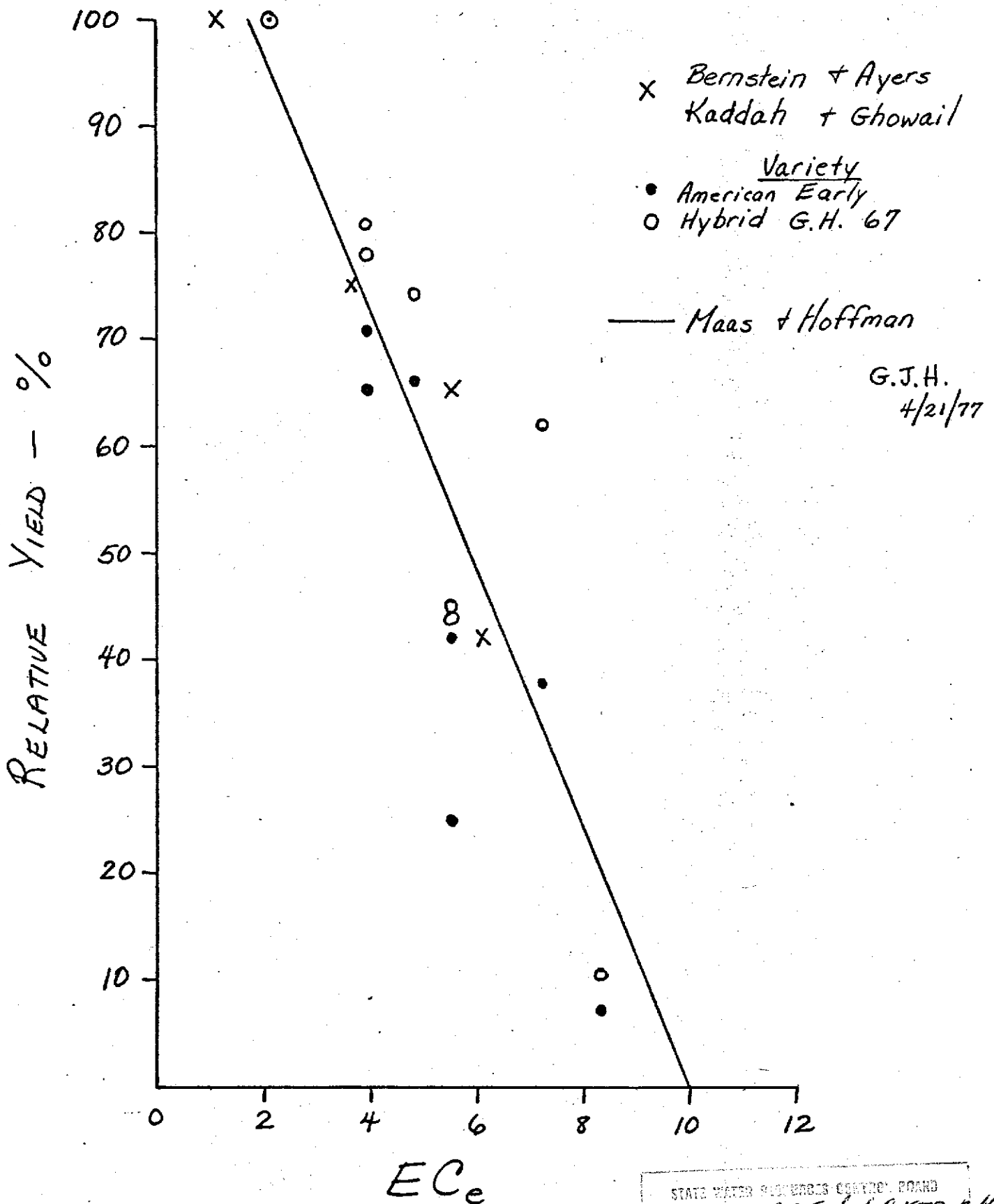


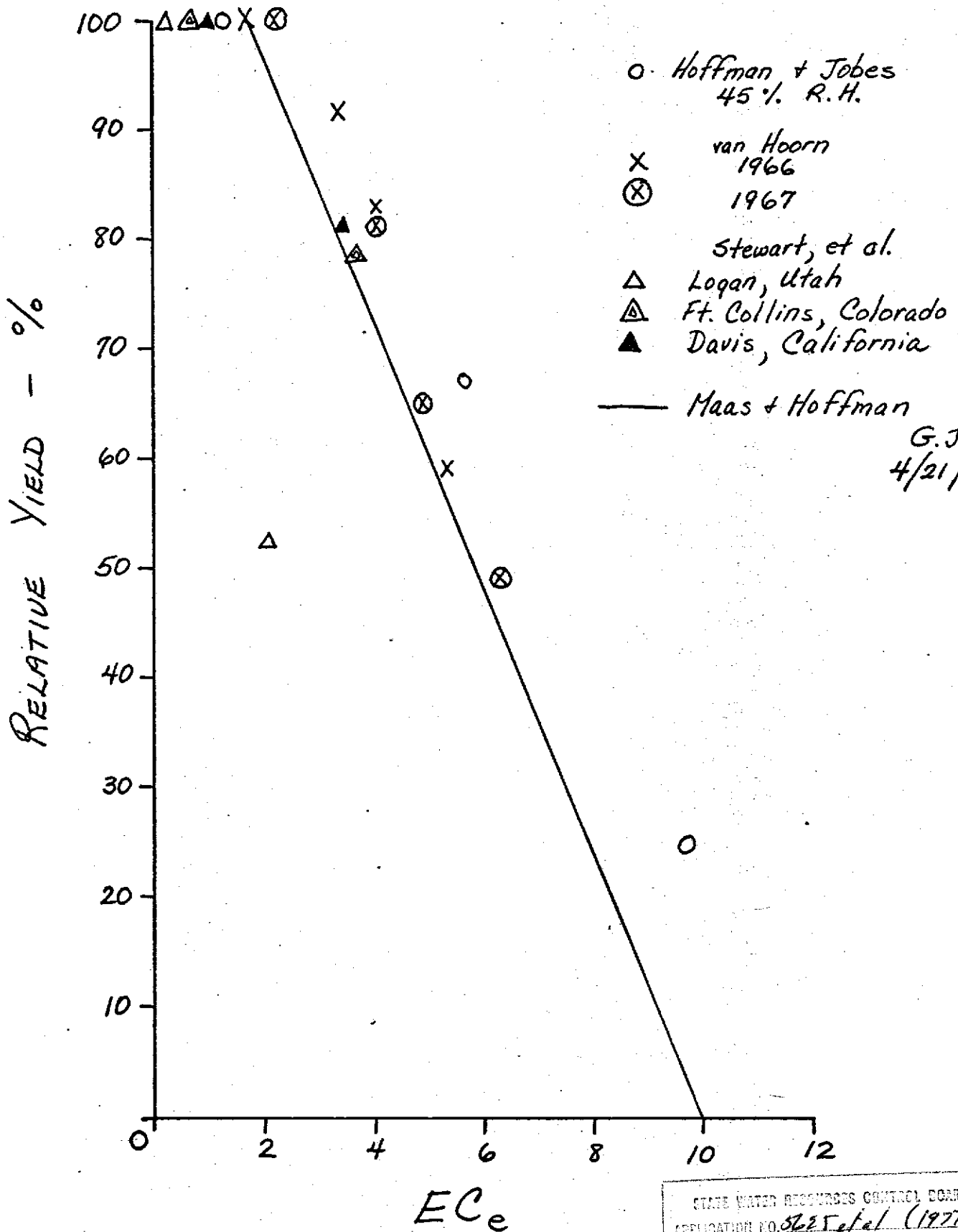
CORN (Grain)



UC-II-9

STATE WATER RESOURCES CONTROL BOARD
 APPLICATION NO. 5625 et al (1977 Delta)
 UC/Ag Sciences EXH II-9
 FOR IDENTIFICATION 4/25/77
 IN EVIDENCE 5/4/77

CORN (Grain)



G.J.H.
4/21/77

UC-II-10

STATE WATER RESOURCES CONTROL BOARD	
APPLICATION NO. 8625 et al. (1977 Do/61)	
UC/Ag Science	EXH. 1E-10
FOR IDENTIFICATION	4/25/77
DATE RECEIVED	5/4/77

CORN (Grain)

Kaddah + Ghawail
Agronomy Journal 56:214 (1964)

