

## CHALLENGES IN FIELD CUBING

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We are in the custom harvesting and marketing end of the alfalfa hay business. Up until very recently we had been running two separate custom harvesting operations, with five balers in Fresno County and eight cubers in Kern County.

Several things have caused us to get out of the baling operation and concentrate our efforts in cubing. I'll outline the reasons for changing our operation to cubing alone, and briefly discuss how our cubing and marketing operations work.

I also want to mention three major concerns I have about field cubing from the viewpoint of a custom cuber.

### Baling vs. Cubing

First, let's explore our reasons for leaving the custom baling business and concentrating on cubing. Our baling operation was in Fresno County and our cubing operation was in Kern County. This is some 80 to 100 miles apart. The supervision difficulties in keeping both operations running smoothly were great. I found that I couldn't keep things going the way I wanted while burning the candle at both ends.

Secondly, keeping key employees busy and working efficiently was a near impossibility in the custom baling operation. A custom baler is more at the mercy of weather conditions because of dew requirements. There are fewer useable working hours per day for hay baling, and these working hours are mostly at night. With our cubing operation in Kern County we are able to start cubing (on the average) at 10 in the morning and normally run until 10 or 12 at night. These hours are typical of about 75% of the season. Most employees prefer to have steady work. We are able to pay employees more per hour in the cubing operation because there is less wasted standby time. With our eight cubing machines we are able to run six days a week throughout the season, weather permitting. Because of this we are able to retain experienced personnel and make them happier. For these two reasons - (management difficulties and fewer personnel problems)- we made the change to cubing in our custom hay harvest operation.

In the cubing operation we generally employ 19 to 20 people to operate 8 cubers, 3 swathers, 2 sets of V-rakes, a mechanics truck, service truck, water truck with two water trailers, and 2 bulk trucks plus supervisory personnel. The auxiliary equipment I mentioned is all necessary to keep our 8 cubers operating efficiently.

We have found in the past that we can run 5 cubing machines with essentially the same supporting equipment that it takes to run one cuber. With less than 3 cubing machines a custom operator on a large hay growing operation would have no recovery flexibility in case of breakdown. Fewer than 3 cubers would not provide enough business volume to cover the costs of support equipment and overhead. We figure it takes between 4 and 5 thousand tons of cubs per season to support one cubing machine. At 4 thousand tons there is no profit.

To keep the hay growing and the cubing operation running smoothly the grower and custom harvester must work together closely. A major concern is to have the surface soil dry when swathing the hay. There are two major reasons for this. One is to promote rapid curing and the second is to avoid needless soil compaction which would result from wheel traffic on wet soil. In our cubing operation the grower generally starts his irrigation water right behind the cubers. This is possible because there are no bales or product left in the field.

### Marketing

I mentioned that we are in the marketing end of the cubing business as well as harvesting. Ownership of the cubs changes hands as they cross the scales on the ranch. The Hay Market News weekly edition from the Federal-State Market News Service helps us to determine price. We market cubs in two ways. Most of our product is handled in bulk

(about 85% of our volume) which is delivered to outlets as close as possible to the field.

The second method of marketing is in 75 pound paper bags. These are sold and delivered to retail outlets throughout the state.

#### Major Concerns About Cubing

There are three major problems which we, as custom cubers, face. The first of these is a very high capital investment in equipment. This can partially be dealt with by building equipment so that it will not wear out as quickly or require as much maintenance as is needed now.

The second major concern is the need for a large volume of alfalfa hay in a concentrated geographic area in order to keep a custom cubing operation running efficiently. I mentioned before that it takes between 4 and 5 thousand tons a year per cuber machine to make a go of it, and it takes at least three cubers to efficiently operate the auxillary equipment required.

My third major concern is the need for at least three equipment changes in the John Deere Field Cuber. The three items which cause at least 50% of our down time could and should be changed.

These are as follows:

1. The hydraulic pump needs to be larger to perform the number of operations required of it. Frequently these pumps heat up.
2. The conveyor chain which conveys cubes from the dye to the elevator is not strong enough. A heavier chain would help here.
3. We would like to see hydro-static drive built into the field cuber. This would do away with clutches, transmissions, and variable speed belts.

By doing this, the operation of these machines would be made safer and much of our machine down time would be eliminated.