

**FIELD CONDITIONS AT THE MARICOPA AGRICULTURAL CENTER,  
PINAL COUNTY, ARIZONA, APRIL 9, 1989**

By Sandra J. Owen-Joyce

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## CONTENTS

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	Page
Abstract .....	1
Introduction .....	1
Field conditions.....	1

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## FIGURES

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Figure 1. Location of the Maricopa Agricultural Center, Pinal County, Arizona.....	2
2. Field boundaries for the Maricopa Agricultural Center and crop types on April 9, 1989.....	4
3. Location and view direction of photographs taken to document field conditions on the demonstration farm, Maricopa Agricultural Center, April 9, 1989.....	5

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## TABLES

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Table 1. Ground-truth data for fields on the demonstration farm, Maricopa Agricultural Center, on April 9, 1989.....	6
2. Photographs (35-millimeter slides) taken of fields on the demonstration farm, Maricopa Agricultural Center, on April 9 and of scientists and equipment on April 8-10, 1989.....	7

#### IV

#### CONVERSION FACTORS

For readers who prefer to use inch-pound units rather than metric (International System) units, the conversion factors for the terms used in this report are listed below:

<u>Multiply inch-pound unit</u>	<u>By</u>	<u>To obtain metric unit</u>
millimeter (mm)	0.03937	inch (in.)
meter (m)	3.2818	foot (ft)

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ABSTRACT

Field conditions were documented during the SPOT satellite overpass of the Maricopa Agricultural Center, Pinal County, Arizona, on April 9, 1989. Crop types were mapped and photographed for each demonstration farm field, and irrigation, cultivation, and orientation of rows are described. Field and photographic descriptions are presented in tabular and graphic form.

INTRODUCTION

The fourth in a series of experiments organized by the Department of Agriculture, Agricultural Research Service, U.S. Water Conservation Laboratory, was held at the University of Arizona Maricopa Agricultural Center (MAC) on April 8-10, 1989, to correspond with the overpasses of the SPOT satellite on April 9 and 10 (fig. 1). The purpose of the MAC IV Experiment was to investigate crop water use and plant response. Major objectives were to measure photosynthesis, water use, and components of the energy balance of large wheat and alfalfa fields using a variety of instruments and techniques and to characterize the spatial variation in plant distribution using aircraft and SPOT satellite sensors. Scientists participating in the experiment work independently but cooperatively share the data collected. This report documents the field conditions at the time of the SPOT overpass on April 9, 1989. The data collection for this part of the experiment was done in cooperation with the U.S. Bureau of Reclamation.

FIELD CONDITIONS

Ground-truth data were collected during the MAC IV Experiment to coincide with the SPOT satellite overpass on April 9, 1989. The data include crop type for each field on the demonstration farm, a description of the crop and field conditions, and photographs (35-millimeter slides) of the fields. Photographs were taken on April 9, the day of the first SPOT satellite overpass to document field conditions and to provide ground truth for interpretation of the satellite data. Photographs were taken on April 8-10 of participating scientists and their equipment during data collection.

