



Novartis Herd Health Maximization Program

Managing for Maximum Performance, Productivity & Profitability

CALVES • HEIFER DEVELOPMENT • PRECALVING & CALVING • LACTATION • DRY-OFF





CALVES

Birth

- Feed 4 qts. colostrum
- Use colostrum from a single dam
- If dam is heifer: only use colostrum if production is <20 lbs.
- Administer **Bovine Ecolizer®+C20** as needed for scours control
- Promptly remove calf from dam
- Dip navel with tincture of iodine
- Place calf in a recently cleaned, freshly bedded hutch

Days 2-3

- Feed 4 qts. transition milk* per day
- OR
- Milk replacer per label directions
- If quantity or quality of colostrum is suspect, check serum total protein (TP)
- **Failure of passive transfer occurs when serum TP < 5.5 mg/dl**
- If serum TP < 5.5, administer **Poly Serum®**
- Goal ≥ 90% calves have serum TP > 5.5
- Monitor for scours

Days 4-14

- Feed milk replacer according to label, or feed pasteurized milk
- Water available at all times
- Monitor for scours
- Test for PI BVD with ear notch test; cull PI calves immediately

Weeks 2-4

- Offer calf starter grain mix, feed ad lib
- Water available at all times
- Dehorn when horn buds are easily palpable
- Administer **Clostridium Perfringens Type A Toxoid**, (booster in 2-4 weeks)
- High-risk dairies/calf ranches: administer **Arsenal® 4.1** and **Clostri Shield® 7** vaccines

Week 6

- Administer **Arsenal 4.1** vaccine

Week 7

- Administer **Quick Shield®** vaccine

Week 8

- Wean
- Move to group pen, maximum of 8 calves
- Monitor for scours and respiratory disease

HEIFER DEVELOPMENT

Month 4

- Administer 1st dose of **Vira Shield® 6+L5 HB**** (booster in 4 weeks with **Vira Shield 6+L5 HB****)
- OR
- Administer **Arsenal 4.1** and **ReproSTAR® L5 HB***** vaccines (booster in 4-6 weeks)
- Administer **Clostri Shield 7** vaccine (booster in 3 weeks)
- Administer brucellosis vaccine if needed

Month 6

- Administer **Arsenal 4.1** vaccine
- Internal and external parasite control

Notes/additional instructions

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* Transition milk = milk produced on days 2-3 of lactation that is transitioning from colostrum to milk.

** Replace with Vira Shield 6+VL5 HB vaccine if bull breeding.

*** Replace with ReproSTAR VL5 HB vaccine if bull breeding.



PRECALVING & CALVING

LACTATION (DIM = Days in Milk)

| Month 12 | Months 13-15 | Months 16-17 | Month 20 | Month 22 | Month 23 | Month 24 | DIM 1-10 | DIM 11-21 |
|----------|--------------|--------------|----------|----------|----------|----------|----------|-----------|
|----------|--------------|--------------|----------|----------|----------|----------|----------|-----------|

- Height and weight check
- Internal and external parasite control
- Administer **Vira Shield 6+L5 HB**** OR **Arsenal 4.1** and **ReproSTAR L5 HB*****
- Administer **Fusogard®** (2 doses, 21-day interval) vaccines; booster as recommended by veterinarian

- Target breeding weight 55-60% mature body weight (~800 lbs. for Holsteins)
- Heat detection and estrus synchronization as needed
- Breed as appropriate
- Administer **Clostri Shield 7** vaccine

- Pregnancy check

- Confirm pregnancy status
- Evaluate feet for trimming
- Internal and external parasite control

- Move to far-off dry pen
- Height and weight check
- Administer **Clostri Shield 7** vaccine and **Clostridium Perfringens Type A Toxoid** (booster in 2-4 weeks if 1st vaccination)
- Administer **Scour Bos® 9** vaccine
- Administer **Vira Shield 6+L5 HB**** vaccine (booster in 1 month if 1st **Vira Shield 6+L5 HB**** vaccination)

- Move to close-up dry pen
- Check for mastitis (visual, palpation)
- Administer **Scour Bos 4** vaccine booster
- Administer **Fusogard** vaccine

- Parturition
- Monitor hourly for signs of labor
- Move to clean bedded maternity stall/pen at onset of labor

- Target: 85% mature body weight (~1,250 lbs. for Holsteins)
- Monitor rumen fill and manure consistency
- Check rectal temperature at least every other day
- Watch closely for DA, metritis, mastitis

- Monitor rumen fill and manure consistency
- Watch closely for DA, metritis and mastitis
- Evaluate uterine involution at 14-21 DIM, treat as needed

Notes/additional instructions

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DRY-OFF/PRECALVING (Weeks Before Calving)

| DIM 30-45 | DIM 50-60 | DIM 70-100 | DIM 100-120 | DIM 120-250 | DIM 250-300 | 6-8 Weeks | 3 Weeks | 0 |
|-----------|-----------|------------|-------------|-------------|-------------|-----------|---------|---|
|-----------|-----------|------------|-------------|-------------|-------------|-----------|---------|---|

- Start estrus synchronization program if used
- Monitor Body Condition Score (BCS). Goal: $\geq 90\%$ of cows with $BCS \geq 2.75$
- Administer **Arsenal 4.1** and **ReproSTAR L5 HB*****