Bernstein + Ayers
USSR Collab. Report
1949

American Early			Hybrid GH 67		ECe		Rel. Yield	
ECe	Rel. Yield	1961	Rel. Yield					
2.0	100		100	1.1	100			
3.8	65		78	3.6	75			
4.7	66		74	5.4	65			
5.5	42		44	6.0	42			
7.4	38		62					
8.2	7		11					
		<u>1962</u>						
Data not used - ECe's not known.	100		100					
	71		81					
	25		45					

Hoffman + Jobes
Unpublished.

van Hoorn
Tunisia
Unpublished

Stewart, et al
Unpublished

Hoffman + Jobes (45% Rel. Humidity)		van Hoorn 1966		Stewart, et al (Davis, Calif)	
ECe	Rel. Yield	ECe	Rel. Yield	ECe	Rel. Yield
1.1	100	1.7	100	0.9	100
5.6	67	3.1	93	3.2	82
9.6	25	4.0	84		
13.9	4	5.2	59	(Logan, Utah)	
				0.2	100
				2.0	52
		<u>1967</u>		(Ft. Collins, Colo.)	
		2.1	100	0.75	100
		4.0	82	3.5	79
		4.9	65		
		6.3	49		

UC - II - 11

STATE WATER RESOURCES CONTROL BOARD
 APPLICATION NO. 5625 et al (1977 D/16)
 UC/Ag Science II-11
 FOR REGISTRATION 4/25/77
 LICENSE 5/4/77

G.J.H.
4/21/77

CORN (Grain)

<u>Reference</u>	<u>Notes</u>	<u>Slope</u>	<u>Intercept</u>	<u>r²</u>	<u>EC_e for Rel. Yields of</u>		
					<u>100%</u>	<u>50%</u>	<u>0%</u>
Kaddah + Ghowail Agron. J. 56: 214	2 varieties of field corn 1961 only	12.4	123	0.82	1.8	5.9	9.9
Bernstein + Ayers USSR Collab. R. 1949	Sweet corn	11.9	120	0.77	1.7	5.9	10.1

<u>Reference</u>	<u>Notes</u>	<u>% Yield Decrease</u>		<u>Threshold</u>	
		<u>B</u>	<u>A</u>	<u>A</u>	<u>B</u>
Maas + Hoffman		12		1.7	10

<u>Reference</u>	<u>Notes</u>	<u>Slope</u>	<u>Intercept.</u>	<u>r²</u>	<u>EC_e for. Rel. Yields of</u>		
					<u>100%</u>	<u>50%</u>	<u>0%</u>
Hoffman + Jobes Unpublished.	Sweet corn 45% Rel. Hum.	7.6	105	0.96	0.7	7.2	13.8
van Hoorn, Tunisia Unpublished.	field corn (including non-saline data).	12.0	126	0.95	2.2	6.3	10.5
Stewart, et al Unpublished.	field corn	—	—	—	—	—	—

UC - II - 12

STATE WATER RESOURCES CONTROL BOARD
 APPLICATION NO. 3625 et al (1977) (a) (14)
 UC/Ag Science # 72
 4/25/77
 5/4/77

G.J.H.
4/21/77

Evapotranspiration

Comparisons

<u>LOCATION</u>	<u>Crop</u>	<u>Annual ET (mm)</u>	<u>Relative ET (%)</u>	<u>Reference</u>
Delta - Thornton, Ca.	Grass	1196	100	Jensen, M.E. (editor) Consumptive Use of Water and Irrigation Water Requirements, ASCE, 1974.
San Joaquin Valley - Arvin, Ca.	Grass	1308	109	
Sacramento Valley - Davis, Ca.	Grass	1316	110	
Coastal - Guadalupe, Ca.	Grass	1006	84	
<u>CALIFORNIA</u>		<u>April to October</u>		
Central Coast	Grass or Pasture	742	84	Pruitt, W.O., et al. Calif. Agric. Oct., 1972; p. 11.
Coastal Valley (Delta)	"	879	100	
Bakersfield	"	1087	124	
Davis	"	1092	124	
Coastal Area of Egypt.	Grass or Pasture	1407	160	Rijtema + Aboukhaled FAO Regional Office Cairo. (in press).
Evaporation from Alexandria, Egypt.		1198	136	Griffiths, J.F. (Editor) World Survey of Climatology Vol. 10. 1971.