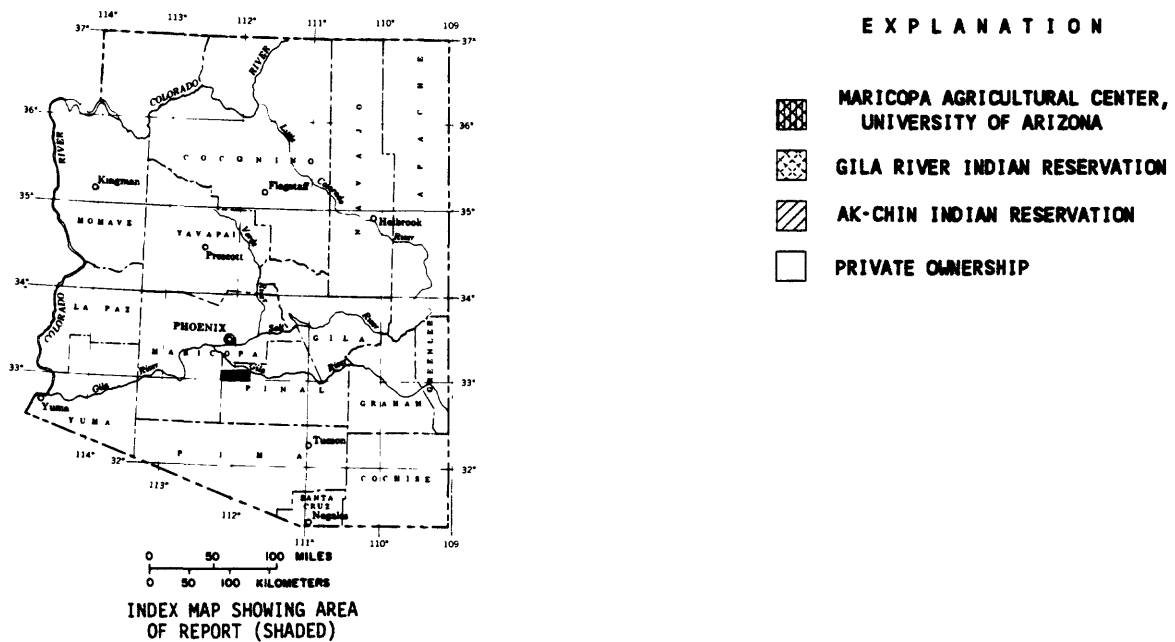
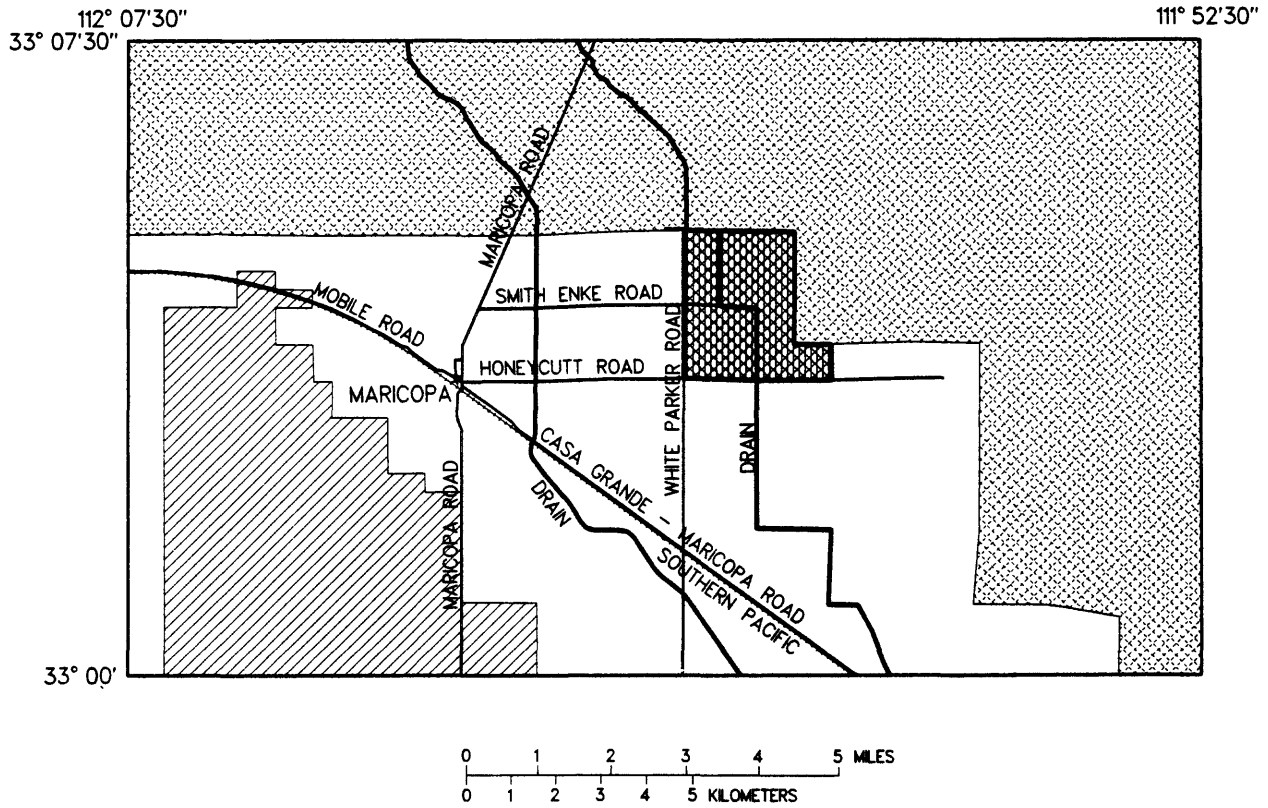


Figure 1.--Location of the Maricopa Agricultural Center, Pinal County, Arizona.

Crop types and descriptions of the fields are presented in table 1. Field boundaries and the crop type in each demonstration farm field are shown in figure 2. The generalized location from which each photograph was taken, the direction of view, and a brief description of conditions that the photograph documents are listed in table 2. The location from which photographs documenting field conditions were taken are shown in figure 3; where possible, these photographs were taken viewing 180° away from the sun. Selected slides were duplicated and are available at the U.S. Water Conservation Laboratory, Phoenix, Arizona; these slides are footnoted in table 2.

Conditions were also noted in the fields outside the farm but immediately adjacent to boundary roads of the demonstration farm. East of field 11, the land was fallow with east-west furrows, and irrigation was beginning at the north end of the field at 1515 hours on April 9. Wheat is planted in fields east of field 19, north of field 23, and south of the western part of the east half of field 27. South of the eastern part of the east half of field 27, the land is fallow with east-west furrows. South of the west half of field 27, the land is fallow with north-south furrows. North of fields 19-22 is natural desert vegetation. North of fields 25 and 26, the land is fallow. West of fields 27 to 3201 is a field of mature pecan trees newly leafed out. West of fields 33-36, the fallow land grades from plowed with clods and some yellow stubble in the middle of the field west of field 36 and the north half of field 35 to plowed smooth west of fields 33, 34, and the south half of field 35. Weeds are scattered in the area west of field 33. The land west of fields 37-39 is fallow with east-west furrows. North of field 39, the land is fallow with north-south furrows and a scattering of weeds.

