INDICATIONS
For increasing the percentage of heifer calves in dairy and beef cattle.

DOSEAGE
One unit (0.25 mL or 0.50 mL) of semen per vial.

NOTICE
This is not a restricted drug. HEIFERPLUS is a non-prescription biopharmaceutical agent. Federal law (US) does not require that this product be used by or on the order of a licensed veterinarian. Please check with local regulations.

DESCRIPTION
HEIFERPLUS is spermogenic agent for sexing bull semen. Packaged in kit form, each dose is sealed in a vial to maintain potency during storage. The agent is activated by adding semen directly to the HEIFERPLUS vial. The sexed semen is returned to the original straw and inseminated as usual.

MODE OF ACTION
HEIFERPLUS works by enhancing the fertility of the X-chromosome bearing (female) sperm and slowing the motility of the Y-chromosome bearing (male) sperm. When inseminated, the sperm sort in the reproductive tract of the dam. The result is more ova fertilized by the X-chromosome bearing (female) sperm. The heifer sex ratio is increased by 20-25% and fertility is boosted 5-20%.

KIT INSTRUCTIONS
- Warm HEIFERPLUS vial to 96-101.5°F (35.6-38.6°C) to prevent cold shock to semen. Thaw semen as usual.
- Cut the straw at a 60° bevel using a good pair of sharp scissors.
- Insert the cut-end of semen straw through the rubber septum into the HEIFERPLUS vial.
- Add semen to vial by grasping both the vial and straw in the palm of the hand and “shaking” downward 3-4 times (similar to shaking a glass thermometer). Be certain all semen is in vial.
- Gently mix semen with contents of vial.
- Transfer enriched semen from the vial back into the straw. Do this by grasping vial and straw in an inverted position and “shaking” downward 3-4 times. Be certain all semen is transferred to straw.
- IMPORTANT: Incubate the semen in water bath for 15 minutes at 96-101.5°F (35.6-38.6°C). Adjust time according to temperature of bath. See Table 1. Do not exceed 30 minutes incubation.
- Remove from water bath, dry, and cut the bevel from straw. Load into insemination gun and inseminate as usual.

Note: During incubation, keep vial attached to the straw. Protect semen from exposure to air and water.

TIMING OF INSEMINATION
- When breeding from observed heat (natural or synchronized): Breed heifers 16 hrs and cows 18 hrs following first standing heat.
- When timed-breeding using OVSYNCH™: Breed heifers 18 hrs after the last GnRH injection. Breed cows 24 hrs after last GnRH.
- When breeding super-ovulated heifers and cows: With double inseminations - Breed at 16 hrs and 24 hrs following first standing heat. With single insemination - Breed 20 hrs after first standing heat.

NOTICE: USE OF THIS PRODUCT MAY REQUIRE A DELAY IN THE TIMING OF INSEMINATION. WAIT AT LEAST 16 HRS AFTER ONSET OF STANDING HEAT BEFORE USE OF THIS PRODUCT.

STORAGE CONDITIONS
For long-term storage keep in freezer (-4°F or -20°C).

HOW SUPPLIED
HEIFERPLUS is lyophilized in the following package sizes: 0.25mL and 0.50mL vials.

WARNINGS
KEEP OUT OF REACH OF CHILDREN.

Manufactured by:
EMLAB
Emlab Genetics, LLC
Arcola, IL 61910 USA

For more information, call 708-442-3964 or log on to www.emlabgenetics.com

HEIFERPLUS® is a registered trademark of EMLAB GENETICS, LLC

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>°F</th>
<th>°C</th>
<th>TIME (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>101.5</td>
<td>38.6</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>98.6</td>
<td>37</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>96</td>
<td>35.6</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>90*</td>
<td>32</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

*Electric thaw bath preset at 96°F (35.6°C).
**Non-electric thaw bath.

8. Remove straw from water bath. If necessary, cut bevel from straw. Load straw into insemination gun. Inseminate as usual.