- Move to breeding pen if appropriate
- Breed on timed AI if using synchronization program
- Otherwise, heat detect and breed

- Watch for heat and breed
- Palpate any cows > 70 DIM and not bred or seen in heat

- Pregnancy check
- Administer **Fusogard** vaccine if high incidence of footrot

- Re-enroll open cows in synchronization program
- OR
- Heat detect and breed
- Evaluate for foot trim at 150-200 DIM

- Culling decision for any open cows
- Confirm pregnancy in pregnant cows

- Dry-off: immediate cessation of milking
- Treat with dry-cow intramammary antibiotic after last milking
- Evaluate for foot trim
- Move to far-off dry pen, monitor for mastitis 1st week

- Administer **Clostri Shield 7** vaccine and **Clostridium Perfringens Type A Toxoid**

- Administer **Vira Shield 6+L5 HB**** and **Scour Bos 9** vaccines

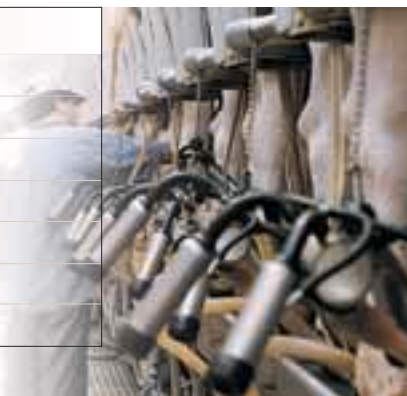
- BCS goal: $\geq 90\%$ of cows with BCS of 3.25-3.75

- Move to close-up dry-cow pen
- Check for mastitis (visual, palpation)
- Administer **Fusogard** vaccine

- Parturition

Notes/additional instructions

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HEIFER VACCINATION PROGRAM

- Managing heifers is an investment in your future. Managing them effectively can reduce replacement costs and increase milk production. Novartis Animal Health has a full line of vaccines to help keep your heifers healthy and get them in the milking string quickly. Consult with your veterinarian to determine the best vaccination schedule for your heifers.

| Product | Age | | | | | | | | | | | | |
|---------------------------------------|-------|---|---|--------|---|----|----|----|----|------------------|----|----|----|
| | Weeks | | | Months | | | | | | Weeks to Calving | | | |
| | 0 | 6 | 7 | 4 | 6 | 12 | 13 | 14 | 20 | -8 | -5 | -4 | -2 |
| Arsenal 4.1 | | ● | | ▲ | ▲ | ▲ | | | | | | | |
| Clostri Shield 7 | | | | ● | | | | ● | | ● | | | |
| Clostridium Perfringens Type A Toxoid | | | | | | | | | | ● | | ● | |
| Ecolizer+C20 | ● | | | | | | | | | | | | |
| Fusogard | | | | | | ● | ● | | | | | ● | |
| Quick Shield | | | ● | | | | | | | | | | |
| ReproSTAR L5 HB*** | | | | ● | | ● | | | | | | | |
| Scour Bos 9 | | | | | | | | | | ● | | | |
| Scour Bos 4 | | | | | | | | | | | | ● | |
| Vira Shield 6+L5 HB** | | | | ▲ | | ▲ | | | | ● | | | |

Arsenal, Clostri Shield, Ecolizer, Poly Serum, Quick Shield, ReproSTAR, Scour Bos, Vira Shield are registered trademarks of Novartis AG. Fusogard is a registered trademark of Novartis Animal Health, Inc., Basel, Switzerland.

MATURE COW VACCINATION PROGRAM

- Common dairy cattle diseases can harm your herd's performance and decrease productivity and profitability. Novartis Animal Health has a full line of vaccines developed with your herd health, management and economic considerations in mind. Consult with your veterinarian to set up a vaccination schedule for your milking herd.

| Product | Months Relative to Calving | | | |
|---------------------------------------|----------------------------|----|----|-----------------|
| | -2 | -1 | +1 | 1st Preg. Check |
| Arsenal 4.1 | | | ● | |
| Clostri Shield 7 | ● | | | |
| Clostridium Perfringens Type A Toxoid | ● | | | |
| Fusogard | | ● | | ▲ |
| ReproSTAR® L5 HB*** | | | ● | |
| Scour Bos 9 | ● | | | |
| Vira Shield 6+L5 HB** | ● | | | |

LEGEND:

- ▲ Use either **Arsenal 4.1** or **Vira Shield 6+L5 HB****. Consult your veterinarian about the most appropriate option for your operation.
- ▲ In high incidence herds, 6-month booster may be beneficial in maintaining control of footrot throughout the year.

** Replace with **Vira Shield 6+VL5 HB** vaccine if bull breeding.

*** Replace with **ReproSTAR VL5 HB** vaccine if bull breeding.



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The Novartis Herd Health Maximization Program

Our team of technical service veterinarians developed this Novartis Herd Health Maximization Program to help you and your veterinarian maintain the health, productivity and profitability of your dairy operation. The same is true of every Novartis dairy vaccine: Each product is developed to effectively meet the health needs of your operation – as well as positively affect your profitability. Because to offer true value, an animal health product must not only work – it also must provide you with a healthy return on your investment.

For more information about Novartis vaccines, contact your veterinarian or animal health supplier. Or visit us online at www.livestock.novartis.com.



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