

Science and Technology

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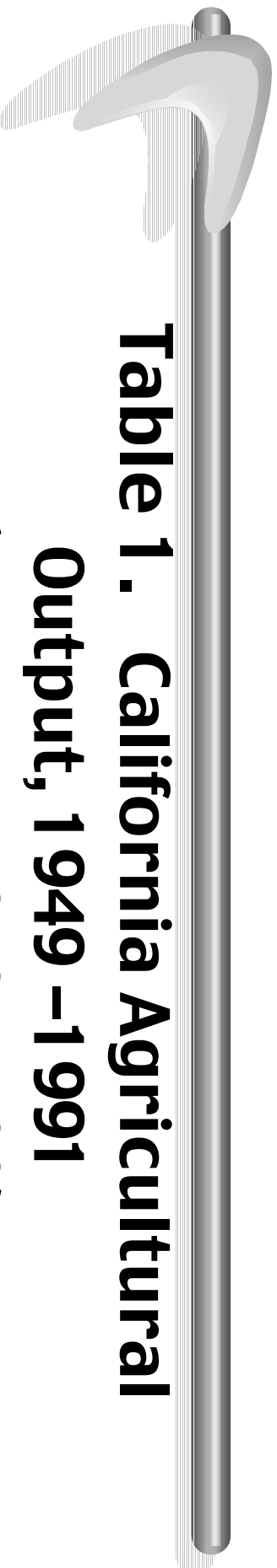


Table 1. California Agricultural Output, 1949 –1991 (Indexes, 1949 = 100)

<u>Year</u>	<u>Total Output</u>	<u>Field Crops</u>	<u>Fruits & Nuts</u>	<u>Livestock</u>	<u>Vegetables</u>	<u>Greenhouse & Nursery</u>
1949	100	100	100	100	100	100
1950	102	93	100	106	109	106
1955	128	120	113	137	134	141
1960	148	158	108	161	146	196
1965	168	161	133	188	147	245
1970	183	168	133	208	176	278
1975	229	262	181	216	197	409
1980	272	302	234	245	221	607
1985	294	284	249	272	250	726
1990	333	278	249	336	305	962
1991	337	266	270	339	280	977

Source: Compiled by Alston and Zilberman using data provided by Acquaye, Alston, and Pardey (2003).

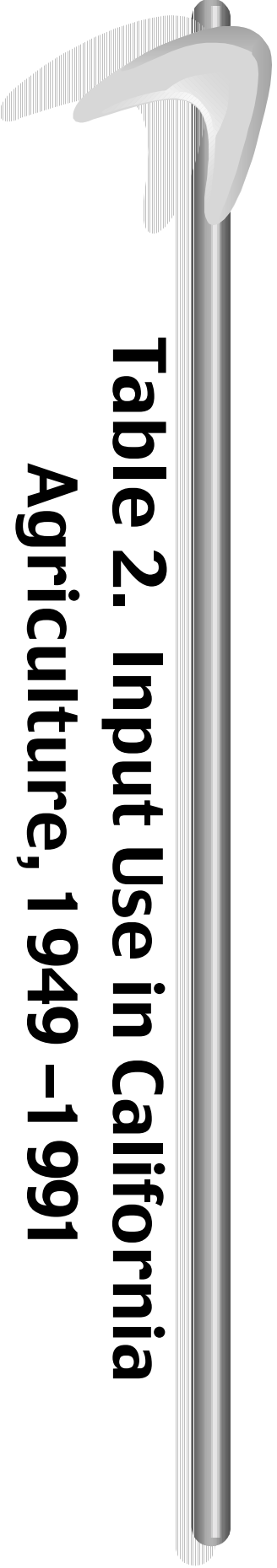


Table 2. Input Use in California Agriculture, 1949 –1991 (Indexes, 1949 = 100)

<u>Year</u>	<u>Total Output</u>	<u>Land</u>	<u>Labor</u>	<u>Capital</u>	<u>Purchased Inputs</u>
1949	100	100	100	100	100
1950	102	100	101	103	102
1955	108	100	88	129	130
1960	123	99	88	155	178
1965	128	97	77	188	208
1970	120	93	68	134	235
1975	126	96	83	123	229
1980	136	100	76	143	286
1985	134	94	71	170	271
1990	155	92	87	180	334
1991	158	92	90	176	355

Source: Compiled by Alston and Zilberman using data provided by Acquaye, Alston, and Pardey (2003).



