

## INTRODUCTION

The oleander plant (*Nerium oleander*; Figure 1) is a native plant of the Mediterranean region and tropical Asia. It is now widely planted as a drought-tolerant ornamental in the southern United States and Mexico. It is well suited to poor soil conditions and thrives in full sunlight. It is commonly used in roadside plantings, hedges, and yard landscapes. While oleander has value as an ornamental, it is important that people—and especially animal owners—are aware of the toxicity problems associated with the plant.

## DESCRIPTION OF PLANTS

Oleander can be managed to grow as a single or multi-branched evergreen tree or shrub, reaching heights of 10 to 18 feet with a spread of 10 to 15 feet (Figure 2). The simple leaves are opposite or arranged in whorls, and they have an oblong or lanceolate shape varying from 4 to 8 inches long. The bottom side of the leaf is pale green in color, while the top of the leaf has a glossy dark green color (Figure 3). The leathery texture and veins arranged in opposing pairs are further identifying characteristics of the leaves (Figure 4). The 5-petal, funnel-shaped flowers are various shades of red, white, pink, yellow, orange, or purple, and they have a pleasant fragrance.

## TOXIC PRINCIPLES

Oleander poses a problem for animal owners because it contains cardiotoxic compounds that have been known to poison animals, including humans, dogs, cats, horses, cattle, sheep, goats, llamas, and birds. The primary toxic agent, oleandrin, causes heart arrhythmias that lead to cardiac arrest and death. Although the toxins are found throughout the entire plant, animal poisonings are typically due to ingestion of the leaves. In horses, as little



Figure 1. White oleander trees in a hedge.

as 1 ounce of green leaves can be lethal. While horses rarely eat green oleander leaves since they are unpalatable, there is the potential for dried leaves to accumulate in pasture areas with tall grass or end up in the horse's daily hay ration where they may then be ingested. The toxic compounds are retained in the dried plant leaves, although in reduced quantities, where they can still cause death.

## SYMPTOMS

Horses that consume a lethal dose of oleander leaves are often found dead 8 to 10 hours later, and symptoms of poisoning rarely last more than 24 hours before death occurs. Clinical symptoms include colic, diarrhea, labored breathing, muscle tremors, ataxia, and the inability to stand. Furthermore, an irregular and weak pulse, due to the decreased cardiac output, will lead to cold extremities, and convulsions prior to death are not uncommon.

<sup>1</sup>Respectively, Extension Horse Specialist, Department of Extension Animal Sciences and Natural Resources; and Extension Agriculture Agent, Santa Fe County Extension Office, both of New Mexico State University.

If you suspect that your horse may be suffering from these symptoms of oleander poisoning, it is extremely important to contact your veterinarian immediately. While there is no specific treatment for counteracting the effects of the toxic principles, animals that have not consumed a lethal dose may be treated with a guarded prognosis for recovery over the next several days.

## MANAGEMENT: PREVENTION AND CONTROL MEASURES

As is the case with most plant poisoning issues, prevention is the best medicine. Therefore, be diligent in keeping an eye out for oleander leaves on your horse property, and remove any plants you find to keep your horse safe. Because all parts of the plant are toxic, it is recommended that those handling oleander wear gloves and dispose of the bagged plant material in a landfill. Burning the material is not recommended since the toxic compounds are released in the smoke and may cause poisoning or other health hazards to those nearby. Remember that this plant is toxic to a variety of animals, including humans.

## REFERENCES

- Knight, A.P. 2003. *Nerium oleander*. In A.P. Knight (Ed.), *A guide to poisonous house and garden plants*. Retrieved August 17, 2011 from <http://www.ivis.org/advances/Knight2/toc.asp>
- Hart, C.R., T. Garland, A.C. Barr, B.B. Carpenter, and J.C. Reagor. 2003. *Toxic plants of Texas* [B-6105]. Bryan: Texas Cooperative Extension Service.
- Burrows, G.E., and R.J. Tyrl. 2001. *Toxic plants of North America*. Ames: Iowa State University Press.



*Jason L. Turner is Associate Professor and Extension Horse Specialist. Jason was active in 4-H and FFA while growing up in Northeastern Oklahoma. His M.S. and Ph.D. studies concentrated on equine reproduction, health, and management. His Extension programs focus on proper care and management of the horse for youth and adults.*



Figure 2. Oleander shrub.



Figure 3. Contrasting colors of leaf sides.



Figure 4. Close up of leaf showing leaf shape and veins arranged in opposing pairs.

Contents of publications may be freely reproduced for educational purposes. All other rights reserved. For permission to use publications for other purposes, contact [pubs@nmsu.edu](mailto:pubs@nmsu.edu) or the authors listed on the publication.

New Mexico State University is an equal opportunity/affirmative action employer and educator. NMSU and the U.S. Department of Agriculture cooperating.