

## Appendix B: Tables for the article

**Table B1: Details of the 18 Scenarios**

Scenarios	<i>m</i>			<i>a</i>			<i>g</i>			<i>h</i>			Climate settings	Subsidy Setting	
Base	\$94,000			\$1,620			\$8,072								
Invest in <i>m</i>	+50%												Current (N= 05, D =0.,2, W = 0.3)	New (N = .25, D = 0.75)	With & without subsidy at 50% of choice cost
Invest in <i>a</i>				+50%											
Invest in <i>g</i>							+25%								
Invest in <i>h</i>										+25%					
<b>Water loss</b>	<b><i>m</i></b>			<b><i>a</i></b>			<b><i>g</i></b>			<b><i>h</i></b>					
(%)	<b>N*</b>	<b>D*</b>	<b>W*</b>	<b>N</b>	<b>D</b>	<b>W</b>	<b>N</b>	<b>D</b>	<b>W</b>	<b>N</b>	<b>D</b>	<b>W</b>			
Base	10	15	10	20	20	20									
Invest in <i>m</i>	-25	-25	-25												
Invest in <i>a</i>				-	-	-25									
				25	25										
Invest in <i>g</i>							-10	-10	-10						
Invest in <i>h</i>										-10	-10	-10			

N= normal state of nature, D= drought states, and W = wet state of nature

**Table B2: Estimation of Farm Design Costs (*m*)**

	<b>Units</b>	<b>Cost/Unit</b>	<b>Cost</b>
Well#	1000	\$45	\$45,000
125-Hp Pump#	1	\$4,000	\$4,000
2000 acre-foot reservoir *	1	\$60,000	\$60,000
Capital recovery at the end of life*			\$15,000
<b>Total Costs</b>			<b>\$94,000</b>

#<https://www.homeadvisor.com/cost/landscape/drill-a-well/>

\*authors' estimates

**Table B3: Water Use and Cost of Water by *s*, for All Years**

<i>s</i>	Water (Acre-in)	Year/s					
		1	2	3	4	5	6-25
Normal (\$22/in)	<i>g</i>	12.36	21.96	22.40	24.00	25.60	25.60
	<i>h</i>	0.00	0.00	6.47	21.38	24.15	28.22
	<i>a</i>	3.09	5.49	7.22	11.35	12.44	13.45
	<i>m</i>	1.55	2.75	3.61	5.67	6.22	6.73
	Total	<b>17.00</b>	<b>30.20</b>	<b>39.70</b>	<b>62.40</b>	<b>68.40</b>	<b>74.00</b>
	Cost/ac	<b>\$374</b>	<b>\$664</b>	<b>\$873</b>	<b>\$1,373</b>	<b>\$1,505</b>	<b>\$1,628</b>
Dry (\$26/in)	<i>g</i>	12.36	21.96	22.40	24.00	25.60	25.60
	<i>h</i>	0.00	0.00	2.59	8.55	9.66	11.29
	<i>a</i>	3.09	5.49	6.25	8.14	8.81	9.22
	<i>m</i>	2.32	4.12	4.69	6.10	6.61	6.92
	Total	<b>17.77</b>	<b>31.57</b>	<b>35.92</b>	<b>46.79</b>	<b>50.68</b>	<b>53.03</b>
	Cost/ac	<b>\$462</b>	<b>\$821</b>	<b>\$934</b>	<b>\$1,217</b>	<b>\$1,318</b>	<b>\$1,379</b>
Wet (\$21/in)	<i>g</i>	12.36	21.96	22.40	24.00	25.60	25.60
	<i>h</i>	0.00	0.00	7.77	25.66	28.97	33.86
	<i>a</i>	3.09	5.49	7.54	12.41	13.64	14.87
	<i>m</i>	1.55	2.75	3.77	6.21	6.82	7.43
	Total	<b>17.00</b>	<b>30.20</b>	<b>41.48</b>	<b>68.28</b>	<b>75.04</b>	<b>81.76</b>
	Cost/ac	<b>\$357</b>	<b>\$634</b>	<b>\$871</b>	<b>\$1,434</b>	<b>\$1,576</b>	<b>\$1,717</b>