Table 3. Productivity Patterns in California Agriculture, 1949 – 1991 (Indexes, 1949 = 100)

<u>Year</u>	<u>Output</u> <i>California</i>	<u>Input</u> <i>California</i>	<u>Productivity</u> <i>California</i>	<u>Productivity</u> <i>United States</i>
1949	100	100	100	100
1950	102	102	100	98
1955	128	108	119	111
1960	148	123	120	121
1965	168	128	131	128
1970	183	120	153	143
1975	229	126	182	169
1980	272	136	200	181
1985	294	134	219	215
1990	333	155	215	220
1991	337	158	213	224

Source: Compiled by Alston and Zilberman using data in Tables 1 and 2.

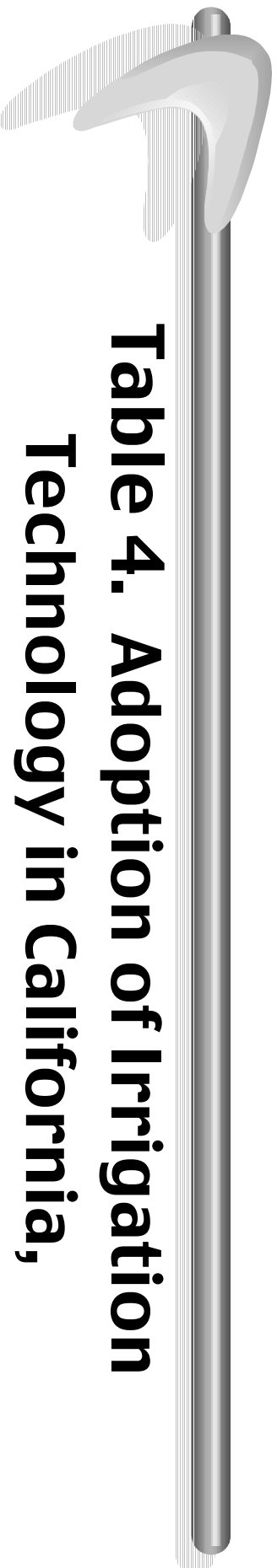


Table 4. Adoption of Irrigation Technology in California, 1969 – 1994

<u>Year</u> ^a	<u>Sprinkler</u>		<u>Gravity</u> ^b		<u>Drip or Trickle</u> ^c		<u>Subirrigation</u>	
	Farms	Acres	Farms	Acres	Farms	Acres	Farms	Acres
1969	12, 708	1, 261, 494	34, 322	5, 970, 451	525	91, 153
1974	12, 872	1, 407, 098	31, 796	6, 221, 203	518	129, 940
1978	25, 056	2, 135, 959	35, 056	6, 351, 354	3, 922	191, 549	145	30, 765
1988	16, 698	1, 747, 231	27, 306	5, 594, 321	8, 759	359, 843	616	75, 515
1994	20, 366	1, 848, 697	24, 046	5, 185, 677	14, 019	933, 696	85	55, 896

a) These are census years.

b) Gravity in 1969 and 1974 is the sum of flood and ditch-and-furrow irrigation.

c) Data not available for 1969 and 1974

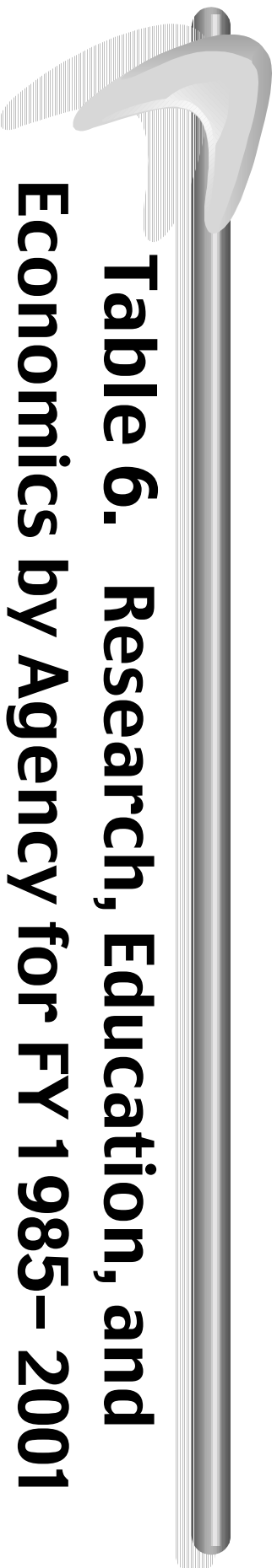
Source: Census of Agriculture, U.S. Department of Commerce



