



## Enzootic Bovine Leucosis

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Updated: May 2007

AG1175

ISSN 1329-8062

*Enzootic Bovine Leucosis (EBL) is a viral disease of cattle. Most affected animals show no signs of illness but some develop cancers of the lymph nodes. There is no treatment or effective vaccine for EBL. The presence of the disease causes economic loss through decreased production and increased mortality of cattle with tumours and restricted trade of cattle, semen, ova, and milk products from affected herds and regions.*

### Background

EBL is caused by a virus known as the bovine leucosis virus. The viral DNA attaches itself to cells in blood and in milk. The transfer of very small quantities of blood or milk may pass infection from one animal to another. Typically, under Australian conditions, EBL becomes established in herds through management procedures that allow blood transfer between animals *eg* dehorning of groups of cattle using cutting or gouging tools, the reuse of hypodermic needles, rectal pregnancy testing without changing gloves between cows, and/or the use of tattooing or calving equipment contaminated with blood. Transmission of virus from infected cows to calves via milk is possible, but has not been reported as a significant reason for disease spread in Victoria.

Cattle are the only species infected naturally, although sheep and goats may be infected experimentally. Dairy cattle are more commonly infected than beef cattle. Bovine leucosis virus does not affect humans and it is easily destroyed by pasteurization of milk.

### History in Australia

EBL was first diagnosed in Australia in 1966 when cattle in Queensland showed signs of the disease. The isolation of bovine leucosis virus in 1980 allowed the development of blood tests for the disease.

Infection with bovine leucosis virus has been found in all Australian states and programs to eradicate EBL from Australia's dairy herds have been implemented in all jurisdictions. In Victoria, EBL eradication began in 1994 and by 2004 more than 99% of dairy herds were free of the disease.

### Clinical signs

Most cattle with EBL remain perfectly healthy. Fewer than 5% of affected cattle develop tumours of the lymph glands and internal organs. The animal will gradually become ill

as the cancers grow, and the exact signs will vary depending on the organs and tissues affected. Often there are visible lumps in the skin or in the lymph nodes just under the skin at the shoulder or above the udder. Eventually the disease will cause the death of animals with tumours.

### Diagnosis

EBL is confirmed using tests on blood or milk. The tests are extremely accurate and can detect very small quantities of EBL antibody. Testing can be undertaken on an individual animal if a veterinarian suspects EBL, or may be performed on blood or milk samples from a group of animals (from the vat or from a mixed sample from several individual cows) for export testing or other certification purposes.

**EBL is a notifiable disease.** This means that if farmers, vets or other professionals working with cattle, suspect EBL may be present in the herd they must advise an Inspector of Livestock from the Department of Primary Industries (DPI) within 7 days.

For more information contact your local DPI Animal Health staff or your veterinarian.



*A cow with skin and lymph node tumours.*

*The previous version of this Information Note was published in December 2005.*

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