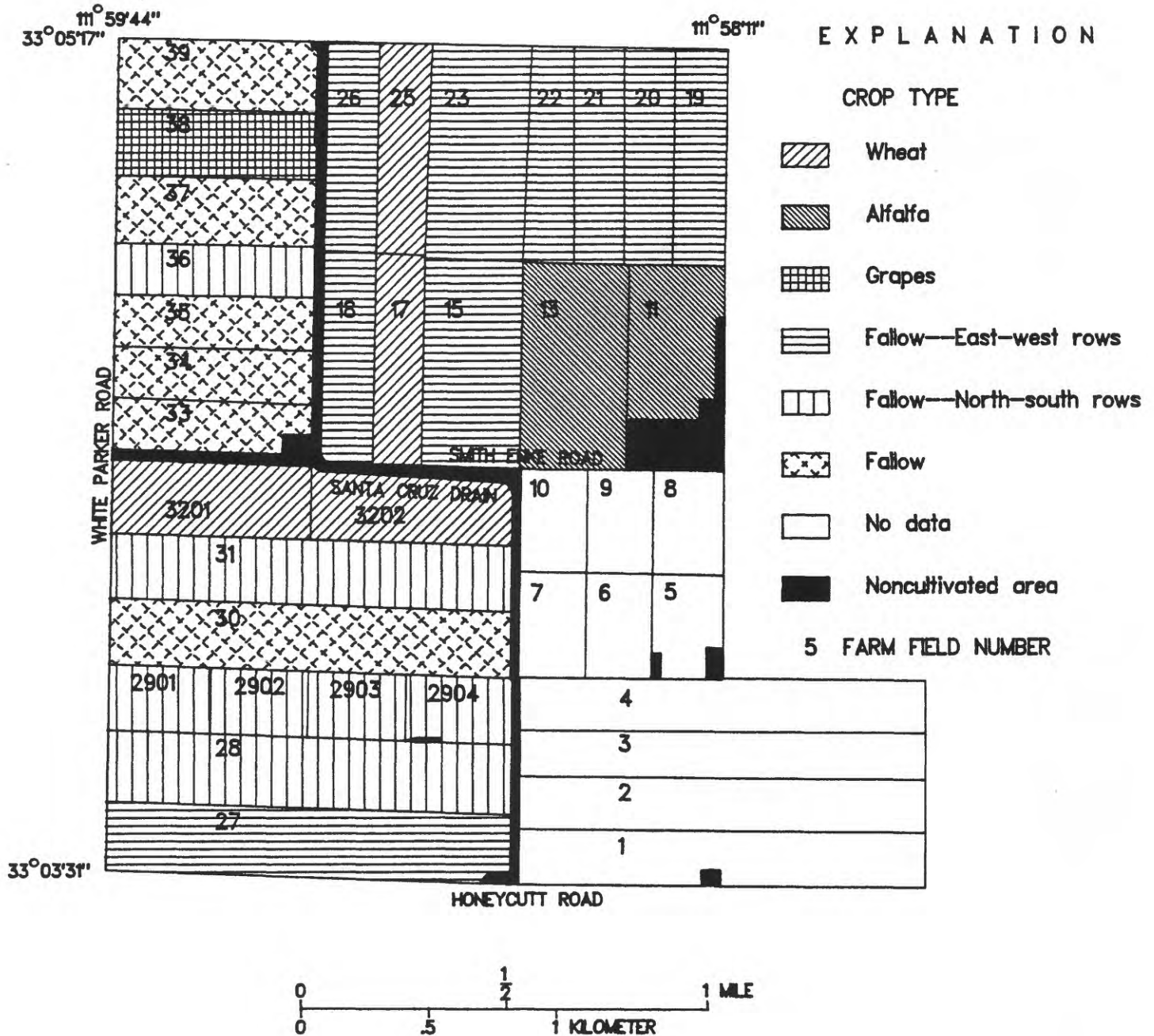


Figure 2.--Field boundaries for the Maricopa Agricultural Center and crop types on April 9, 1989.