Table 5. U.S. Agricultural Research Funding in the Public and Private Sectors, 1970–1998: Millions of real (1998) dollars

<u>Year</u>	<u>Public R&D Funding</u>	<u>Private R&D Funding</u>	<u>Total R&D Funding</u>
1970	2, 450	2, 120	4, 570
1975	2, 820	2, 427	5, 247
1980	3, 217	3, 419	6, 636
1985	3, 341	3, 756	7, 097
1990	3, 540	4, 048	7, 588
1995	3, 750	4, 598	8, 348
1998	3, 648	4, 887	8, 535

Source: National Research Council (2003, pp. 190-191).



**Table 6. Research, Education, and
Economics by Agency for FY 1985– 2001
Budget Authority,
millions of real (year 2000) dollars**

<u>Year</u>	<u>ARS</u>	<u>CSREES</u>	<u>ERS</u>	<u>NASS</u>	<u>Total</u>
1985	915	1, 123	81	101	2, 220
1990	846	1, 029	69	91	2, 035
1995	914	1, 102	64	96	2, 176
2000	903	1, 091	64	100	2, 158
2001	970	1, 095	64	96	2, 226
2002	1, 157	958	65	106	2, 286

Source: National Research Council (2003, pp. 186-187).

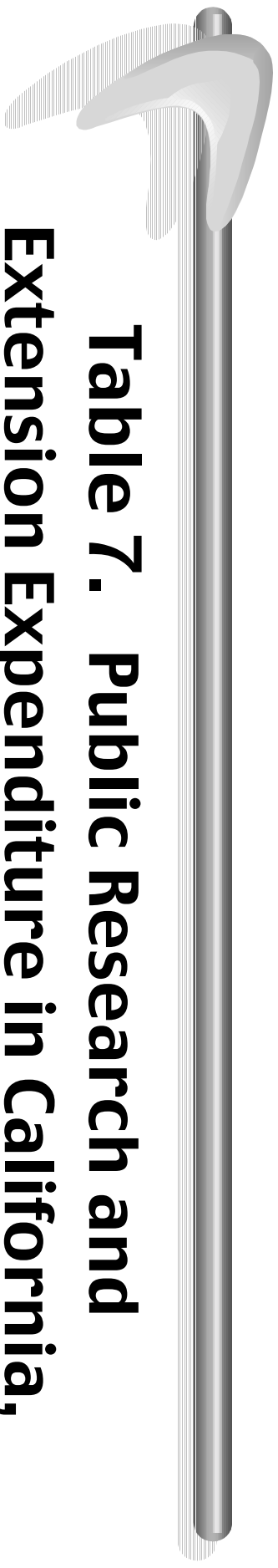


Table 7. Public Research and Extension Expenditure in California, 1970 – 1997

<u>Year</u>	<u>Nominal</u>		<u>Nominal</u>		<u>Real Total R&E Expenditure</u>
	<u>Nominal Research Expenditure</u> (current dollars, millions)	<u>Extension Expenditure</u> (current dollars, millions)	<u>Real Research Expenditure</u> (year 2000 dollars, millions)	<u>Extension Expenditure</u> (year 2000 dollars, millions)	
1970	30.7	14	13.1	51.5	168.6
1975	48.5	20.6	129.4	55.1	184.5
1980	77.6	34.3	145.5	64.5	210
1985	118.6	50.1	172	72.7	244.7
1990	171.6	63.7	212.1	78.8	290.9
1995	191	63.2	208.2	68.9	277.1
1997	20.5	69	215.5	72.4	287.9

Source: Compiled by Alston and Zilberman using data in Tables 1 and 2.