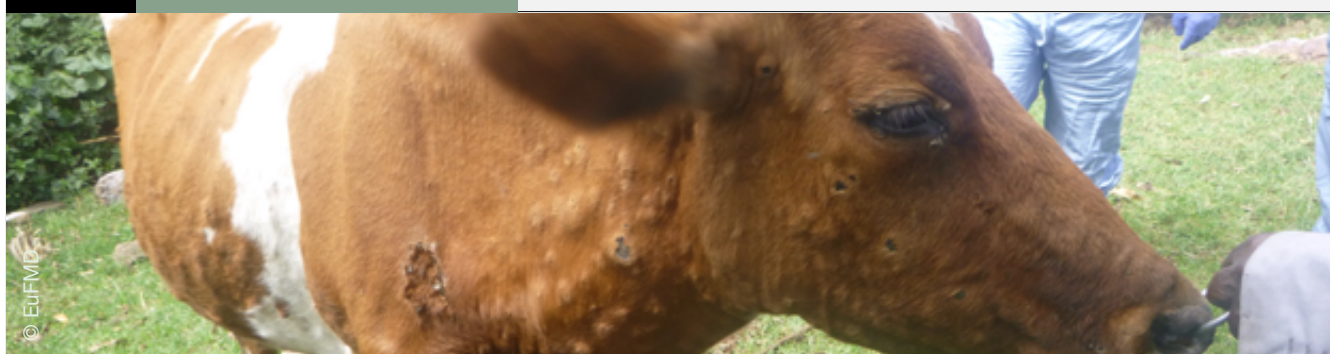


**JobAid**

**Lumpy skin  
disease  
(LSD)**

**Differential diagnosis  
in cattle**



Disease	Clinical signs	How is it different from LSD?
<b>Pseudo LSD (Bovine herpes virus 2)</b>	<p>Caused by bovine herpes virus 2.</p> <p>The disease occurs mainly in southern Africa, and sometimes in the United States of America, Australia, and the United Kingdom of Great Britain and Northern Ireland.</p> <p>Clinical signs include fever and cutaneous plaques.</p> <p>Lesions are frequently located on the face, neck, back, and perineum and full recovery is expected in most cases.</p>	<p>Dermal lesions are similar to those caused by LSD virus, however, they tend to be more superficial and the disease is shorter and less severe.</p> <p>LSDV needs to be ruled out by polymerase chain reaction (PCR).</p>
<b>Insect bites, urticaria and photosensitization</b>	<p>Photosensitization is caused by an increased skin susceptibility to ultraviolet light. This can be caused by various factors, including plant compounds and aberrant pigments.</p> <p>Clinical signs include:</p> <ul style="list-style-type: none"> <li>• Photophobia and agitation.</li> <li>• Itchy rash in lightly-pigmented areas.</li> <li>• Lesions in non-pigmented and hairless areas.</li> <li>• Erythema followed by edema.</li> <li>• Vesicles and bullae.</li> <li>• Ulcers, scabs and skin necrosis.</li> </ul> <p>Urticaria and insect bites may also cause itchy rashes with lesions and erythema.</p>	<p>Dermal lesions are similar to those caused by LSD virus, however, they tend to be more superficial and the disease is shorter and less severe.</p> <p>Often only few animals are affected.</p> <p>LSDV needs to be ruled out by PCR.</p>

Disease	Clinical signs	How is it different from LSD?
<b>Pseudocowpox (Parapoxvirus)</b>	<p>Caused by a parapox virus.</p> <p>Lesions usually affect the teats and udder of milking cows, as well as the muzzle of calves.</p> <p>Lesions begin as papules that evolve into vesicles and pustules which eventually lead to scabs which are typically in the shape of a “ring” or “horseshoe”.</p>	<p>Lesions only occur in the teats and udder.</p> <p>LSDV needs to be ruled out by PCR.</p>
<b>Dermatophilosis</b>	<p>Caused by a bacterial skin infection. It affects multiple species, especially immunosuppressed and young animals.</p> <p>Clinical signs include:</p> <ul style="list-style-type: none"> <li>• Matted fur.</li> <li>• Crusts and lesions on the skin.</li> </ul>	<p>Lesions tend to be more superficial and dry. They do not ulcerate.</p>
<b>Demodicosis</b>	<p>Caused by Demodex mites and usually affects calves during the first weeks of life.</p> <p>Clinical signs include:</p> <ul style="list-style-type: none"> <li>• Nodules and papules around the neck, withers, back and flanks. They are normally covered in hair.</li> <li>• Secondary infections may occur, in which case exudation, ulceration and crusting may be observed.</li> </ul>	<p>The dermal lesions are mainly located over the withers, neck, back and flanks, often accompanied by alopecia. It is possible to rule out demodicosis with a skin scrape.</p>
<b>Bovine popular stomatitis (Parapoxvirus)</b>	<p>Caused by a parapoxvirus affecting mainly young animals.</p> <p>Clinical signs include:</p> <ul style="list-style-type: none"> <li>• Red papules or erosions, which can ulcerate.</li> </ul>	<p>Lesions tend to appear exclusively in the mouth and nostrils.</p> <p>The disease can be ruled out by PCR.</p>
<b>Besnoitiosis</b>	<p>Caused by a parasite of the genus Besnoitia.</p> <p>The disease is usually chronic and debilitating, characterized by cyst-like skin lesions and systemic clinical signs of different severity. These include:</p> <ul style="list-style-type: none"> <li>• Decreased milk production.</li> <li>• Fever.</li> <li>• Abortion, infertility and/or sterility.</li> </ul>	<p>Lesions are often seen in the sclera and conjunctiva. Skin lesions are accompanied by alopecia and thickening of the skin.</p> <p>LSDV needs to be ruled out by PCR.</p>

Disease	Clinical signs	How is it different from LSD?
Onchocerciasis	<p>Caused Onchocerca, a parasite with Culicoides spp as intermediate host. The microfilariae tend to concentrate in the skin of the ventral midline.</p> <p>Lesions are often pruritic and alopecia, scabs and ulcers may be observed.</p>	<p>Dermal lesions likely to be found on the ventral midline.</p> <p>The disease can be ruled out by PCR.</p>
LSD vaccine reaction	<p>In some cases the administration of live attenuated vaccines against LSD can cause clinical signs similar to those observed during field infections. These include:</p> <ul style="list-style-type: none"><li>• Fever.</li><li>• Decreased milk production.</li><li>• Cutaneous nodules (usually more superficial compared to field infections).</li></ul>	<p>Live attenuated LSDV vaccines can cause mild adverse reactions similar to LSD.</p>