

## Standard Operating Protocol for Humane Fertility Control Program (One-year liquid PZP vaccine)

Updated 7/6/22

### Overview

These Standard Operating Procedures (SOP's) have been updated based on input from the Science and Conservation Center and several of our team's most experienced darters. They are based on the best available science at this time. They have been prepared with the knowledge that our program is breaking new ground and these SOPs may require modification in the future. **Please see "Troubleshooting" for situations not normally covered.**

### Goals:

- Prevent pregnancies to stabilize population growth
- Align booster darting times to late fall/winter to increase the mares' titers to a high level going into our March-May foaling/breeding season.

### Monitoring and Tracking of Treatments:

- The Program Coordinator and local participating American Wild Horse Campaign (AWHC) approved and certified Field Applicators (Darter), shall identify mares to be treated with fertility control by using the AWHC Database.
- All horses darted with fertility control vaccine shall be documented photographically including description of horse, location, migration patterns, and band structure.
- Documentation should include: if a foal is at the mare's side, if a mare is pregnant, any injuries, and/or abscesses.
- Abscesses/granulomas should be indicated in the Observation Record and the applicable darting record linked. Be sure to update the record and close the record when abscess is healed. CONTACT The Range Manager regarding any abnormally large or slow healing abscesses with photos and note that WHC was notified in the comments. To close the record, reopen it and put the date in when the issue is resolved.
- All comment and event entries should be dated (beginning of comment) and initiated at the end of the comment.
- In ID Comments, ID descriptive should be at the top, then other comments (ie: location for USA Pkwy ONLY, other areas location goes in events). Most recently dated notes should be first.
- A PZP Application Data Record, or other record keeping device or notebook, will be used by Darters to record all pertinent data relating to each darting. The data should include name of mare, date, type of treatment (Primer or Booster), dart number, air

pressure, lot number, hip, short/long dart, recovered, discharge amount, and any other pertinent information. DO NOT DISPOSE OF THESE RECORDS.

- Field records for PZP application are to be entered **no later than** midnight, into the database on the same day the application was given.
- Dart records must be approved by Herd Lead each day so that darting reports are up-to-date and current. Herd Lead's should check for pending records daily.
- An inventory will be maintained of all supplies.
- An inventory report will be sent to the Program Coordinator within 48 hours of the request for an inventory status update.
- When using a short dart, note in darting record the reason: yearling or underweight. Make sure the mare's record includes a current photo of the mare correlating with body score.
- If the dart is NOT recovered, use "**unknown**" in the dart record pull down menu and re-dart the mare. We have almost a 100% recovery rate, so this should affect very few mares.
- Use the provided Horse Anatomy Chart on the resource page for proper body part notations.

#### **Application Process:**

1. PZP vaccine shall be administered through remote darting by trained and certified darters only. For any darting operation, the designated darter must have successfully completed the required certification course offered by the Science and Conservation Center in Billings, Montana.
2. Delivery of the vaccine would be by intramuscular injection into the left or right hip/gluteal muscles while the mare is standing still.
3. Long shots over 30 yards may be taken provided the Darter has attempted a closer range shot for the targeted mare, and the rifle capability and field conditions support safely taking the longer shot.
4. Only certified darters can mix the vaccine/adjuvant and prepare the emulsion.
5. Vaccine-adjuvant emulsion would be loaded into darts and delivered by means of a CO2 capture rifle or pistol, or loaded into a syringe for jabstick application.
6. **Be certain to number your dart prior to loading it with PZP.**
7. If the dart is not used before the end of the day, it should be stored under refrigeration and should be used within 24 hours of being mixed. Mark refrigerated in the darting record from the pull-down menu.
8. If dart is not used within the 24 hours, place the dart in the sharps container to dispose of, and record it as "spoilage" in Inventory Control Report under Manage.
9. Prior to using the refrigerated dart for treatment, insert the long needle to mix up the emulsion

