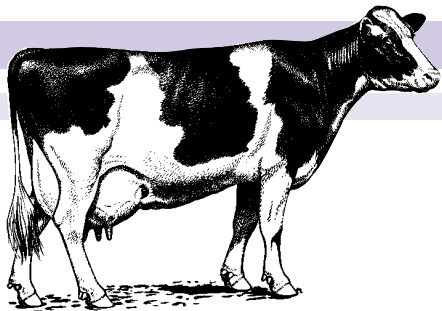


MF-2101

Dairy “Preventive Herd Health Program” (PHHP)

Gerald Stokka, Extension Specialist,
Beef Veterinarian
John F. Smith, Extension Specialist, Dairy
James R. Dunham, Extension Specialist,
Dairy Science
Travis Van Anne, K-State Veterinary
Medicine Student

K-State Research & Extension



Each producer is urged to establish a herd-specific Preventive Herd Health Program (PHHP) in conjunction with a veterinarian who may provide a risk/benefit ratio and give realistic expectations for each vaccine. This document is designed to be used in consultation with a veterinarian in developing a PHHP that is herd specific.

A. Immune system management:

Remember: It is imperative that animals be healthy and unstressed at the time of immunization.

Neonatal period (birth to 6 months of age)

1. 4 to 6 quarts of colostrum is needed within 24 hours of birth with maximum absorption occurring in the first six hours. This period is critical to the immune status of the animal. Neglecting colostrum feeding may lead to disease-stricken animals later in life. Ingestion of colostrum at birth provides antibodies developed by the dam.
2. Immunity (passive) to the calf via intake of colostrum can be improved with the use of maternal vaccination procedures. Colostral antibody protection decreases as the calf ages.
3. Apply iodine to the navel as soon as possible after birth.
4. In herds experiencing IBR-PI3 problems, it may be beneficial to give intranasal IBR-PI3 at 2 to 3 days of age.
5. Dehorning and castration should be performed by 2 to 3 weeks of age.
6. Tag or tattoo in conjunction with cow's identification for records; remember bangs vaccinated heifers must be tattooed.
7. Calves should be housed in individual pens within a properly ventilated building or in calf hutches to prevent physical contact.
8. Feed milk or milk replacer at 8 to 10 percent of birth weight.
9. Feed waste milk when possible. (excess colostrum, non coliform mastitic milk, and unsalable milk)
10. High quality milk replacer can be fed when more economical than milk.
11. Milk replacer should contain at least 15 percent fat and 22 percent protein and be fed at or near body temperature.
12. Maintain sanitary mixing and feeding containers for milk or milk replacer.
13. Starter/grower rations fed to appetite, with at least 16 percent crude protein and a coccidiostat, should be started at 3 days of age.
14. Wean calves between 4 and 8 weeks if they are eating at least 1.5 pounds of starter ration.
15. After one week of isolation postweaning, place in groups of six according to size, weight and age.
16. Monitor fly control. Eliminate breeding areas and control adult fly problems.
17. Reduce heat stress with shade and cool, clean water.

Adult cows

Age or time of administration	Disease	Type of vaccine
(40–60 days prior to calving)	IBR-PI3-BVD-BRSV ^b Leptospirosis ^c Calf scours: Rota and Corona virus ^d -E. coli + Clostridium perfringens, type C and D ^d	Killed virus 5-way Bacterin Killed Bacterin/toxoid
(3 weeks prior to calving)	Calf scours: Rota and Corona virus ^d -E. coli + Clostridium perfringens, type C and D ^d	Killed Bacterin/toxoid
Follow label directions	Coliform mastitis	Bacterins

Animals must not receive any other gram negative vaccines including: Pasteurella, Salmonella, Brucella, Campylobacter, Haemophilus somnus, E. coli, or Moraxella bovis bacterins within 5 days of mastitis vaccines.

^a Use vibrio in non AI herds.

^b Annual booster is necessary.

^c Vaccination is recommended every six months if a problem exists.

^d If a problem exists with scours, an annual vaccination is recommended.

Scours cannot be corrected with vaccination alone, suboptimal management practices also need corrected. Vaccination programs also are not successful when calves are raised on milk replacer and not milk from the dam.

Replacement heifers (pre-breeding to calving)

Age or time of administration	Disease	Type of vaccine
Pre-breeding (10–12 months)	IBR-PI3-BVD-BRSV Clostridial spp. Leptospirosis Vibriosis (optional) ^a	Modified live virus Bacterin/toxoid-7way 5-way Bacterin Bacterin
(40–60 days prior to calving)	IBR-PI3-BVD-BRSV ^b Leptospirosis ^c Calf scours: Rota and Corona virus ^e -E. coli + Clostridium perfringens, type C and D ^e	Killed virus 5-way Bacterin Killed Bacterin/toxoid
(3 weeks prior to calving)	Calf scours: Rota and Corona virus ^e -E. coli + Clostridium perfringens, type C and D ^e	Killed Bacterin/toxoid
Follow label directions	Coliform mastitis	Bacterins

Animals must not receive any other gram negative vaccines including: Pasteurella, Salmonella, Brucella, Campylobacter, Haemophilus somnus, E. coli, or Moraxella bovis bacterins within 5 days of mastitis vaccines.