UC - II - 13

STATE WATER RESOURCES CONTROL BOARD
 APPLICATION NO. 3225 et al (1977 D/W/L)
 UG/By Sciences II-13
 DATE 4/25/77
 5/4/77

Predicted Effect of Water Quality (EC_w) on Yield of Sorghum from
Equation $y = 100 - b (EC_e - a)$ where $a = 4.0$ mmho/cm
 $b = 7.1\%$

EC_w	ppm Chlorides		Surface Irrigation $EC_w \times 3/2 = EC_e$		Sub-Irrigation $EC_w \times 7.5/2 = EC_e$	
	San Andreas	Emmaton	EC_e	% Yield	EC_e	% Yield
0.30	42	43	.45	100	1.13	100
0.35	51	58	.53	100	1.31	100
0.40	61	73	.60	100	1.50	100
0.45	70	88	.68	100	1.69	100
0.50	80	103	.75	100	1.88	100
0.55	89	118	.83	100	2.06	100
0.60	98	133	.90	100	2.25	100
0.65	108	148	.98	100	2.44	100
0.70	117	163	1.05	100	2.62	100
0.80	136	192	1.20	100	3.00	100
0.90	155	222	1.35	100	3.38	100
1.00	174	252	1.50	100	3.75	100
1.10		282	1.65	100	4.13	99
1.50		401	2.25	100	5.63	88
2.00		550	3.00	100	7.50	75
2.50		699	3.75	100	9.38	62
3.00		848	4.50	96	11.25	49
3.50		1004	5.25	91	13.13	35
4.00		1160	6.00	86	15.00	22
4.50		1316	6.75	80	16.88	9
5.00		1472	7.50	75	18.75	-

Sorghum (*Sorghum bicolor*) Tolerance

$EC_e = 4.0$

STATE WATER RESOURCES CONTROL BOARD
STATION NO. 5025 Subul (1977 20/10)
UC/AG Sciences, II-14-a
5/4/77
5/4/77

Predicted effect of Water Quality (EC_w) on Yield of Safflower from
Equation $y = 100 - b (EC_e - a)$ where $a = 5.3$ mmho/cm
 $b = 10.9\%$

EC_w	ppm Chlorides		Surface Irrigation $EC_w \times 3/2 = EC_e$		Sub-Irrigation $EC_w \times 7.5/2 = EC_e$	
	San Andreas	Emmaton	EC_e	% Yield	EC_e	% Yield
0.30	42	43	.45	100	1.13	100
0.35	51	58	.53	100	1.31	100
0.40	61	73	.60	100	1.50	100
0.45	70	88	.68	100	1.69	100
0.50	80	103	.75	100	1.88	100
0.55	89	118	.83	100	2.06	100
0.60	98	133	.90	100	2.25	100
0.65	108	148	.98	100	2.44	100
0.70	117	163	1.05	100	2.62	100
0.80	136	192	1.20	100	3.00	100
0.90	155	222	1.35	100	3.38	100
1.00	174	252	1.50	100	3.75	100
1.10		282	1.65	100	4.13	100
1.50		401	2.25	100	5.63	97
2.00		550	3.00	100	7.50	76
2.50		699	3.75	100	9.38	66
3.00		848	4.50	100	11.25	35
3.50		1004	5.25	100	13.13	15
4.00		1160	6.00	92	15.00	0
4.50		1316	6.75	84	16.88	0
5.00		1472	7.50	76	18.75	0

Safflower Tolerance

$EC_e = 5.3$

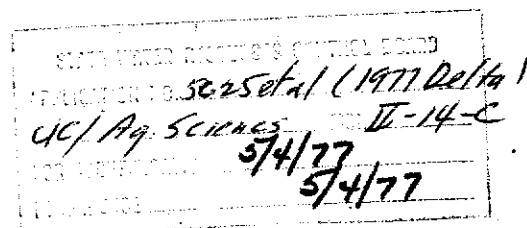
STATE WATER RESOURCES CONTROL BOARD
APPLICATION TO: <i>Subsetal (1977 Delta)</i>
<i>UC/Ag Sciences</i> FILE: <i>II-14-b</i>
DATE: <i>5/4/77</i>
BY: <i>5/4/77</i>