### Primer - Freund's Complete Adjuvant

### Booster - Freund's Incomplete Adjuvant

10. Mares who have never been treated would receive 0.5 cc of PZP vaccine emulsified with 0.5 cc of Freund's COMPLETE adjuvant and loaded into darts as a Primer (P).
11. Mares who have not been treated (primer and/or booster) for a period of **14 months** or longer will be restarted and receive a PRIMER dose (0.5cc of the PZP vaccine emulsified with 0.5cc of Freund's COMPLETE adjuvant) and entered into WHIMS as restart primer (RP) and followed up with a booster.
12. Mares shall receive, after two weeks of being primed (P or RP), a booster (0.5 cc of PZP vaccine emulsified with 0.5cc Freund's INCOMPLETE adjuvant).
13. This treatment will be followed up within 8-12 months with a BOOSTER treatment of 0.5 cc of the PZP vaccine emulsified with 0.5 cc of Freund's INCOMPLETE adjuvant. Desired boosting time when possible would be winter so the mare has high titers going into the high foaling/breeding season (March-May).
14. Fillies should be primed at the age of 8-10 months of age so they can have a primer and booster with full titers by the age of one year going into the high foaling/breeding season (March-May)

## HORSE SAFETY & PROTECTION

1. Mares with foals at their sides may be treated provided the foal is not nursing or sleeping near the mare and is not near the mare's hip. Do not dart mares when they are nursing, drinking, or urinating.
2. Delivery of the vaccine would be by intramuscular injection into the left or right hip/gluteal muscles while the mare is standing still.
3. The liquid dose of PZP vaccine is administered using 1.0 cc Pneu-Darts with 1.5" barbless needles fired from either Dan Inject® or Pneu-Dart® X-Caliber rifle, for mares with a body score of 3 and above. See the body score chart on the Darting Resource Page
4. The liquid dose of PZP vaccine **may** be administered using 1.0 cc Pneu-Darts with 1.25" barbless needles fired from either Dan Inject® CO2 rifle or Pneu-Dart® CO2 X-Caliber rifle, for mares with a **body score of 3 and fillies ages 8 months to one year of age.** A "small mare" does not qualify for a short dart. Make sure the mare's record includes a current photo of the mare correlating with body score.
5. If you are uncertain of the horse's body score, use the 1.5" barbless needle. A 1.5" needle should be used for *all horses* and is recommended by the Science and Conservation Center and is the standard length for all equines.
6. Mares with a body score of a 1 or 2 should not be darted and will be placed on DND.. Please see the body score illustration. Become familiar with this chart for darting purposes. Please note in WHIMS that you did not dart the mare due to a body condition

of 1 or 2 and place on Monitor status. Please note those mares in the Observation Record.

7. Safety for both humans and the horse is the foremost consideration in deciding to dart a mare. The Dan Inject® CO2 rifle may be used up to 30 yard. The Pneu- Dart® X-Caliber CO2 rifle may be used up to 70 yards. The Dan Inject® with the rifled barrel may be used for up to 45 yards.
8. No attempts would be taken in high wind or when the horse is standing at an angle where the dart could miss the hip/gluteal region and hit the rib cage.
9. The ideal position is the darter standing perpendicular to the target mare, at a 90-degree angle to the hip/gluteal region.
10. If a dart imbeds and does not dislodge, the Darter will follow the affected horse until the dart falls out or the horse can no longer be found. The Darter would be responsible for daily observation of the horse until the situation is resolved. This must be noted by the Darter in the mares darting records and Field Notes and the Program Coordinator notified so it can be monitored.
11. After a three-day period where the dart is still lodged in the horse, the Range Manager will be engaged to determine what course of action should be taken.
12. No attempts would be taken should the head or other body part of another horse be in the target area of the hip of the mare being darted.
13. Persons conducting darting operations will have access to an on-call veterinarian for advice and/or assistance. In the event of a veterinary emergency, darting personnel would immediately contact the on-call veterinarian, providing all available information concerning the nature and location of the incident, and stay on location until help arrives.

