Small grain cereals include wheat (*Triticum aestivum* L. emend. Thell.), barley (*Hordeum vulgare* L.), oat (*Avena sativa* L.), rye (*Secale cereale* L.), and triticale (*× Triticosecale*). These crops are grown primarily for their grains, which in addition to flour, are also a source of oil, starch, and glucose, as well as being fermentation substrates in the production of beer and other beverages. These grains are also important energy sources for livestock. Finally, and most relevant to this paper, whole-plant small grain cereal silages can be harvested as a forage source (haylage and silage) for ruminants.

Forage cereals are widely used in many countries in various forms, including pasture, hay, silage, and grain. Certain regions have only a seasonal or limited rainfall (e.g., subtropical areas of the Mediterranean), and since irrigation, if available, is expensive, it is advantageous in these areas to grow small grain cereals under winter rain. In spring, when these crops are harvested for fodder, the cleared fields can be used to grow summer crops that use the residual moisture in the soil. In many areas, the weather is unpredictable and hay making may be jeopardized by rain. Ensiling offers an alternative preservation method that is steadily growing in popularity.

Small grain cereals are very amenable to the ensiling process. Cereals are optimal for ensiling because of their high level of water-soluble carbohydrates (WSC), low buffering capacity (BC), and the fact that their moisture content is easily controlled (Alberta Agriculture, 1988). Whole-crop small grain silage is an excellent forage source for ruminants because of its high nutritive value and its potential for high dry matter intake (DMI). Because of these factors, there is an increasing global interest in the production and use of small grain cereal silage as a forage source.