

Hay production

Hay, in agriculture, dried grasses and other foliage used as animal feed. Usually the material is cut in the field while still green and then either dried in the field or mechanically dried by forced hot air. Typical hay crops are timothy, alfalfa, and clover. The protein



content of grasses and legumes decreases and fibre and lignified tissue increases as growing plants advance in maturity. For good hay, the crop must thus be cut at the proper stage, handled so as to retain the leaves, and cured to prevent spoilage or discoloration. Hay is usually dried in small piles or stacks in the field, but a rainy climate may dictate forced-air curing in the barn. Properly cured hay with 20 percent or less moisture may be stored for months without danger of spoilage.

Until the middle of the 19th century, hay was cut by hand with sickles and scythes. In the 1860s early cutting devices were developed that resembled those on reapers and binders; from these came the modern array of fully mechanical mowers, crushers, windrowers, field choppers, balers, and machines for pelletizing in the field.

Mowers consist of a long, flat steel cutter bar, with fingers pointing forward, and a thin steel reciprocating knife section with triangular steel blades riveted on. The cutter bar combs through the grass close to the ground, while the reciprocating blades cut it off.

Balers compress hay or straw into tightly packed rectangular or cylindrical bales weighing 50 to 100 pounds (22.5 to 45 kg) and tied with wire or twine. Pickup balers have a rotary toothed pickup mechanism to lift the windrows and deliver the hay to a feeding device that places it in the baling chamber on each stroke of the compressing plunger. Two twines or wires are automatically tied around a length of hay compressed into a bale chamber to form a bale, the density and length of which can be adjusted.