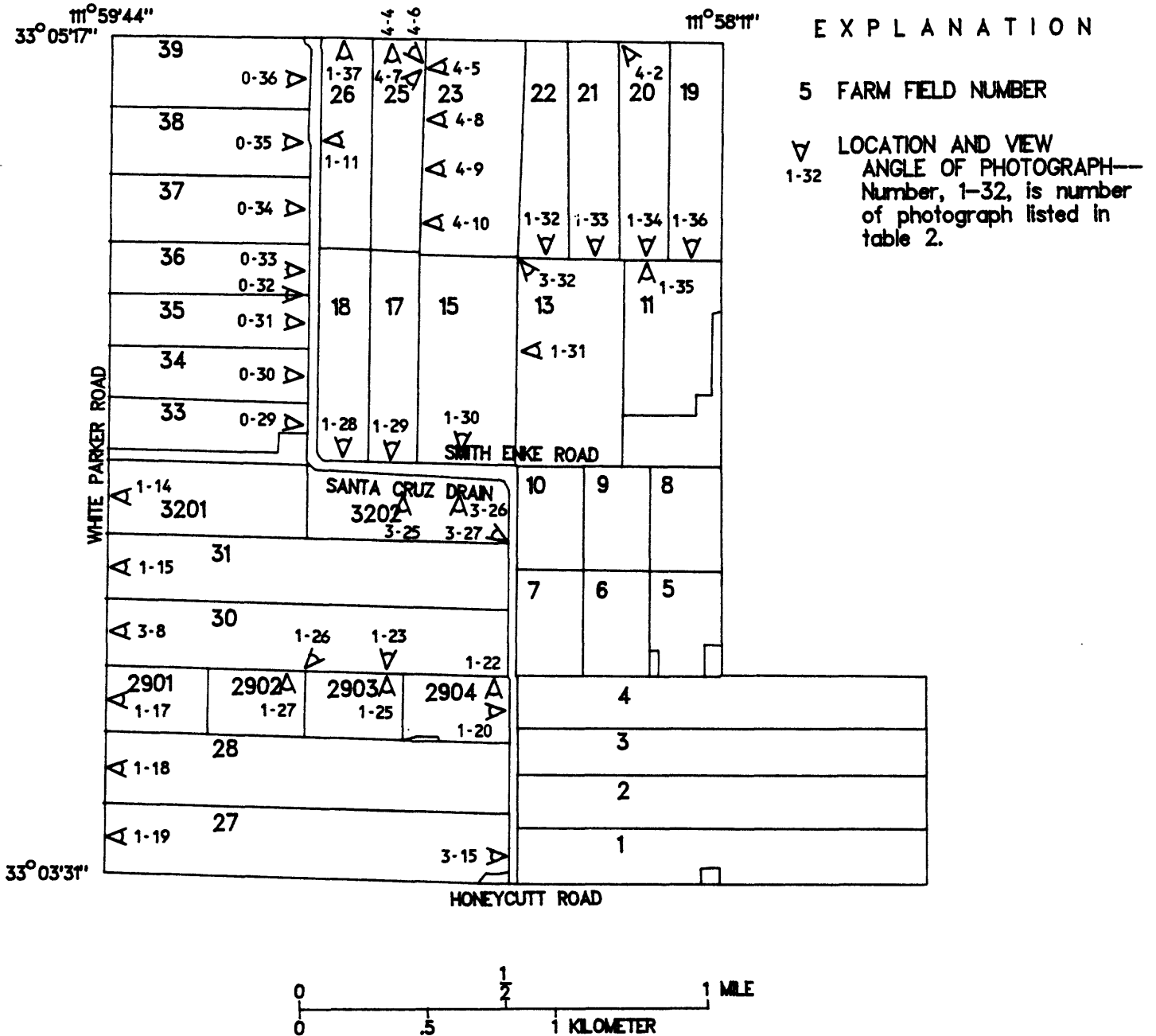


Figure 3.--Location and view direction of photographs taken to document field conditions on the demonstration farm, Maricopa Agricultural Center, April 9, 1989.

Table 1.--Ground-truth data for fields on the demonstration farm, Maricopa Agricultural Center, on April 9, 1989

Maricopa Agricultural Center Field Number <sup>1</sup>	Crop	Description
11	Alfalfa	Recently mowed. Buildings in south half.
13	Alfalfa	Recently mowed. Bales picked up 4/8/89. Small plot of unmowed alfalfa in northwest corner.
15	Fallow	East-west rows. Cultivated. Dry.
17	Wheat	Full cover.
18	Fallow	East-west rows. Cultivated. Dry.
19	Fallow	East-west rows. Cultivated. Dry.
20	Fallow	North end of field has plot of weeds. Most of field is east-west rows, cultivated, and dry. South end of field is plowed, clods, and dry.
21	Fallow	East-west rows. Cultivated. Dry. Scattered weeds.
22	Fallow	East-west rows. Cultivated. Dry.
23	Fallow	East-west rows. Cultivated. Dry.
25	Wheat	Sparse at north end with water ponded along the east-west bench mounds.
26	Fallow	East-west rows. Cultivated. Dry.
27	Fallow	East-west rows. Cultivated. Dry. Some clods at west end.
28	Fallow	North-south rows. Cultivated. Dry. Clods.
2901	Fallow	North-south rows. Cultivated. Dry.
2902	Fallow	North-south rows. Cultivated. Dry.
2903	Fallow	North-south rows. Cultivated. Dry. Flat topped furrows and cotton plants about 15 mm high.
2904	Fallow	North-south rows. Cultivated. Dry. Flat topped furrows and cotton plants about 30 mm high.
30	Fallow	Plowed with yellow stubble in east half. West half plowed with clods. Dividing line between east and west runs diagonally to northeast from half way point on south field border.
31	Fallow	North-south rows. Cultivated. Dry.
3201	Wheat	East half wheat/barley mix test plot for early planting and removal, which gives a non-uniform surface. West half same as field 3202.
3202	Wheat	West half of field irrigated prior to experiment. Along north boundary canal some standing water and mud. East half dry.
33	Fallow	Plowed with yellow stubble and clods. Dry.
34	Fallow	Same as field 33.
35	Fallow	Plowed with green stubble and clods. Dry but soil appears darker than in fields with yellow stubble.
36	Fallow	North-south rows. Cultivated. Dry.
37	Fallow	Same as field 35.
38	Grapes	North-south rows. Recently plowed between the frames and around edges of field. Dry.
39	Fallow	Same as field 35.

