



4747 SW 60th Avenue
Ocala, Florida 34474
Tel: (352) 237-6151
Fax (352) 237-0629
E-mail: PSEH@petersonsmith.com

J.L. Peterson, D.V.M.
P.M. Matthews, D.V.M.
J.K. Hahn, D.V.M.
D.E. Slone, D.V.M.
W.B. Russell, D.V.M.
F.E. Hughes, D.V.M.
A.B. Riggs, D.V.M.
C.K. Clark, D.V.M.

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A.S. Cayot, D.V.M.
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M.D. Hope, D.V.M.
N.R. Mitts, D.V.M.

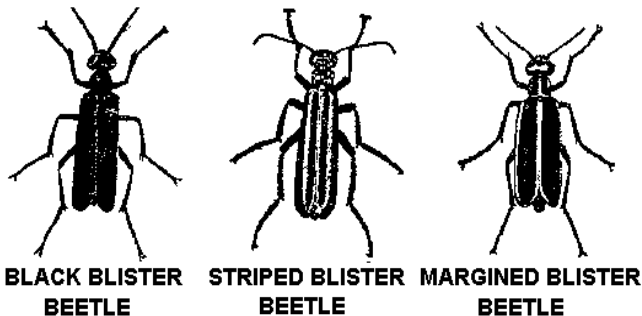
At Tradition of Leadership and Excellence in Equine Medicine

Blister beetle poisoning Carol K. Clark, DVM, Dipl. ACVIM

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Blister Beetles (*Epicauta* species) are found mostly in alfalfa hay pastures. If they are present when the hay is made, they become incorporated into the bale. The beetles contain a toxin called cantharidin which is released when either the beetle is accidentally ingested or crushed within the hay. This toxin is very irritating to the lining of the mouth, stomach and intestines. Once absorbed, it can also affect the kidneys and bladder lining. Heart damage can also occur due to toxin absorption. The toxin is so powerful that as little as 10 to 15 beetles can kill a horse.

Clinical signs relate directly to the tissues that are damaged and the severity greatly varies between horses due to the amounts ingested. Horses can show signs of colic, shock, "hic-cups" or "thumps", drooling, diarrhea, bloody or frequent urination, and incoordination. Sudden death can also occur.



Treatment is aimed at reducing absorption by administration of mineral oil or activated charcoal and providing a diuretic such as furosemide (Lasix®). Supportive care with

analgesics, and IV fluids are indicated. The prognosis is guarded. Depending on the amount ingested, some horses can make complete recoveries; others may die or experience kidney failure or heart damage. Diagnosis can be based on clinical signs and confirmed by testing stomach contents or urine for presence of the toxin. The tests must be collected within 3 days of ingestion.

Prevention is based on knowing that the beetles feed on the alfalfa hay during mid to late summer. Hay that was harvested before June or in late September is less likely to be contaminated. Hay that is cut and simultaneously crimped is especially at risk because the beetles are often trapped and crushed. Farmers should examine their pastures prior to cutting hay and/or treat with an insecticide

prior to harvesting. Appropriate withdrawal times must be observed if a pesticide is used. Brief inspection of the hay as it is being fed in flakes is suggested which could also expose mold or other contaminants that are more common than blister beetles. The toxicity of cantharidin does not decrease with storage or pelleting.

References

- Manual of Equine Emergencies: Treatment and Procedures, 2nd ed., Philadelphia, 2003, Saunders.
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- Hopkins, John D. *Blister Beetle Management in Alfalfa*. 2003.
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