Lethal Avocado Toxicity in Three Horses in North America

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Avocado intoxication should be considered in horses presenting with the outlined signs. Owners should be advised of the guarded to grave prognosis associated with ingestion; accordingly, horses should not be allowed access to avocado trees. Authors’ addresses: Alamo Pintado Equine Medical Center, 2501 Santa Barbara Avenue, Los Olivos, CA 93441 (Lorbiecki, Kwon, Hamer, Rubin, Priest, Lopez, Palmero); California Animal Health and Food Safety, PO Box 1770, Davis, CA 95617 (Poppenga); e-mail: jlorbieckidvm@gmail.com. *Corresponding and presenting author. © 2013 AAEP.

1. Introduction
Avocado toxicity is reported in various species. Persin, a fungicidal toxin known to affect mammary and myocardial tissue, is often implicated. This report describes variable lethal cardiac, pulmonary, and neurologic manifestations in three North American horses after avocado exposure.

2. Materials and Methods
Three adult horses were presented to a referral center after 4 days of intermittent grazing in a Hass avocado (Persea americana) orchard. The horses presented at different intervals after exposure, each displaying unique signs. Clinical signs and hematological findings (available for all cases) and histological and toxicological findings (available for some cases) were reviewed and summarized.

3. Results
Case 1 had colic and cardiac arrhythmia. Case 2 had respiratory distress. Case 3 initially had mild facial edema and later respiratory and neurologic dysfunction. All horses presented with tachycardia, tachypnea, toxic mucus membranes, edema, elevated serum lactate, and variable polycythemia. Cases 1 and 2 presented with hypoproteinemia, hypocalcemia, and elevated creatine kinase levels. Cases 1 and 3 had elevated serum troponin I. Case 3 had pericardial effusion. All horses died or were euthanized despite supportive care.

4. Conclusions
Avocado intoxication resulted in various clinical manifestations but was uniformly fatal in this study. The variety and severity of signs may be attributable to consumed toxic dose of persin or of a yet undocumented compound.