<sup>1</sup>Fields plotted on figure 2.

Table 2.--Photographs (35-millimeter slides) taken of fields on the demonstration farm, Maricopa Agricultural Center, on April 9 and of scientists and equipment on April 8-10, 1989

[View direction: SE, Southeast; SW, Southwest; NE, Northeast; NW, Northwest. Description: MAC, Maricopa Agricultural Center; ERF, Bidirectional Reflectance Factor; WCL, Water Conservation Laboratory; MMR, Modular Multispectral Radiometer; AZMET, Arizona Meteorological Network; SPOT, Systeme Probatoire d'Observation de la Terre]

Date	Time	Slide	Field number	Location	View direction	Description
4-08-89	--	0-12	11	Middle	SE	Set up of weather station.
"	--	0-13	11	"	SW	Same as 0-12.
"	--	0-14	11	"	SW	Same as 0-12.
"	--	0-15	9/10	North side	SW	Fallow, furrowed east-west in field 9, wheat in field 10.
"	--	0-16	3201	South side	North	Wheat.
"	--	0-17	31	Middle	South	Weather station in fallow, furrowed field--Paul Brown.
"	--	0-18	31	"	NE	Same as 0-17.
"	--	0-19	31	"	NE	Net radiometer on weather station.
"	--	0-20	31	"	North	Weather station thermometer and silicon cell pyranometer--Paul Brown.
"	--	0-21	31	"	NE	Weather station thermometer, pyranometer, and anemometer.
"	--	0-22	31	"	Close up	Weather station data logger.
"	--	0-23	31	"	North	Fallow, furrowed row structure.
"	--	0-24	31	"	North	Same as 0-23 but closer. (Focus problem)
"	--	0-25	3201	"	West	Weather station in wheat field.
"	--	0-26	3201	"	West	Same as 0-25.
4-09-89	--	0-27	--	--	NW	MAC sign at SE corner of farm.
"	--	0-28	--	--	NW	Same as 0-27.
"	--	0-29	33	East side	West	Fallow, clods, dry, yellow stubble.
"	--	0-30	34	" "	West	Same as field 33.
"	--	0-31	35	" "	West	Fallow, clods, dry, green stubble, soil darker than field 34.
"	--	0-32	35/36	" "	West	Canal border between fields.
"	--	0-33	36	" "	West	Fallow, dry, furrowed north-south.
"	--	0-34	37	" "	West	Fallow, clods, dry, green stubble.
"	--	0-35	38	" "	West	Grapes. Plowed between rows and around edges, dry.
"	--	0-36	39	" "	West	Fallow, clods, dry, green stubble.

See footnotes at end of table.

Table 2.--Photographs (35-millimeter slides) taken of fields on the demonstration farm, Maricopa Agricultural Center, on April 9 and of scientists and equipment on April 8-10, 1989--Continued

Date	Time	Slide	Field number	Location	View direction	Description
4-09-89	--	<sup>1</sup> 1-1	33	East Side	West	Same as 0-29.
"	--	1-2	33	" "	West	Same as 0-29.
"	--	1-3	33	" "	West	Same as 0-29.
"	--	<sup>1</sup> 1-4	34	" "	West	Same as 0-30.
"	--	1-5	34	" "	West	Same as 0-30.
"	--	<sup>1</sup> 1-6	35	" "	West	Same as 0-31.
"	--	<sup>1</sup> 1-7	35/36	" "	West	Same as 0-32.
"	--	<sup>1</sup> 1-8	36	" "	West	Same as 0-33.
"	--	<sup>1</sup> 1-9	37	" "	West	Same as 0-34.
"	--	<sup>1</sup> 1-10	38	" "	West	Same as 0-35.
"	--	<sup>1</sup> 1-11	26	West side	East	Tractor plowing south to north. Aero Commander <sup>2</sup> on runway.
"	--	<sup>1</sup> 1-12	39	East side	West	Same as 0-36.
"	--	1-13	--	--	South	Santa Cruz drain.
"	1522	<sup>1</sup> 1-14	3201	West side	East	Wheat.
"	1527	<sup>1</sup> 1-15	31	" "	East	Fallow, dry, furrowed north-south.
"	--	1-16	30	" "	East	Fallow, clods, dry, yellow stubble. Equipment setup. (Focus problem)
"	--	<sup>1</sup> 1-17	2901	" "	East	Fallow, dry, furrowed north-south. Water ponded between field and road, which is west of the irrigation canal.
"	--	<sup>1</sup> 1-18	28	West side	East	Fallow, clods, dry, furrowed north-south.
"	--	<sup>1</sup> 1-19	27	" "	East	Fallow, some clods, dry, furrowed north-south.
"	--	<sup>1</sup> 1-20	2904	East side	West	Cotton. Furrowed north-south.
"	--	<sup>1</sup> 1-21	2904	NE corner	Close up	Cotton plants about 30 mm tall.
"	--	<sup>1</sup> 1-22	2904	NE corner	South	Cotton. Furrowed north-south.
"	--	<sup>1</sup> 1-23	30	South side	North	Fallow, clods, dry, yellow stubble.
"	1615	<sup>1</sup> 1-24	2903	NE corner	Close up	Cotton plants about 15 mm tall.
"	1615	<sup>1</sup> 1-25	2903	NE corner	South	Cotton, furrowed north-south, flat topped rows.
"	--	<sup>1</sup> 1-26	30	South side	NE	Border between fallow stubble and fallow clods.

