

YOU NEED BOTH!

Better Together!

supports a well-designed oral feed program that follows NRC requirements and does not exceed the legal Se limit of 3mg per head per day.



SURE TRACE MINERAL SUPPLY BY TIMED INJECTION™



Call Your MULTIMIN® USA Representative www.SavetheLung.com



MULTIMIN® 90 UNIVERSITY STUDIES

- 1. Arthington, J.D., Moriel, P., Martins, P.G.M.A., Lamb, G.C. and Havenga, L.J. (2014) Effects of trace mineral injections on measures of performance and trace mineral status of pre- and postweaned beef calves. Journal of Animal Science. 92:6:2630-2640.
- 2. Bittar J.H.J., Hurley D.J., Woolums A.R., Norton N.A., Barber C.E., Moliere F., Havenga L.J. and Palomares R.A. (2017) Effects of injectable trace minerals on the immune response to Mannheimia haemolytica and Pasteurella multocida following vaccination of dairy calves with a commercial, attenuated-live bacterin vaccine. The Professional Animal Scientist. 2018. 34:59-66.
- 3. Genther, O.N. & Hansen, S.L. (2014a) A multi-element trace mineral injection improves liver copper and selenium concentrations and manganese superoxide dismutase activity in beef steers.

 Journal of Animal Science. 92(2):695-704.
- 4. Genther, O.N. & Hansen, S.L (2014b) Effect of dietary trace mineral supplementation and a multi-element trace mineral injection on shipping response and growth performance of beef cattle. Journal of Animal Science. 92(6):2522-2530.
- 5. Genther, O.N. & Hansen, S.L. (2015) Effect of a multi-element trace mineral injection before transit stress on inflammatory response, growth performance, and carcass characteristics of beef steers. Journal of Animal Science. 93(4):1767-79.
- 6. Palomares, R.A., Moliere, F., Havenga, L.J., Woolums, A.R., Norton, N.A., Credille, B., Clifton, S.J., Sigmund, A.B., Barber, C.E., Berger, M.L., Clark, M.J., Fratto, M.A., Hurley, D.J. (2016) Effect of injectable trace minerals on the humoral and cell-mediated immune responses to Bovine Viral Diarrhea Virus, Bovine Herpes Virus 1 and Bovine Respiratory Syncytial Virus following administration of a modified-live virus vaccine in dairy calves. Veterinary Immunology and Immunopathology. 178(1):88-98.
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- 8. Teixeira, A.G.V., Lima, F.S., Bicalho, M.L.S., Kussler, A., Lima, S.F., Felippe, M.J. and Bicalho R.C. (2014) Effect of an injectable trace mineral supplement containing selenium, copper, zinc, and manganese on immunity, health, and growth of dairy calves. Journal of Dairy Science. 97:4216–4226.
- 9. Hartman S, Genther-Schroeder O, Hansen S. Comparison of trace mineral repletion strategies in beef cattle to overcome a high antagonist diet. Journal of Animal Science. (2018) Vol. 96, Issue 6. pp.2504-2515
- 10. J.T. Richeson, E.B. Kegley. Effect of supplemental trace minerals from injection on health and performance of highly stressed, newly received beef heifers. The Professional Animal Scientist. 27 (2011): 461-466
- 11. J.D. Arthington, L.J. Havenga. Effect of injectable trace minerals on the humoral immune response to multivalent vaccine administration in beef calves. Journal of Animal Science. (2012): 90: 1966-1971
- 12. Trey D. Jackson, Remy N Carmichael, Erin L. Deters, Elizabeth M. Messersmith, Katherine R. VanValin, Daniel D. Loy, Stephanie L. Hansen. Comparison of multiple single-use, pulse-dose trace mineral products provided as injectable, oral drench, oral paste, or bolus on circulating and liver trace mineral concentrations of beef steers. Applied Animal Science 36:26-35
- 13. Joao H.J. Bittar, Roberto A. Palomares, David J. Hurley, Alejandro Hoyos-Jaramillo, Adriana Rodrigues, Agne Stoskute, Brianna Hamrick, Natalie Norton, Morgan Adkins, Jeremiah T. Saliki, Susan Sanchez, Kelsey Lauber. Immune response and onset of protection from Bovine viral diarrhea virus 2 infection induced by modified-live virus vaccination concurrent with injectable trace minerals administration in newly received beef calves. Veterinary Immunology and Immunopathology Journal. 225 (2020) 110055
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YOU BOUGHT THESE CALVES -DO YOU KNOW WHAT YOU GOT?



- Stressed calves burn through more trace minerals
- O Calves do not eat enough at weaning and for 2 weeks after arrival
- Oral trace mineral absorption is limited
- Trace minerals are critical for calves to be able to respond to vaccines and stay healthy



WEANING

SALE BARN

DAY 1 - ARRIVAL AT YOUR OPERATION

DAY 14 - ORAL TRACE MINERALS GRADUALLY KICK IN

Injected trace minerals bridge the gap when oral minerals still need to catch up.

Include MULTIMIN® 90 In Your **Pre-Conditioning Program**

Include MULTIMIN® 90 In Your **Processing Program**

INJECT MULTIMIN® 9 **AND KNOW!**

Because University Studies Showed:

- MULTIMIN® 90 improves the trace mineral status within 8-10 hours vs. weeks with feed
- Oral antagonists in the rumen are bypassed
- Oral single, pulse-dose products such as drenches and pastes that provide only daily recommendations have been shown not to be effective.
- Every calf treated is supplemented
- Calves treated with MULTIMIN® 90 when vaccinated had:
 - Earlier and stronger vaccine response
 - More calves responded
 - Fewer signs of disease when challenged

HOW MUCH IS IT GOING TO COST YOU NOT TO DO IT?

Ask for Our Study Data - Contact Your **MULTIMIN® USA Representative Today!** www.multiminusa.com | www.savethelung.com

Watch Our Video Testimonials