## **FIELD SAFETY AND CONDUCT**

1. The Documenter/Spotter is responsible for helping to locate fired darts. The Documenter/Spotter should also be responsible for aiding the Darter in identifying the horse, photographing, and keeping onlookers at a safe distance.
2. To the extent possible, all darting would be carried out in a discreet manner. However, if darting is to be done within view of non-participants or members of the public, an explanation of the nature of the project would be carried out either immediately before or after the darting.
3. An educational brochure is available and should be offered to the viewing public as appropriate.
4. Darting in windy conditions is discouraged.
5. Attempts will be made to recover all darts. To the extent possible, all darts which are discharged and drop from the horse at the darting site would be recovered before another darting occurs.
6. In exceptional situations, the site of a lost dart may be noted and marked, and recovery efforts made at a later time.

7. All discharged darts should be examined after recovery to determine if the charge fired and the plunger fully expelled the vaccine by inserting the long needle. Halfway inserted means dart discharged. If needle inserts fully, record as dart did NOT discharge.
8. Spent darts will be discarded in a needle safe sharps container.
9. All Darters and Documenters/Spotters when in the field, will wear the AWHC safety vest and use the AWHC signage on all vehicles.
10. All Darters and Documenter/Spotters are to check in, via text, with the Program Coordinator or designated AWHC representative to advise of departure and field location. They will also check-in when leaving the range.
11. IN COMPLIANCE WITH THE NDA cooperative agreement, 2.0 Scope of Work, a: no mare will be darted within 500' of roadways, residence, or business building, or a distance that is not in conformance with county government regulation, whichever is greater.
12. Mares may only be darted on property where we have gained owner approval, as well as final approval by the NDA. See the resource page for approved properties.
13. Use your onX Hunt App to determine that you are on land on which we have approval for darting.

## Other Important Record Keeping

### INVENTORY CONTROL

1. Record all spillage, spoilage, and darts that do not hit the horse into WHIMS Inventory Control under **MANAGE**.
2. Select Inventory Control and fill out the form with the date, your name (pull down menu), lot number of PZP, reason, and any notes, then click add.