See footnotes at end of table.

Table 2.--Photographs (35-millimeter slides) taken of fields on the demonstration farm, Maricopa Agricultural Center, on April 9 and of scientists and equipment on April 8-10, 1989--Continued

Date	Time	Slide	Field number	Location	View direction	Description
4-09-89	1615	<sup>1</sup> 1-27	2902	North side	South	Fallow, dry, furrowed north-south, flat topped rows.
"	1645	<sup>1</sup> 1-28	18	South side	North	Fallow, dry, furrowed east-west.
"	--	<sup>1</sup> 1-29	17	" "	North	Wheat.
"	--	<sup>1</sup> 1-30	15	" "	North	Fallow, dry, furrowed east-west.
"	--	<sup>1</sup> 1-31	13	West side	East	Alfalfa, recently mowed, bales picked up 4/8/89.
"	--	<sup>1</sup> 1-32	22	South side	North	Fallow, dry, furrowed east-west.
"	--	<sup>1</sup> 1-33	21	" "	North	Fallow, dry, furrowed east-west with scattered weeds.
"	--	<sup>1</sup> 1-34	20	" "	North	Fallow, dry, furrowed east-west except at south end, which is fallow clods.
"	--	<sup>1</sup> 1-35	11	North side	South	Alfalfa, recently mowed.
"	--	<sup>1</sup> 1-36	19	South side	North	Fallow, dry, furrowed east-west.
"	1725	<sup>1</sup> 1-37	26	North side	South	Fallow, dry, furrowed east-west. Tractor plowed in morning. North end not plowed with weeds for about 80 m.
"	--	2-1	30	NW part	SW	BRF equipment--J. Kristian Aase and Gumar Fedosejevs.
"	--	2-2	30	" "	East	WCL staff with MMR equipment.
"	1110	<sup>1</sup> 2-3	30	" "	SW	Same as 2-1.
"	1117	<sup>1</sup> 2-4	30	" "	--	Cessna aircraft and sky condition.
"	1123	<sup>1</sup> 2-5	30	" "	NE	MMR equipment--Carmen Guzman.
"	1123	2-6	30	" "	NE	Same as 2-5.
"	1123	2-7	30	" "	NE	Same as 2-5.
"	1125	2-8	30	" "	SW	Same as 2-1.
"	1126	<sup>1</sup> 2-9	30	" "	--	Sky condition, clear, hot.
"	--	2-10	30	" "	NE	Thematic Mapper Spectral Radiometer--Jim Washburne and Xi Che.
"	--	<sup>1</sup> 2-11	30	" "	NE	Same as 2-10.
"	--	<sup>1</sup> 2-12	30	" "	North	Same as 2-10.
"	--	<sup>1</sup> 2-13	30	" "	SE	SPOT bands radiometer measuring incoming radiation--Christopher Neale and Dick Tzou.

See footnotes at end of table.

Table 2.--Photographs (35-millimeter slides) taken of fields on the demonstration farm, Maricopa Agricultural Center, on April 9 and of scientists and equipment on April 8-10, 1989--Continued

Date	Time	Slide	Field number	Location	View direction	Description
4-09-89	--	2-14	30	NW part	SE	Same as 2-13.
"	--	<sup>1</sup> 2-15	30	" "	South	Exotech with four SPOT bands--Tom Clarke, Ron Seay, and Susan Moran.
"	--	2-16	30	" "	South	Same as 2-15.
"	--	2-17	30	" "	NW	MTR with eight Thematic Mapper bands--Susan Moran and Jiang.
"	--	<sup>1</sup> 2-18	30	" "	NW	MTR--Ron Seay, Jiang, Susan Moran.
"	--	2-19	30	" "	SE	MTR--Ron Seay and Susan Moran.
"	--	2-20	30	" "	NE	Photographer--Sandra Owen-Joyce.
"	--	<sup>1</sup> 2-21	30	" "	NE	Same as 2-20.
"	--	<sup>1</sup> 2-22	30	" "	NE	Soil samples--Peter Gilruth and Badamba Barry.
"	--	2-23	30	" "	NE	Soil samples--Badamba Barry.
"	1225	<sup>1</sup> 2-24	30	" "	SE	WCL weather station.
"	--	<sup>1</sup> 2-25	3201	SW part	West	Portable chamber for simultaneous canopy photosynthesis and evapotranspiration--Don Reicosky.
"	--	<sup>1</sup> 2-26	3201	" "	West	Same as 2-25.
"	--	<sup>1</sup> 2-27	3201	" "	West	Single leaf photosynthesis and transpiration--Jack Morgan and Barry Weaver.
"	--	<sup>1</sup> 2-28	3201	" "	Close up	Same as 2-27.
"	--	2-29	3201	" "	SW	Same as 2-27.
"	1255	2-30	3201	" "	NW	Same as 2-27.
"	--	2-31	3201	" "	West	Bowen ratio equipment--Dave Nichols and Alex Sturrock.
"	1311	<sup>1</sup> 2-32	3201	" "	West	Same as 2-32.
"	1320	2-33	3201	" "	NW	Bowen ratio equipment.
"	--	<sup>1</sup> 2-34	31	NW edge	SW	Group picture in shade.
"	--	<sup>1</sup> 2-35	3201	Middle	West	Bowen ratio and carbon dioxide flux equipment--Pasquale Steduto.
"	--	2-36	3201	"	West	Bowen ratio and carbon dioxide flux equipment.
"	--	3-1	3201	Middle	--	Root density--John Wraith.

