

Procedures for the Pennsylvania Heifer Development Program

2010-2011

Why Should I Consider Professional Heifer Development?

“The replacement heifer is a mixed blessing for most cow-calf operators. On one hand, she represents future profitability and genetic improvement of the cow herd, thus her selection and development are of paramount importance to the continued success of any operation. On the other hand, the replacement heifer is an inconvenience at best. Her smaller size and higher nutritional requirements dictate she be raised and managed separately from the rest of the herd; yet the fact that she is essentially non-productive for the first two years of her life makes her easy prey for mismanagement. Nevertheless, proper growth and development of the replacement female from birth until she produces her first calf is of critical importance for her to become a highly productive part of a beef producer’s business.”(Heartland Cattle Co., 2009).

“ The purpose of the PHDP is to provide small beef producers in Pennsylvania and surrounding states with a method to successfully identify, develop, grow, and breed replacement heifers.”

1. Identification and delivery Heifers born between January 1 and April 15, 2010 will be delivered to the Pennsylvania Livestock Evaluation Center in October. They will be individually identified, weighed, measured for frame size, evaluated for a reproductive tract score, have a pelvic measurement, and penned in the facility. Heifers not meeting minimum standards for reproductive tract score and pelvic size (standards from the Society of Theriogenology) will be rejected. Both commercial and purebred heifers will be accepted. Heifers must weigh 450 pounds at delivery and must meet all health requirements of the program.

2. Health Requirements

A. All heifers shall be accompanied by a Certificate of Veterinary Inspection **issued within 30 days of arrival** by an accredited veterinarian. All heifers originating from states other than Pennsylvania must meet current requirements for importation into Pennsylvania.

The following statement must appear on the Certificate of Veterinary Inspection: **“Johne’s Disease (Paratuberculosis) has not been diagnosed in this herd within the past 12 months. There have been no clinical signs of BVD infection, mucosal disease or type II BVD in the herd of origin within the past 6 months, or cases of ringworm in the past 30 days”**.

All heifers must be negative to the following diagnostic tests conducted by an accredited veterinarian and the laboratory procedures performed by the Pennsylvania Animal Diagnostic Laboratory System (PADLS). The results must be present on the Certificate of Veterinary Inspection or be readily verifiable through the PADLS system. The following tests are required:

- a. Negative to an **ELISA** or **AGID** test for Leukosis conducted at an approved laboratory within 40 days of delivery.
 - b. negative **C-ELISA** test for Anaplasmosis conducted within 40 days of delivery.
 - c. negative to microscopic agglutination lysis test for 5 serovars of Leptospirosis (*L. pomona*, *L. Hardjo*, *L. canicola*, *L. icterohemorrhagica*, *L. grippothyphosa*) within 40 days of delivery. No heifer with a titer of 1:800 or greater for any one serotype will be accepted. The determination of eligibility for delivery for animals with titers between 1:100 and 1:800 will be determined by the LEC veterinarian in consultation with the veterinarian of the farm of origin, considering vaccination history and herd history.
 - d. negative to a micro-plate virus isolation test for persistent infection with Bovine Virus Diarrhea virus within 40 days of entry. Ten cc of clotted blood in a red-topped plain vacutainer must be delivered to Animal Diagnostic Laboratory at Penn State within 48 hrs of collection and no later than Friday of each week. The samples must be kept chilled from the time of collection until arrival at Penn State.
 - e. negative to a serum agglutination test for Brucellosis within 40 days of entry. All out of state heifers must meet current importation requirements.
 - f. Heifers originating from Pennsylvania herds are exempt from Tuberculin test requirements. Heifers originating from out of state must have a negative intradermal test for Tuberculosis within 30 days of delivery.
 - g. All heifers will be vaccinated against Rabies upon delivery to the Livestock Evaluation Center.
- B. All heifers shall be immunized at the farm of origin as follows:
- a. receive one dose of an inactivated IBR, BVD, PI3, BRSV product more than **21 days** and not more than **40 days** prior to entry to LEC.
 - b. receive at least one dose of an inactivated product against *Hemophilus somnus* and be immunized against *Mannheimia hemolytica* (*Pasteurella*) using a commercially available product specifically targeted to the leukotoxin of the organism. Questions concerning acceptable products should be referred to the LEC station veterinarian (Dr. Griel, 814-865-7697).
 - c. immunizations must be documented on the health delivery form supplied by the Livestock Evaluation Center and signed by the attending veterinarian.
- C. Heifers must be free of clinical signs of infectious and contagious diseases upon arrival at LEC. This includes active ringworm, active pinkeye, warts, etc. Heifers meeting any one of the following criteria will not be accepted for penning:
- a. clinical signs of infectious and contagious disease upon arrival at LEC
 - b. inability to verify diagnostic test results.
 - c. immunizations not performed at least 21 days prior to delivery
- D. All horned heifers must be dehorned in time to allow proper healing before the heifers enter the Center.
- E. No implanted heifers will be accepted for the test or sold through the sale.

