

## The Use of Big Bales for Alfalfa Hay

David Wheeler, Melvin T. Wheeler and Sons Hay Services

We farm in Stanislaus County, west of Modesto. Each month we harvest about 900 acres of our own alfalfa and 2500 acres for other growers. Currently about 20% of the acreage is put up in 3/4 ton bales, 3 ft x 4 ft x 8 ft, using a Freeman baler. The rest is traditional or small bales. The size of bale depends on either the marketing plans for our own hay or the needs of the person we are custom harvesting for.

We first started making "big bales" in the early 1980's. At that time we were big baling only straw for the mushroom industry on the coast. There was little to no interest in large alfalfa bales. In the last two years, interest in big bales has increased tremendously, particularly in the dairy industry. We market hay to match our buyers, so as the interest in big bales has increased we have aimed to satisfy that demand. Currently we have four large balers and eight standard balers.

The big factor, in our opinion, that is responsible for the increased interest in big bales is the new equipment at the dairies, specifically heavy auger feeder and mixer trucks. There is no doubt that this equipment and large bales reduce hand labor on the dairy. Large bales can be totally handled mechanically, reducing workmen compensation claims and reducing time needed for feeding. Five hundred dairy cows can be fed in an hour with big bales and the appropriate feeding wagons.

Although big bales aren't cheaper to make than small bales, there are some advantages on the production end too. One of the most important is that the "baling window" is larger for the big bales, which do not need as much dew because there is less leaf shatter. With big balers, plants are not cut as they're baled. Even if leaves detach from the plant they stay in the windrow and are put in the bale.

A big baler can cover about 1.5 times as much area as a traditional baler per hour. With the larger window for baling and the increased volume, large balers can bale more premium hay in a day than regular balers can.

We also believe that big bales result in less compaction on the field because the haulers don't travel over as much ground as bale wagons do with traditional bales.

Another advantage to large bales, not necessarily to the grower directly, is that transportation is easier. Any flatbed truck or freight shipper can carry the large bales. We prefer bales 3 ft x 8 ft x 4 ft in size over those that are 4 x 4 x 8 because more can fit on the truck as they can be stacked three bales high.

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There are some disadvantages to large bales that can't be ignored. Heavy dew must be avoided. It is very important not to bale with too much moisture. We used 16-17% moisture as a maximum for the large bales, using moisture meters both in the baler and then testing the bales. With small bales we'll bale up to 20-22% moisture. Moisture is even more critical for bales larger than our 3/4 ton bales. We think the 3/4 ton size gives us the advantage of large bales while reducing the risks of bales that are larger.

Another consideration with large bales is that your market is limited to dairies that can handle them, reducing flexibility in marketing. A lot of our own hay goes to the horse market, and we bale only small bales for that outlet. We produce the type of bale that our buyers want. (For the horse market we also lengthen the cutting interval which provides horses with a good quality hay for their purpose and helps us to keep our stands for five or more years.)

Also, one drawback to the big bales is there is no standard method yet for the proper way to sample them. Because of the way the windrow is fed into the baler, there may be more leaves at the top of the bale and more stem at the opposite end. Depending on where the samples are taken, the analysis could vary greatly.

We see in the future increased use of large bales, especially as dairies purchase the equipment to take advantage of them. However, we also see a continued market outlet for traditional and small bales that we will continue to utilize.