See footnotes at end of table.

Table 2.--Photographs (35-millimeter slides) taken of fields on the demonstration farm, Maricopa Agricultural Center, on April 9 and of scientists and equipment on April 8-10, 1989--Continued

Date	Time	Slide	Field number	Location	View direction	Description
4-09-89	--	<sup>1</sup> 3-2	3201	Middle	--	Same as 3-1.
"	--	3-3	3201	"	East	Evaporation soil and water pans--Denny Or.
"	--	<sup>1</sup> 3-4	3201	"	East	Root density and evaporation pans--Denny Or, Lynn Kidman, and John Hanks.
"	--	3-5	3201	"	North	Microlysimeters along field border.
"	1522	3-6	3201	West side	East	Same as 1-14.
"	1527	3-7	31	" "	East	Same as 1-15.
"	--	<sup>1</sup> 3-8	30	" "	East	Fallow, clods, dry, yellow stubble.
"	--	3-9	30	" "	NE	Same as 1-16.
"	--	3-10	30	" "	NE	Same as 1-16.
"	--	3-11	2901	" "	East	Same as 1-17.
"	--	3-12	28	" "	East	Same as 1-18.
"	--	3-13	27	" "	East	Same as 1-19.
"	--	3-14	27	" "	East	Same as 1-19, only closer.
"	--	<sup>1</sup> 3-15	27	East side	West	Fallow, dry, furrowed east-west.
"	--	3-16	2904	" "	West	Same as 1-20.
"	--	3-17	2904	North side	South	Same as 1-22.
"	--	3-18	2904	" "	Close up	Same as 1-21.
"	--	3-19	30	South side	North	Same as 1-23.
"	1615	3-20	2903	North side	Close up	Same as 1-24.
"	1615	3-21	2903	" "	Close up	Same as 1-24.
"	--	3-22	30	South side	NE	Same as 1-26.
"	--	3-23	2902	North side	South	Same as 1-27.
"	--	3-24	3201	NW corner	East	Irrigation hoses in canal with water but no irrigation. Field wet with some standing water along canal edge.
"	--	<sup>1</sup> 3-25	3202	North side	South	Wheat.
"	--	<sup>1</sup> 3-26	3202	" "	South	Border between full cover wheat and wheat/barley mix. Test plot at east end of field for early planting and removal.

See footnotes at end of table.

Table 2.--Photographs (35-millimeter slides) taken of fields on the demonstration farm, Maricopa Agricultural Center, on April 9 and of scientists and equipment on April 8-10, 1989--Continued

Date	Time	Slide	Field number	Location	View direction	Description
4-09-89	--	<sup>1</sup> 3-27	3202	SE corner	NW	Wheat/barley mix with wheat to west.
"	1645	3-28	18	South side	North	Same as 1-28.
"	--	3-29	17	" "	North	Same as 1-29.
"	--	3-30	15	" "	North	Same as 1-30.
"	--	3-31	13	West side	East	Same as 1-31.
"	--	<sup>1</sup> 3-32	13	NW corner	SE	Unmowed corner of alfalfa field.
"	--	3-33	22	South side	North	Same as 1-32.
"	--	3-34	21	" "	North	Same as 1-33.
"	--	3-35	20	" "	North	Same as 1-34.
"	--	3-36	11	North side	South	Same as 1-35.
"	--	3-37	19	South side	North	Same as 1-36.
"	1515	4-1	--	Off farm	East	Wheat east of field 19; fallow, irrigated east of field 11.
"	--	<sup>1</sup> 4-2	20	North side	SE	Two types/two heights of plants--on east side plants with yellow flowers, west side plants are shorter with no flowers.
"	1725	4-3	26	" "	South	Same as 1-37.
"	--	<sup>1</sup> 4-4	25	" "	South	Wheat, very sparse at north end, water along edges of the benches.
"	--	<sup>1</sup> 4-5	23	West side	East	Fallow, dry, furrowed east-west.
"	--	<sup>1</sup> 4-6	25	East side	NW	At north end, very sparse, not irrigated in the two northernmost benches.
"	--	<sup>1</sup> 4-7	25	" "	SW	Water in canal and soil wet south of the two northernmost benches.
"	--	<sup>1</sup> 4-8	23	West side	East	Fallow, dry, furrowed east-west.
"	--	<sup>1</sup> 4-9	23	" "	East	Fallow, dry, furrowed east-west.
"	1745	<sup>1</sup> 4-10	23	" "	East	Fallow, dry, furrowed east-west.
4-10-89	0955	<sup>1</sup> 4-11	--	North of dorms	NW	Solar radiometers.
"	1007	4-12	--	" " "	NE	Same as 4-11.
"	--	<sup>1</sup> 4-13	--	" " "	South	Camera on dorm roof taking 180° photographs of the sky.

