

CALIFORNIA POLYTECHNIC STATE UNIVERSITY

SAN LUIS OBISPO, CALIFORNIA 93407  
(805) 546-0111



80-ZB1

January 13, 1982

To: Almond Board of California  
P.O. Box 15920  
Sacramento, CA 94813

Attention: Mr. Dale Morrison, Director of Research

From: E. J. Carnegie *pc*  
Professor, Agricultural Engineering

Subject: Progress Report  
Gathering, & Compaction by Baling

RECEIVED  
JAN 18 1982  
ALMOND BOARD

During the last few months Tim Hutcheson and Dan Lenz have repaired the hydraulic cylinder on the baler, and it is now in working order. Tests have been run, and two bales were obtained. The first bale was about 22 in. by 17 in., 4 ft. 2 in. long and weighed 186 pounds; this would produce a bulk density of 17.2 lb. per cu. ft. The next bale was a little shorter (about 4 ft. long) and weighed 175 lb., or 16.8 lb. per cu. ft. Being able to obtain this high a bulk density on only two bales with a shorter than desirable stroke is very promising.

A picture of one of the bales is enclosed.

The feeding of material into the bale chamber is very cumbersome and slows down the operation a great deal. A cylinder with a longer stroke will be installed next. This will allow for a larger opening for the brush to enter and will ease the feeding problem. If it is found necessary to open up the bale chamber more, the next modification will be to add a movable top section that will hinge up and increase the height of the chamber opening. When the brush is in the bale chamber the top will come down first, lock in place, and then the bale plunger will shear and compress the brush. These changes should accomplish the following two things: 1) ease the feeding problem, and 2) make a more dense, compact bale.

No further modifications have been done on the gathering unit yet, but once the bale problems have been worked out, increased effort will be put on the gathering unit.