HEALTH AND VETERINARY CARE:

1. Health of the heifers will be under the supervision of the Veterinary Clinic Service at The Pennsylvania State University.
2. Any heifer deemed clinically unsound during the test will be removed from the test. This

decision will be made by the Center Director and the Center veterinarian, or his designee.

3. All heifers will be treated for control of internal and external parasites and be vaccinated for clostridial diseases (blackleg, malignant edema, enterotoxemia).
4. Consignors will pay for all incurred veterinary treatment costs.

3. Development and Breeding

All heifers consigned to the PHDP and delivered to the LEC in October must remain in the facility until pregnancy diagnosis is received, unless they are removed for reasons of health or disposition. A producer may consign a heifer to the program in October and have two options for use of the heifer. The first would be the heifer would be returned to the consignor after all financial settlements are made and at least 45 days after a successful pregnancy test. (Research shows heifers should not be transported within 45 days after breeding due to a higher incidence of early embryonic mortality.) The minimum expected period of residence in the LEC is 224 days. The second option would be the heifer would remain at the LEC and be consigned to a private-treaty bred heifer sale at the LEC provided there are a minimum of 30 heifers available for sale.

Heifers will be bred AI after synchronization with sires designated by the consignor. Heifers will be examined pre-breeding for reproductive soundness including having tract and ovary scores. All heifers will be simultaneously synchronized using a procedure determined each year based on efficiency, cost, and logistical soundness. The first breeding is expected to be a Co-Sync + CIDR, fixed-time system. Under this protocol:

Day 0:	GNRH injection and CIDR application
Day 7:	CIDR removal and double prostaglandin injection
Day 7+54 hours:	Breeding plus GNRH injection
Day 92	All heifers bled for pregnancy test

The first synchronization protocol is optional for April and March-born heifers (see tentative breeding schedule).

4. Rations and Feeding Program

Heifers will be group-fed using rations designed by station personnel. Expected rations may include corn silage, corn, roasted soybeans, distillers byproducts, and alfalfa and grass hay and baleage. Body condition will be monitored continuously and rations adjusted to maintain effective body condition. Rations will be designed to reach the critical breeding weight for the heifers based on delivery weight and frame size. It is expected rations will be designed for 1.8 to 2.2 lbs. per day average daily gain.

5. Program Costs

The cost of the program will be \$1.75/day per heifer (approximately \$400 per bred heifer after one synchronization and \$500 per heifer after two synchronizations), plus any veterinary treatment, semen, and breeding costs incurred. A fee of \$100 per heifer is due at delivery and

will be applied to the total cost for the heifer. All fees must be paid in full before a heifer may be released from the facility.

6. Private Treaty Sale

A private treaty sale offering will be made for one day approximately 3 weeks following the receiving of pregnancy results. Thirty heifers must be made available for the sale. A fee of 5% of the selling price will be collected by the LEC for heifers sold in the private treaty sale to cover the cost of advertisement, sale-day veterinary fees, and feed and yardage for the heifers prior to the sale. **All transactions and transfers for the sale of the heifers will be between the buyer and the consignor.** LEC or it's personnel will not act as a broker for the sale or transfer of the heifers. Unsold heifers will be returned to the consignor, and must be removed from the LEC immediately.

A tentative schedule for the heifer development program:

- October 6: Heifers arrive at LEC**
- April 1: GNRH injections and CIDR insertions**
- April 8: CIDR removal and PG injections**
- April 11: Timed inseminations and GNRH injection**
- May 11 Blood pulled for pregnancy test**
- May 18 Non-bred cattle receive GNRH injection and CIDR inserts (bred heifers may leave LEC and be returned to owner)**
- May 25 CIDR removal and PG injections**
- May 28 Timed Insemination and GNRH injection**
- June 27 Blood pulled for pregnancy test**
- July 5: Non-bred heifers may be returned to owner**
- August 11: Heifer Sale or bred heifers returned to owner**

Any producer interested in nominating heifers to this trial should contact the Livestock Evaluation Center at: 814-238-2527 or Dr. John Comerford at 814-863-3661. The Deadline for nominations will be August 20, 2010.

Please contact the LEC for any questions or concerns.