See footnotes at end of table.



Table 2.--Photographs (35-millimeter slides) taken of fields on the demonstration farm, Maricopa Agricultural Center, on April 9 and of scientists and equipment on April 8-10, 1989--Continued

Date	Time	Slide	Field number	Location	View direction	Description
4-10-89	--	4-14	--	Plane parking	Close up	Multispectral video cameras in Aero Commander.
"	--	4-15	--	Plane parking	Close up	Hasselblad cameras and monitor in Aero Commander.
"	--	<sup>1</sup> 4-16	--	" "	Close up	Cameras in Aero Commander.
"	1040	<sup>1</sup> 4-17	--	" "	West	Aero Commander.
"	--	4-18	--	--	--	Aero Commander in air.
"	--	4-19	31	North side	South	Dual Exotech--Paul Pinter.
"	--	<sup>1</sup> 4-20	31	" "	SW	Same as 4-19.
"	1100	4-21	31	" "	South	Cessna in air.
"	1101	4-22	31	" "	South	Same as 4-21.
"	1103	<sup>1</sup> 4-23	3201	" "	South	Same as 4-21.
"	1103	<sup>1</sup> 4-24	3201	Middle	NE	BRF in wheat field.
"	--	4-25	3201	"	NE	Same as 4-24.
"	--	4-26	3201	"	East	Sonic anemometer and four wind anemometers.
"	1114	<sup>1</sup> 4-27	3201	"	--	Sky condition, clear, hazy, hot, dust layer near surface.
"	1120	<sup>1</sup> 4-28	3201	"	South	View south of area with dust layer.
"	1120	4-29	3201	"	NE	Bowen ratio equipment--Leo Fritchen.
"	1123	4-30	3201	"	East	Aero Commander in air.
"	1123	<sup>1</sup> 4-31	3201	"	West	Same as 4-30.
"	--	4-32	3201	"	SW	Equipment.
"	1125	4-33	3201	"	NE	Group picture of equipment and people in field.
"	1125	<sup>1</sup> 4-34	3201	"	NE	Same as 4-33 only closer.
"	--	4-35	3201	"	West	Dual Exotech--Paul Pinter.
"	--	4-36	3201	"	West	Same as 4-35 only closer.
"	--	5-1	3201	"	SW	Group picture of equipment and people in field.
"	--	5-2	3201	"	East	Dual Exotech--Paul Pinter.
"	--	5-3	3201	"	East	Same as 5-2.
"	--	<sup>1</sup> 5-4	3201	"	East	Same as 5-2.

See footnotes at end of table.

Table 2.--Photographs (35-millimeter slides) taken of fields on the demonstration farm, Maricopa Agricultural Center, on April 9 and of scientists and equipment on April 8-10, 1989--Continued

Date	Time	Slide	Field number	Location	View direction	Description
4-10-89	--	<sup>1</sup> 5-5	3201	South side	NE	Leaf water potential measurements--Alex Held.
"	--	<sup>1</sup> 5-6	3201	" "	NW	Hand held spectral radiometer.
"	--	<sup>1</sup> 5-7	3201	" "	East	Bowen ratio data logger truck--Lloyd Gay and A.S.R.A.S. Sastri.
"	--	<sup>1</sup> 5-8	--	--	East	MAC sign at west entrance.
"	--	5-9	--	--	East	Same as 5-8.
"	--	5-10	--	Plane parking	West	Cessna--Dave Ammon.
"	--	<sup>1</sup> 5-11	--	" "	West	Same as 5-10.
"	--	5-12	31	Middle	South	Weather station; fallow, furrowed field.
"	--	5-13	31	"	East	Same as 5-12.
"	--	5-14	31	"	Close up	Wires to buried soil sensors at weather station.
"	--	<sup>1</sup> 5-15	31	"	NE	Hand held surface thermometer--Paul Doraiswamy.
"	--	5-16	31	"	Close up	Net radiometer sensor on weather station.
"	--	5-17	2	"	South	Weather station; full cover alfalfa field.
"	--	5-18	2	"	South	Same as 5-17.
"	--	<sup>1</sup> 5-19	2	North side	NW	MFR--Dennis Schinderle, Bill Kustas, and Craig Daughtry.
"	--	<sup>1</sup> 5-20	2	Middle	SW	Camera set up for vertical photographs--Bill Kustas and Craig Daughtry.
"	--	5-21	2	"	SW	Same as 5-20.
"	--	5-22	11	"	NE	Weather station in mowed alfalfa field--Paul Brown.
"	--	5-23	11	"	NE	Weather station in mowed alfalfa field.
"	--	5-24	3201	"	NW	Weather station in wheat field.
"	--	<sup>1</sup> 5-25	3201	"	Close up	Wheat.
"	--	<sup>1</sup> 5-26	--	Shop yard	East	AZMET MAC weather station.
"	--	<sup>1</sup> 5-27	11	West side	NW	Sunset--the end of MACIV.
"	--	5-28	11	" "	NW	Same as 5-27.

<sup>1</sup>Duplicate slides at the U.S. Water Conservation Laboratory, Phoenix, AZ.

<sup>2</sup>Use of brand names in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey.