Over the past several months we have seen a slight increase in cases of photosensitization. To better service the Texas community, we are providing practitioners the following information to assist in assessing diagnosis. In return, we are asking for your case information.

Photosensitization occurs when non-pigmented or lightly pigmented skin is more susceptible to UV light due to photodynamic molecules within the dermis. Severe skin damage can result and include ulceration, necrosis and edema.

**Causes**
- Type 1 (Primary): Ingestion of preformed photodynamic toxins (i.e. hypericin in St. John's Wort, drugs: phenothiazine, tetracycline)
- Type 2 (Aberrant Pigment Metabolism): Congenital defective pigment synthesis causing abnormal accumulations of photodynamic agents in the tissues (uroporphyrin I, coproporphyrin I, protoporphyrin III)
- Type 3 (Hepatogenous): Most common form; Impaired capacity of the liver to excrete phylloerythrin, a photodynamic agent, secondary to hepatocellular damage or bile duct obstruction

**Toxic Plants**

*Primary photosensitization:*
1. Bishop's weed (*Ammi majus*) furocoumarin
2. Rainlily (*Cooperia pedunculata*) fungal elaboration
3. Dutchman's breeches (*Thamnosma texana*) psoralens

*Hepatogenous photosensitization:*
1. Moldy Bermudagrass (*Cynodon dactylon*) fungal elaboration
2. Lantana (*Lantana camara*) lantadene A and B
3. Sacahuista, blooms only (*Nolina texana*) saponins
4. Kleingrass (*Panicum coloratum*) saponins
5. Puncturevine (*Tribulus terrestris*) saponins

**Lesions**
- Main lesions include and are not limited to skin necrosis and ulceration of the non-pigmented skin, white areas along the back, face, sides of udders, muzzle, underside of tongue, lips, eyelids, and ears. Differences in distribution are related to differences in skin pigmentation of breeds and individual animals
- Affected skin will be red, oozing fluid, and swollen
- In severe cases, large crusts of necrotic, black skin may slough off
- Affected animals may also be icteric with yellow discoloration of the skin and mucus membranes
- Animals will be shade-seeking
**Diagnosis**
- Clinical signs
- Exposure to agents, primary or hepatotoxic, and presence of characteristic lesions
- Bloodwork: increased sorbitol dehydrogenase, gamma-glutamyltransferase, alkaline phosphatase enzymatic activity and total bilirubin

Due to the recent increase in cases we are asking practitioners to assist us in assessing the occurrence across the state. If you have recently or are currently treating any possible cases, please contact TVMDL. We appreciate your assistance and are committed to providing Texas clinicians and citizens with the best diagnostic services.

TVMDL recommends submitting samples for the following tests. In the case of photosensitization, rumen microscopy is of limited use.
- Ruminant Chemistry Profile
- Liver biopsy for Histopathology
- Plant ID

Send samples to the College Station laboratory.
1 Sippel Road
College Station, Texas 77843

Information on sample shipment can be found at tvmdl.tamu.edu. Contact the laboratory with questions.