Neonatal period (birth to 6 months of age)

Age or time of administration	Disease	Type of vaccine or therapy
0-6 hr	passive protection	Colostrum
6 weeks	IBR-PI3-BVD-BRSV Clostridial spp.	Modified live virus Bacterin/toxoid-7-way
4-6 months ^a	Brucellosis	Strain 19 or RB51
6 months	IBR-PI3 -BVD-BRSV Clostridial spp. Leptospirosis	Modified live virus Bacterin/toxoid-7-way 5-way Bacterin

^a Follow state and federal regulations; replacement heifers should receive immunization between 4 to 12 months. Annual vaccination is not needed. RB51 is approved for use in Kansas.

Bulls

Purchase only virgin bulls and semen test before exposing to breeding females.

AI is preferred; but if bulls are used, they should be vaccinated using the following protocol.

Age or time of administration	Disease	Type of vaccine
(At time of breeding soundness examination)	IBR-PI3-BVD ^b Vibriosis (Campylobacteriosis) ^b Leptospirosis b	Killed virus Bacterin 5-way Bacterin

^b Annual booster is necessary

B. Other Preventive Measures for Cows:

Condition	Prophylaxis	Time of administration	
		Class of cattle	Time or circumstance
1. Acidosis	Sodium bicarbonate	High producers	High grain feeding: 1.5% of grain mix
2. Internal parasites	morantel tartrate fenbendazole 5mg/kg	Fresh cows	no withdrawal time
		Fresh cows	no withdrawal time
3. Mastitis control	a. Monthly SCC	All milking cows	DHIA test day
	b. Check foremilk	All milking cows	Before each milking
	c. Teat dip	All milking cows	After each milking
	d. Dry treat	All cows	At dry-off
	e. Periodic milk cultures	Problem cows	Antibiotic selection and identify causative organisms
	f. Review milking	All milking cows	When a problem exists procedures
4. Foot problems	1. Foot trim	All milking cows	1-2 times per year
	2. Foot bath	All milking cows	Consult veterinarian
5. Reproduction	Uterus-Ovary exam	Only problem cows	When observed
	Pregnancy check	All bred cows	35-40+ days postbreeding
6. Monitor fly control: eliminate breeding areas and control adult fly problems.			
7. Heat stress may be reduced with solid shade for all milking and dry cows, holding pen and exit lane cooling with feedline drippers, fans and shade.			
8. Segregate cows with contagious mastitis and milk last to reduce cross contamination.			
9. Blood (and tissue) samples after abortion and other unexplained illnesses should be collected for diagnosis by a veterinarian.			
10. Foot baths should be kept clean and properly maintained.			

C. Preventive Herd Health Program (PHHP) Closing Remarks

Always include a veterinarian in preventive herd health decisions. The most common problem is failing to give booster immunizations or at the correct time frame. Animal comfort is a greater determinant of production than vaccinations, and to receive the full benefits of nutrition, genetic, and management programs, cow comfort must be maximized. This does not lessen the need for balanced rations that allow the immune system to respond efficiently to vaccines. More is not necessarily better. The best vaccination program for a dairy includes vaccines for the most probable infectious pathogens possibly found in the herd. This contact is unique to each production unit based on disease problems and management practices that can be identified by a veterinarian.

Forms are available for Reproductive checks from The Department of Animal Sciences and Industry, (913) 532-1280.

References:

- Cortese, V.S. 1993. Immunology and vaccines-where we are and where we are going. In: Proc. West. Large Herd Dairy Mgmt. Conf. pp 66-68, Las Vegas, Nevada.
- Council report, 1993. Bovine immunization guidelines. JAVMA. 203:238-242.
- Howard, J.L. 1993. Current Veterinary Therapy 3: Food Animal Practice, pp 121-153 in Third edition, W.B. Saunders Co., Mexico.
- Morrill, J.L., Dunham, J.R., Call, E., Call, P. 1991. Raising dairy heifers. Cooperative Extension Service, Kansas State University, C-721.
- Randle, R. 1996. Old technology used right for success: the herd vaccination programs. In: Proc. of the 1996 Heart of America Dairy Management Conference. pp 4-11, Kansas City MO, April 29 and 30.
- Shearer, J.K., 1996. Physiology of a healthy and an unhealthy foot: keeping cows on their feet at the feedbunk. In: Proc. of the 1996 Heart of America Dairy Management Conference. pp 94-108, Kansas City MO, April 29 and 30.
- Shearer, J.K., 1996. Vaccination guidelines for dairy cattle. Internet, fairs@hammock.ifas.ufl.edu
- Smith, B., 1996. Large Animal Internal Medicine, Second edition, Mosby-Year Book, Inc. United States. pp 1648-1683.
- Smith, J.F., Horner, J. 1996. Coping with the summer weather: management strategies to control heat stress. In: Proc. of the 1996 Heart of America Dairy Management Conference. pp 128-134, Kansas City MO, April 29 and 30.
- Spire, M.F., 1982. Theory and practices of immunoprophylaxis in cattle. JAVMA. 181:1158-1161.



Kansas State University

Agricultural Experiment Station & Cooperative Extension Service

MF 2101

October 1996

Issued in furtherance of Cooperative Extension Work, acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, Extension Districts, and U.S. Department of Agriculture Cooperating, Richard D. Wootton, Associate Director. All educational programs and materials available without discrimination on the basis of race, color, national origin, sex, age, or disability.

File Code:Dairy Science-4