Predicted Effect of Water Quality (EC_w) on Yield of Wheat from
 equation $y = 100 - b (EC_e - a)$ where $a = 6.0$ mmho/cm
 $b = 7.1\%$

EC_w	ppm Chlorides		Surface Irrigation $EC_w \times 3/2 = EC_e$		Sub-Irrigation $EC_w \times 7.5/2 = EC_e$	
	San Andreas	Emmaton	EC_e	% Yield	EC_e	% Yield
0.30	42	43	.45	100	1.13	100
0.35	51	58	.53	100	1.31	100
0.40	61	73	.60	100	1.50	100
0.45	70	88	.68	100	1.69	100
0.50	80	103	.75	100	1.88	100
0.55	89	118	.83	100	2.06	100
0.60	98	133	.90	100	2.25	100
0.65	108	148	.98	100	2.44	100
0.70	117	163	1.05	100	2.62	100
0.80	136	192	1.20	100	3.00	100
0.90	155	222	1.35	100	3.38	100
1.00	174	252	1.50	100	3.75	100
1.10		282	1.65	100	4.13	100
1.50		401	2.25	100	5.63	100
2.00		550	3.00	100	7.50	89
2.50		699	3.75	100	9.38	76
3.00		848	4.50	100	11.25	63
3.50		1004	5.25	100	13.13	49
4.00		1160	6.00	100	15.00	36
4.50		1316	6.75	95	16.88	23
5.00		1472	7.50	90	18.75	10

Wheat Tolerance

$EC_e = 6.0$

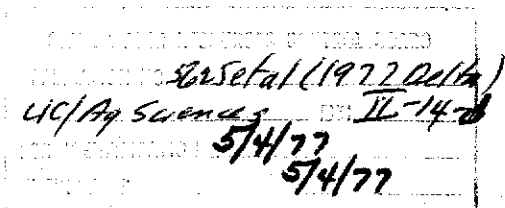


Predicted Effect of Water Quality (EC_w) on Yield of Barley from
 equation $y = 100 - b (EC_e - a)$ where $a = 8.0$ mmho/cm.
 $b = 5.0\%$

EC_w	ppm Chlorides		Surface Irrigation $EC_w \times 3/2 = EC_e$		Sub-Irrigation $EC_w \times 7.5/2 = EC_e$	
	San Andreas	Emmaton	EC_e	% Yield	EC_e	% Yield
0.30	42	43	.45	100	1.13	100
0.35	51	58	.53	100	1.31	100
0.40	61	73	.60	100	1.50	100
0.45	70	88	.68	100	1.69	100
0.50	80	103	.75	100	1.88	100
0.55	89	118	.83	100	2.06	100
0.60	98	133	.90	100	2.25	100
0.65	108	148	.98	100	2.44	100
0.70	117	163	1.05	100	2.62	100
0.80	136	192	1.20	100	3.00	100
0.90	155	222	1.35	100	3.38	100
1.00	174	252	1.50	100	3.75	100
1.10		282	1.65	100	4.13	100
1.50		401	2.25	100	5.63	100
2.00		550	3.00	100	7.50	100
2.50		699	3.75	100	9.38	93
3.00		848	4.50	100	11.25	84
3.50		1004	5.25	100	13.13	74
4.00		1160	6.00	100	15.00	65
4.50		1316	6.75	100	16.88	56
5.00		1472	7.50	100	18.75	46

Barley Tolerance

$EC_e = 8.0$



SUGAR BEETS

Predicted Effect of Water Quality (EC_w) on Yield of Sugar Beets from
 Equation $y = 100 - b (EC_e - a)$ where $a = 7.0$ mmho/cm
 $b = 5.9\%$

EC_w	ppm Chlorides		Surface Irrigation $EC_w \times 3/2 = EC_e$		Sub-Irrigation $EC_w \times 7.5/2 = EC_e$	
	San Andreas	Emmaton	EC_e	% Yield	EC_e	% Yield
0.30	42	43	.45	100	1.13	100
0.35	51	58	.53	100	1.31	100
0.40	61	73	.60	100	1.50	100
0.45	70	88	.68	100	1.69	100
0.50	80	103	.75	100	1.88	100
0.55	89	118	.83	100	2.06	100
0.60	98	133	.90	100	2.25	100
0.65	108	148	.98	100	2.44	100
0.70	117	163	1.05	100	2.62	100
0.80	136	192	1.20	100	3.00	100
0.90	155	222	1.35	100	3.38	100
1.00	174	252	1.50	100	3.75	100
1.10		282	1.65	100	4.13	100
1.50		401	2.25	100	5.63	100
2.00		550	3.00	100	7.50	97
2.50		699	3.75	100	9.38	86
3.00		848	4.50	100	11.25	74
3.50		1004	5.25	100	13.13	64
4.00		1160	6.00	100	15.00	53
4.50		1316	6.75	100	16.88	42
5.00		1472	7.50	97	18.75	25

Sugar Beet Tolerance

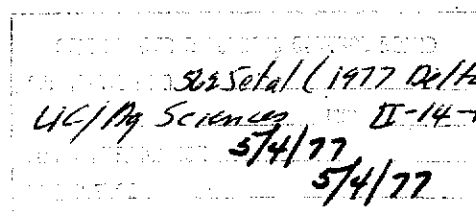
$EC_e = 7.0$

Wassil (1977 Delta)
dc/Ag Sciences II-14-e
5/4/77
5/4/77

Predicted Effect of Water Quality (EC_w) on Yield of Alfalfa from
Equation $y = 100 - b (EC_e - a)$ where $a = 2.0$ mmho/cm
 $b = 7.4\%$

EC_w	ppm Chlorides		Surface Irrigation $EC_w \times 3/2 = EC_e$		Sub-Irrigation $EC_w \times 7.5/2 = EC_e$	
	San Andreas	Emmaton	EC_e	% Yield	EC_e	% Yield
0.30	42	43	.45	100	1.13	100
0.35	51	58	.53	100	1.31	100
0.40	61	73	.60	100	1.50	100
0.45	70	88	.68	100	1.69	100
0.50	80	103	.75	100	1.88	100
0.55	89	118	.83	100	2.06	99
0.60	98	133	.90	100	2.25	98
0.65	108	148	.98	100	2.44	97
0.70	117	163	1.05	100	2.62	95
0.80	136	192	1.20	100	3.00	93
0.90	155	222	1.35	100	3.38	90
1.00	174	252	1.50	100	3.75	87
1.10		282	1.65	100	4.13	84
1.50		401	2.25	98	5.63	73
2.00		550	3.00	93	7.50	59
2.50		699	3.75	88	9.38	45
3.00		848	4.50	81	11.25	32
3.50		1004	5.25	76	13.13	18
4.00		1160	6.00	70	15.00	4
4.50		1316	6.75	65	16.88	0
5.00		1472	7.50	59	18.75	0

Alfalfa Tolerance

 $EC_e = 2.0$ 

Predicted Effect of Water Quality (EC_w) on Yield of Potatoes (*Solanum tuberosum*) from Equation $y = 100 - b (EC_e - a)$ $a = 1.7$ mmho/cm
 $b = 12.05\%$

EC_w	ppm Chlorides		Surface Irrigation $EC_w \times 3/2 = EC_e$		Sub-Irrigation $EC_w \times 7.5/2 = EC_e$	
	San Andreas	Emmaton	EC_e	% Yield	EC_e	% Yield
0.30	42	43	.45	100	1.13	100
0.35	51	58	.53	100	1.31	100
0.40	61	73	.60	100	1.50	100
0.45	70	88	.68	100	1.69	100
0.50	80	103	.75	100	1.88	98
0.55	89	118	.83	100	2.06	96
0.60	98	133	.90	100	2.25	93
0.65	108	148	.98	100	2.44	91
0.70	117	163	1.05	100	2.62	89
0.80	136	192	1.20	100	3.00	84
0.90	155	222	1.35	100	3.38	78
1.00	174	252	1.50	100	3.75	75
1.10		282	1.65	100	4.13	71
1.50		401	2.25	93	5.63	53
2.00		550	3.00	84	7.50	30
2.50		699	3.75	75	9.38	7
3.00		848	4.50	66	11.25	0
3.50		1004	5.25	57	13.13	0
4.00		1160	6.00	48	15.00	0
4.50		1316	6.75	39	16.88	0
5.00		1472	7.50	30	18.75	0

Potato Tolerance

$EC_e = 1.7$

Subsidiary (1977 Delta)
 UC/PA Sciences II-14-9
 5/4/77
 5/4/77