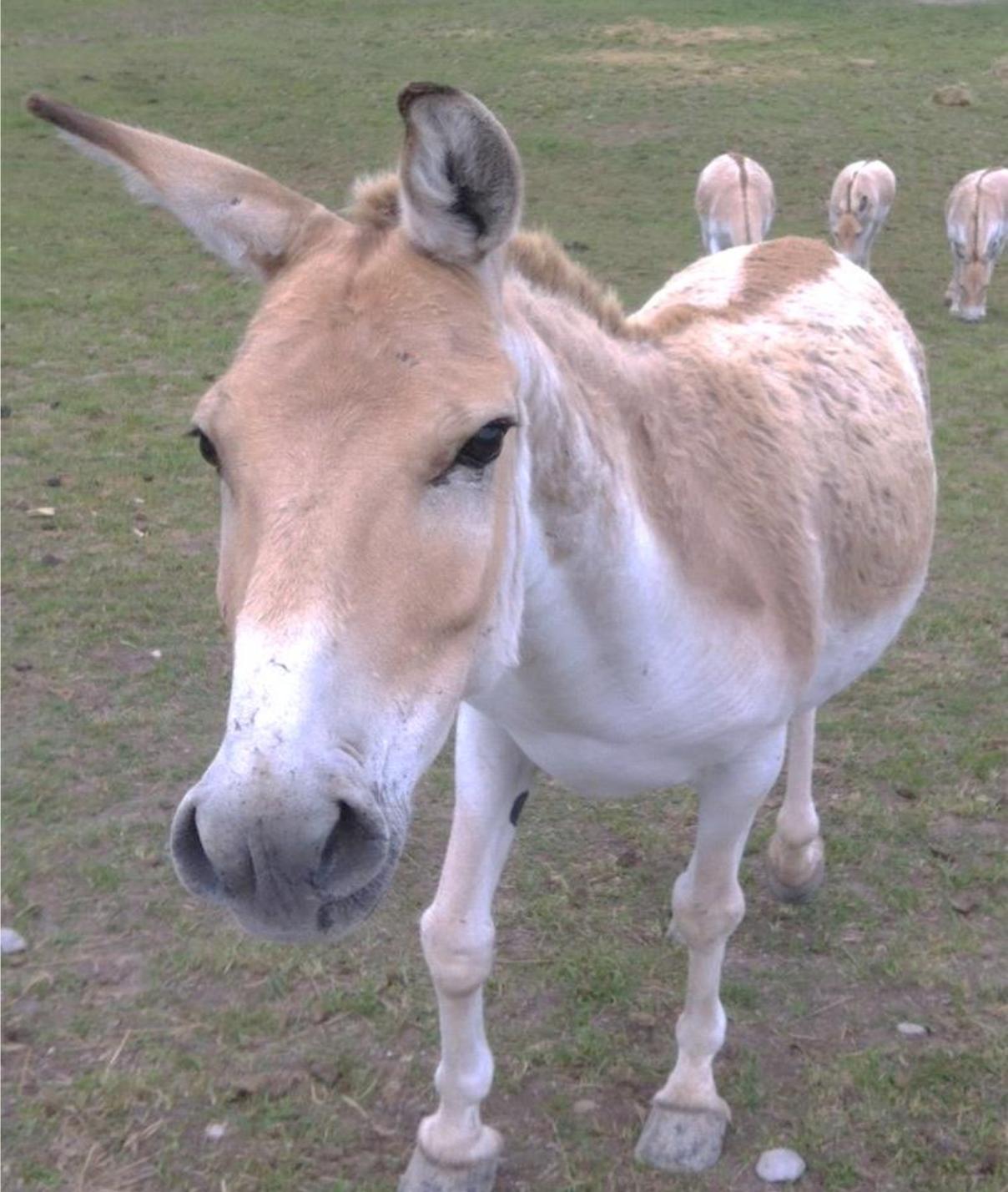
➤ Day 11: Prostaglandin

➤ Days 18-24: run through the chute to see when they ovulate

Results

- **3/6 ovulated same day**
- **4/6 ovulated within 24 h**
- **All ovulated within 5 d**

- **Very effective compared to domestic equid standards**
- **Can be used to bring all females into estrus in the same week**
- **About 50% chance of ovulation on day 19**



What's next for onagers in 2015?

- ▶ Use estrus synchrony to AI females in Cleveland and one female at SCBI
- ▶ Need to replenish sperm bank for onagers – week of semen collections at the Wilds??



Somali wild ass:

Proposal under review at Al Wabra, Qatar



AI in Somali Wild Asses?

- No current breeding match at White Oak for 4 females
- White Oak/SEZARC banked semen
 - from deceased males
- We don't know much about SWA female repro
 - Cheri Asa at St. Louis shared that they cycle ~26 days
- White Oak is not set up to run females through the chute daily
 - Why not try the estrus synch protocol and see if it works?



Pregnancy check in March



What would we do different in round two?

- **First attempt at AI w/o ever ultrasounding a female to determine follicle size**
- **Now that we have seen several females we know their follicles grow larger (require more time) than onagers.**
 - **Wait one more day before doing the AI?**
- **Use a higher quality semen sample if available**
 - **test a different sperm freezing media?**



Prsewalski's horses:

Filly born via AI in 2013 (fresh sperm)

(Collaboration w/ the Wilds, Mandi Schook, & Aime Johnson - Auburn University)



Przewalski's Horse Sperm Bank - A First



- 17 stallions
- Over 1,850 straws banked

P-horse plan for 2015 season

- **Estrus synchronization and AI w/ frozen-thawed sperm**
(Collaborators: Cleveland Metroparks Zoo; the Wilds)
- **Heterologous AI (domestic mares) to test frozen sperm function**
(collaborators: the Wilds; Auburn University)



Summary

- **Lots of collaboration between institutions and working with great teams**
- **Lots of progress in making AI more practical in all equids**
- **Some progress on the effort to import new genetics**
- **Lots more to accomplish in 2015!**



Photo credit: Budhan Pukazhenth



