**TOP REASONS TO CHOOSE PYRAMID® + PRESPONSE® SQ FOR CALVES**

1. **THE ONLY CALF VACCINE LABELED TO PROTECT AGAINST BVDV TYPE 1B**
   - Labeled to protect against the most prevalent strain of bovine viral diarrhea virus (BVDV) in the U.S., Type 1b
   - Provides a duration of immunity of at least 217 days against BVDV Type 1b

2. **UNIQUE METASTIM® ADJUVANT ENHANCES IMMUNE RESPONSE**
   - Helps override maternal antibodies to stimulate a strong immune response in young calves
   - Boosts immune response by extending the time the immune system is exposed to the vaccine antigens

3. **PROVEN TO STIMULATE PRODUCTION OF IgA AND IgG ANTIBODIES**
   - Mucosal immunity involves IgA antibodies that target a specific disease-causing agent on the mucosal surface of the respiratory tract, a common site of disease exposure
   - Although it was previously assumed only intranasal vaccines could generate this kind of immunity, a new study shows PYRAMID 5 can, too
   - PYRAMID also stimulates the production of IgG antibodies, typically associated with injectable vaccines, that circulate in the blood and are essential for protecting the lungs

4. **SINGLE-DOSE, MODIFIED-LIVE VIRUS VACCINE**
   - Protects against BVDV Types 1a, 1b and 2, infectious bovine rhinotracheitis (IBR), parainfluenza 3 (PI3), bovine respiratory syncytial virus (BRSV) and *Mannheimia haemolytica*
   - Contains the Singer BVDV Type 1 and the 5912 BVDV Type 2 strains, which were specifically selected to offer broad antigen/antibody response

5. **EFFECTIVE, WHOLE-HERD PROTECTION**
   - Vaccinate cows with Express® FP to prevent persistently infected calves from being born and spreading BVDV
   - Use PYRAMID 5 + PRESPONSE SQ in calves nursing pregnant cows properly vaccinated with either PYRAMID or EXPRESS FP vaccines
**PROTECTS AGAINST BVDV TYPE 1B, THE BIGGEST THREAT TO CALVES TODAY**¹,²

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent</th>
<th>Year</th>
<th>Percent</th>
<th>Year</th>
<th>Percent</th>
<th>Year</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>41%</td>
<td>1998</td>
<td>54%</td>
<td>2008</td>
<td>61%</td>
<td>2019</td>
<td>69%</td>
</tr>
</tbody>
</table>

Percent of all BVDV cases attributed to **TYPE 1B**.

**UNIQUE ADJUVANT HELPS AVOID MATERNAL ANTIBODY INTERFERENCE**

1. **Vaccine antigens on adjuvant lipid droplets stimulate the immune system.**
2. **Maternal antibodies can neutralize exposed antigens.**
3. **Some antigens are “hidden” inside lipid droplets to escape maternal antibodies.**
4. **Immune cells metabolize lipid droplets, releasing “hidden” antigens to stimulate an immune response.**

The MetaStim® adjuvant also boosts immune response by extending the time the immune system is exposed to the vaccine antigens.

**PROVEN TO OVERCOME MATERNAL ANTIBODIES AND STIMULATE LOCAL IMMUNITY AND INTERFERON PRODUCTION**

1. **A recent challenge study evaluated the efficacy of Pyramid® 5 to protect 30-day-old calves with maternal antibodies from bovine respiratory syncytial virus (BRSV)**³.
2. **PYRAMID 5 successfully overcame maternal antibodies to stimulate an immune response, as evidenced by the fact vaccinated calves had fewer clinical signs and lung lesions, as well as less nasal viral shedding, than unvaccinated calves.**
3. **In addition, PYRAMID 5 stimulated a local immune response and the production of interferon — an advantage previously only attributed to intranasal respiratory vaccines.**
4. **PYRAMID 5 also overcame maternal antibody interference when calves were challenged with bovine viral diarrhea virus Types 1a and 2**⁴,⁵.

For more details on BVDV Type 1b, visit BVDVTracker.com.

Additional information about PYRAMID vaccines is available at PYRAMIDVaccines.com.

---