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ENERGY CONSERVATION IN FRUIT DEHYDRATORS
UTILIZING RECIRCULATION OF EXHAUST AIR
AND HEAT RECOVERY HEAT EXCHANGERS

Progress Report
For Period May 26, 1976-September 30, 1976

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November 1976

MASTER

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ABSTRACT

The major items of equipment have been purchased and installed. The main heat recovery heat exchanger was installed in early September on one of the 24 dehydrator tunnels of the Superior Farming's commodity center in Bakersfield, California. Instrumentation installation had not been completed at the end of this reporting period.

The energy recovery heat exchanger was installed in early September. Its unmonitored operation commenced September 14, 1976. Due to the unseasonal inclement weather this September, it was necessary to suspend work on the test tunnel. All tunnels were pressed into service by the Superior Farming Company in order to maximize product through-put.

Subsequent to the reporting period and due to the aforementioned weather, fresh undehydrated product became unavailable. This released the test tunnel from service. Monitoring instrumentation was then installed. Tunnel monitoring commenced on October 27, 1976. As of this writing no operational data has been received by the Principal Investigator from the Superior Farming Company. The company plans to operate part of the dehydrator including the test tunnel for the next few months. Partially dried and stored product will be reprocessed. This operation should yield important, although unseasonal, energy conservation data commensurate with the project's goals.

The Principal Investigator has devoted approximately 16% of his time during the reporting period, and expects to continue at a reduced percentage level during the remainder of the term.

Drawings of the installation are included with this report: numbers SF-D-0338, 39, and 40 titled "Fruit Dehydrator Heat Recovery Heat Exchanger."

section G 1"=1'-0"

PLAN VIEW top of dehydrator 1"=1'-0"

section C 1"=1'-0"

section D 1"=1'-0"

ENVIRONMENTAL RESEARCH LABORATORY of THE UNIVERSITY OF ARIZONA TUCSON INTERNATIONAL AIRPORT TUCSON, ARIZONA 85706	
Project: ERDA CONTRACT #E(11-1)2916	
Title: FRUIT DEHYDRATOR HEAT RECOVERY HEAT EXCHANGER	
Drawn by: KID GRAESSLE	Date: 6-20-76
Approved by: John E. Stor	Date: 8-27-76
Mfg. Tolerance:	Dwg. No.
Gross Weight:	SP-00337
Scale:

section thru dehydrator - $1^{\circ} = 1' - 0'$

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of
THE UNIVERSITY OF ARIZONA
TUCSON INTERNATIONAL AIRPORT
TUCSON, ARIZONA 85706

Revision	Project: ERDA CONTRACT # E (11-1) 2916	
	Title: FRUIT DEHYDRATOR HEAT RECOVERY HEAT EXCHANGER	
	Drawn by: RUDI GRABBLE	Date: 6-20-76
	Approved by: John E. Bach	Date: 8-27-76
	Mfg. Tolerance:	Dwg. No. SF D-0335
	Gross Weight:	
	Scale:

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of	
THE UNIVERSITY OF ARIZONA	
TUCSON INTERNATIONAL AIRPORT	
TUCSON, ARIZONA 85706	
Project:	ERDA CONTRACT #E (11-1) 2916
Title:	FRUIT DEHYDRATOR HEAT RECOVERY HEAT EXCHANGER
Drawn by:	RUDI GRABESSE
Date:	7-12-76
Approved by:	John E. Broke
Date:	8-27-76
Mfg. Tolerance:	
Gross Weight:	
Scale:	1/2" EXCEPT AS NOTED
Dwg. No.	SF D. 0340