

## Lesson 4

# Bradán's Journey Continues



## ADDITIONAL INFORMATION

### Silage

Silage is usually a form of conserved grass (or other crop) made by farmers during the summer months when the grass supply is plentiful. Silage is then fed to cattle and sheep during winter months. Grass silage is usually produced by stock farmers two or three times a year. The first cut of grass in late May is the most important. Growth at this time of year is vigorous and the grass rich in energy as it produces leaf rather than going to seed.

Silage is made by preserving the grass under naturally produced acidic conditions which effectively pickle the crop. Silage is made either by placing cut green vegetation in a silo, by piling it in a large heap covered with plastic sheet, or by wrapping large bales in plastic film. It is fermented and stored in a process called ensilage, ensiling or silaging, using the entire green plant (not just the grain). Silage is quite moist and usually preferred by livestock to hay as it is more palatable and of higher food value. It often forms the bulk of the livestock diet for six months of the year through the winter months.

Silage leachate is the term used to describe liquid runoff from silage piles in upright structures, bags, or bunkers. Leachate is an organic liquid that is the result of the pressure in the structure or the presence of excess water. Silage leachate is a serious environmental problem. On average, leachate is 40 times stronger than dairy parlor wastewater and up to 200 times stronger than raw domestic sewage.

- It is highly corrosive - so much so it can actually dissolve cement!
- The acidity of silage leachate can harm groundwater or kill vegetation in the area where it drains.
- It has high biochemical oxygen demand, meaning it uses up oxygen. So when leachate enters a stream or pond, it depletes the oxygen so suffocating creatures.
- High ammonia levels in leachate are toxic to fish and
- The nutrients in silage leachate can cause algae blooms.



## **ADDITIONAL INFORMATION**

### **Silage**

Silage pollution incidents are falling. When they do happen they are often due to one of three factors

- Cutting the grass when it's too wet
- Structural failure of silage clamps, tanks or pipework
- Overflow from effluent tanks.

1 litre of Silage leachate can pollute 25,000 litres of freshwater. Effectively turning it toxic, (Toxicity is the degree to which a substance can damage a creature) a poison for life living in the water