**Table B4: Variable Costs of Production by State of Nature and Fixed Costs**

Variable Costs		Years					
		1	2	3	4	5	6-25
Normal	Harvest Costs	\$0	\$0	\$121	\$202	\$326	\$421
	Irrigation	\$374	\$664	\$873	\$1,373	\$1,505	\$1,628
	Other Costs	\$735	\$767	\$1,404	\$1,569	\$1,792	\$1,873
	<b>Total Variable Costs</b>	<b>\$1,109</b>	<b>\$1,431</b>	<b>\$2,399</b>	<b>\$3,144</b>	<b>\$3,623</b>	<b>\$3,922</b>
Dry	Harvest Costs	\$0	\$0	\$88	\$152	\$240	\$366
	Irrigation	\$442	\$785	\$893	\$1,164	\$1,260	\$1,319
	Other Costs	\$735	\$767	\$1,404	\$1,569	\$1,792	\$1,873
	<b>Total Variable Costs</b>	<b>\$1,177</b>	<b>\$1,552</b>	<b>\$2,386</b>	<b>\$2,885</b>	<b>\$3,293</b>	<b>\$3,558</b>
Wet	Harvest Costs	\$0	\$0	\$148	\$234	\$437	\$471
	Irrigation	\$357	\$634	\$871	\$1,434	\$1,576	\$1,717
	Other Costs	\$735	\$767	\$1,417	\$1,615	\$1,839	\$1,925
	<b>Total Variable Costs</b>	<b>\$1,092</b>	<b>\$1,401</b>	<b>\$2,436</b>	<b>\$3,282</b>	<b>\$3,851</b>	<b>\$4,113</b>
<b>TOTAL Fixed Costs</b>		<b>\$559</b>	<b>\$445</b>	<b>\$472</b>	<b>\$570</b>	<b>\$580</b>	<b>\$562</b>

**Table B5: CBA for the Base Case Scenario (State Probabilities N=0.5, D=0.2, and W = 0.3)**

Year	Costs				Benefits				Cash Flow			
	<i>m</i>	<i>a</i>	Crop	Total	Normal	Dry	Wet	Average	Normal	Dry	Wet	Average
1	\$65	\$112	\$558	\$735	-\$1,668	-\$1,757	-\$1,651	-\$1,681	-\$2,403	-\$2,492	-\$2,386	-\$2,416
2	\$65	\$112	\$558	\$735	-\$1,876	-\$2,033	-\$1,846	-\$1,898	-\$2,611	-\$2,769	-\$2,581	-\$2,634
3	\$65	\$112	\$558	\$735	-\$1,530	-\$2,001	-\$1,153	-\$1,511	-\$2,265	-\$2,736	-\$1,889	-\$2,247
4	\$65	\$112	\$558	\$735	-\$1,048	-\$1,712	-\$342	-\$969	-\$1,783	-\$2,447	-\$1,078	-\$1,705
5	\$65	\$112	\$558	\$735	\$1,162	-\$334	\$2,589	\$1,291	\$427	-\$1,069	\$1,853	\$555
6-25	\$65	\$112	\$558	\$735	\$2,227	\$316	\$4,100	\$2,407	\$1,492	-\$419	\$3,365	\$1,671
<b>TOTAL</b>	<b>\$1,626</b>	<b>\$2,800</b>	<b>\$13,962</b>	<b>\$18,387</b>	<b>\$39,580</b>	<b>-\$1,507</b>	<b>\$79,597</b>	<b>\$43,368</b>	<b>\$21,193</b>	<b>-\$19,895</b>	<b>\$61,210</b>	<b>\$24,980</b>

**Table B6: NPV Outcomes for the 18 Scenarios**

<b>Scenarios:</b>	<i>No Subsidy</i>		<i>Subsidy</i>	
	<b>Current Climate</b>	<b>New Climate</b>	<b>Current Climate</b>	<b>New Climate</b>
<b>Base</b>	\$9,234	-\$8,979		
<b>Invest in <i>m</i></b>	\$9,194	-\$8,926	\$9,899	-\$8,221
<b>Invest in <i>a</i></b>	\$9,344	-\$8,967	\$10,559	-\$7,752
<b>Invest in <i>g</i></b>	\$9,340	-\$8,758	\$14,385	-\$3,713
<b>Invest in <i>h</i></b>	\$9,147	-\$9,515	\$14,192	-\$4,470