

## POTATO BRUISE REDUCTION

by  
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As a grower, harvest bruise problems have been recognized for many years. We, as I believe has been the case with the majority of growers, recognized the problem and have been aware that bruises cost the industry a great deal. But we failed to appreciate the problem until we were directly and visibly bruised in the place where it hurt - the pocket book.

It is easy to overlook industry averages, and research data during the pressure of harvest. After all they are just average figures and really apply to our neighbors. But when our settlement sheets reflected cold hard cash that we did or did not get as a direct result of our potato bruise, the magnitude of the problem changed abruptly. Then research data and industry averages also hit home.

We have found that management can improve our harvest bruise. Following are the results of three years of production under a lye peeler bruise grade contract. All grades are averages of the daily grade for the entire season. In 1970 our average was 31% bruised tubers and declined to 25% and 17% respectively for the years 1971 and 1972.

In terms of the amount received as bruise incentive payment, on the basis of the 1972 contract, we received 40%, 64% and 95% of the maximum \$7.00 per ton incentive payment available for bruise reduction.

The above figures could, we believe, be fairly well correlated to experience in, and effort expended on bruise reduction. In view of the low 1972 bruise figures it must be pointed out that last fall provided very good digging weather except for a few cold days. Inclement weather might make 1972 figures unobtainable with our present knowledge and equipment.

We have proven that our bruise reduction efforts have been profitable on the basis of the above figures alone. When coupled with less tangible but equally important results such as lower storage shrink, less cull and higher grade out percentages we see measurable additional profit. However, bruise reduction is not without additional grower costs and we have had to recognize the old adage that you have to spend money to make money. Bruise reduction requires improved management which may mean more and/or better labor, equipment and pre-harvest preparation.

Our reduced bruise has been a joint effort of everyone concerned, processor fieldmen, digger operators, Bill Phillips and Raymond Stelzer, our ranch manager who, individually, has made the greatest contribution. Briefly, the following considerations are key ones that have helped reduce bruise.

- 1- Proper soil moisture at digging.
- 2- Chain speeds related to ground speed.
- 3- Pulp temperatures.
  - a) Earlier digging.
  - b) Adequate equipment for timely completion.
  - c) Adjusting harvest hours to meet temperature conditions.
- 4- Weed control.

5- See our own samples graded.

a) Type of bruise.

b) Individual equipment.

6- Equipment maintenance.

7- People awareness.

There are problems in potato bruise that need more attention. Basic, is our attitude as a grower toward bruise in relation to our other problems at harvest time. None of us are exempt from some measure of criticism in an area where we alone are responsible.

The potato equipment industry has made definite progress in recent years with a good many innovations for which we, as growers, are grateful. However, there is certainly room for much more improvement and we look forward to them.

With use of lye peeler bruise grading, it follows that grade will be determined on the peeled tuber. It also follows that naked tubers show the slightest defect with amazing clarity and resulting grades may be quite different from those made on unpeeled tubers. It also follows that grade and price standards for processor potatoes need a drastic overhauling from those predominantly in use which were, after all, developed for the fresh pack business.

We badly need an improved bruise grade method that will provide payable basis grades in a shorter time than is available from lye peeling as we now know it. The four or five day wait between harvest and grade produces results that are frequently an autopsy providing little medicinal information. In this connection, we have not been able to show correlation between the catechol bruise test and lye peeler grades.

In summary, we as growers have found our bruise reduction efforts to be profitable as we are certain it has been to the buyers of our production. We recognize the need for further improvement and believe that low bruise potatoes have significantly greater value than recognized now to both the grower and processor. However, to gain the maximum benefits we must all deliver potatoes that are of uniformly low bruise in order for the processor to fully realize the savings that enable him to pay more for his raw product. The responsibility for improvement lies with us as growers. With the cooperation of buyers, equipment people, and researchers, bruise reduction can lead to increased profits for all segments of our potato industry.