HOME
BROWSE
REPORTS
MANAGE
TUTORIAL
ADMIN

### Inventory Control Form

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Date

Greg Hendricks

Lot

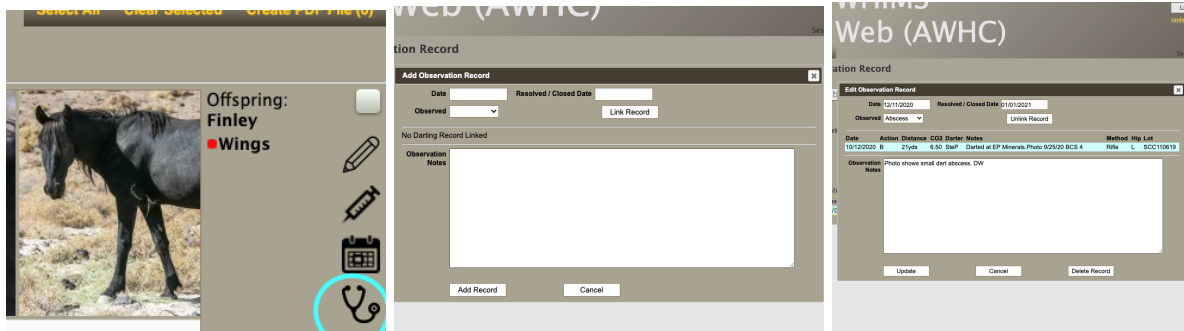
Reason

Notes

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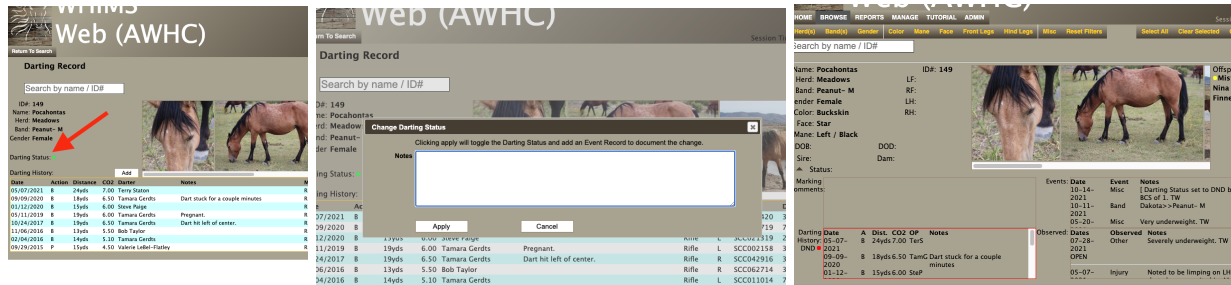
**OBSERVATION RECORDS: ALWAYS**, contact the Range Manager immediately when you have knowledge of an injured/dead horse. Quick knowledge of an injury means quick response for the horse.

1. URGENT MATTERS need to be texted to the Range Manager at 775-240-1304 with any photos/videos, for expediency. If you do not hear back within 5 minutes, call the hotline (775-352-3944) and stay on hold until a live person picks up. Corenna is on call to pick up, with Tracy and Cathy as backup.
2. Include Herd Leads on emails to WHC. They will approve the Observation Record.
3. Record injuries, abscesses/granulomas, and underweight horses that need to be monitored (BCS 1 & 2) in the Observation Record.
  - a. Severely underweight horses need a photo entered and sent to WHC.
  - b. On the right side of the horse record, select the stethoscope.
  - c. Fill out the form and date it.
  - d. For dart related entries (abscess/granuloma), link the dart record to the Observation Record.
  - e. Enter a photo in the horse record and send the photo and information to the Range Manager at [info@wildhorseconnection.org](mailto:info@wildhorseconnection.org)
  - f. To close a record, after consulting with WHC, enter date in the resolved portion. Add a short comment, then click update.



## DO NOT DART OPTION (DND)

1. **If after a conversation between Darter and Herd Lead**, the decision is made to not dart a specific mare, you can now create that record. (BCS of 1-2)
  - a. Open the needle icon to the right of the horse photos, for a new dart record.
  - b. When the dart record opens, select "Darting Status" on the left-hand side. It will initially show a green dot.
  - c. Fill in the Change Darting Status form and hit apply. This will produce a red outline of the dart record and place a red dot on darting status.
  - d. To remove the DND status, go through the same steps to open the form, hit apply and it will be automatically removed.



## Troubleshooting

1. If a mare/filly is due for her initial primer, but accidentally darted with a booster, when you see her again, **she still needs to be PRIMED**. Enter the booster in WHIMS and note in dart comments that the boost was in error and mare needs to be primed. Notify the Herd Lead and Program Coordinator.
2. If a mare was primed and never boosted, and it's been over 12 months, restart the mare with a primer (RP) and follow up with a booster. A note should be made in the record stating "Restarted mare."
3. If a mare has a foal or is obviously pregnant and has no gaps in treatments in the darting record, restart the mare with a primer (RP). Follow up with a booster.

If restarting mare due to foaling or pregnancy, note "Restarted due to pregnancy." or "Restarted due to foal at side." in the darting record.

If a mare needs to be restarted at the next available opportunity, it should be noted in the most recent dart record of the mare as "RESTART MARE" in all caps as a reminder. (Once restarted, "RESTART MARE" can be changed to "Restarted mare.")

4. If a mare has gone 14 months or longer between booster treatments, restart the mare with a primer (RP), follow up with a booster. A note should be made in the record stating "Restarted mare."
5. Lost darts cannot be recorded as fully injected since there's no way to test it. Record as a misfire (MF) with dosage marked as "Unknown" and re-dart the mare.
6. If a dart hits bone there will be bone fragments in the dart, record as a misfire (MF) and re-dart the mare. Bent darts are not necessarily from hitting a bone.
7. If a Primer is already mixed and gets used as a booster, it should be recorded as "primer as a booster" (PB). A note should be made in the record indicating the reason for a PB.