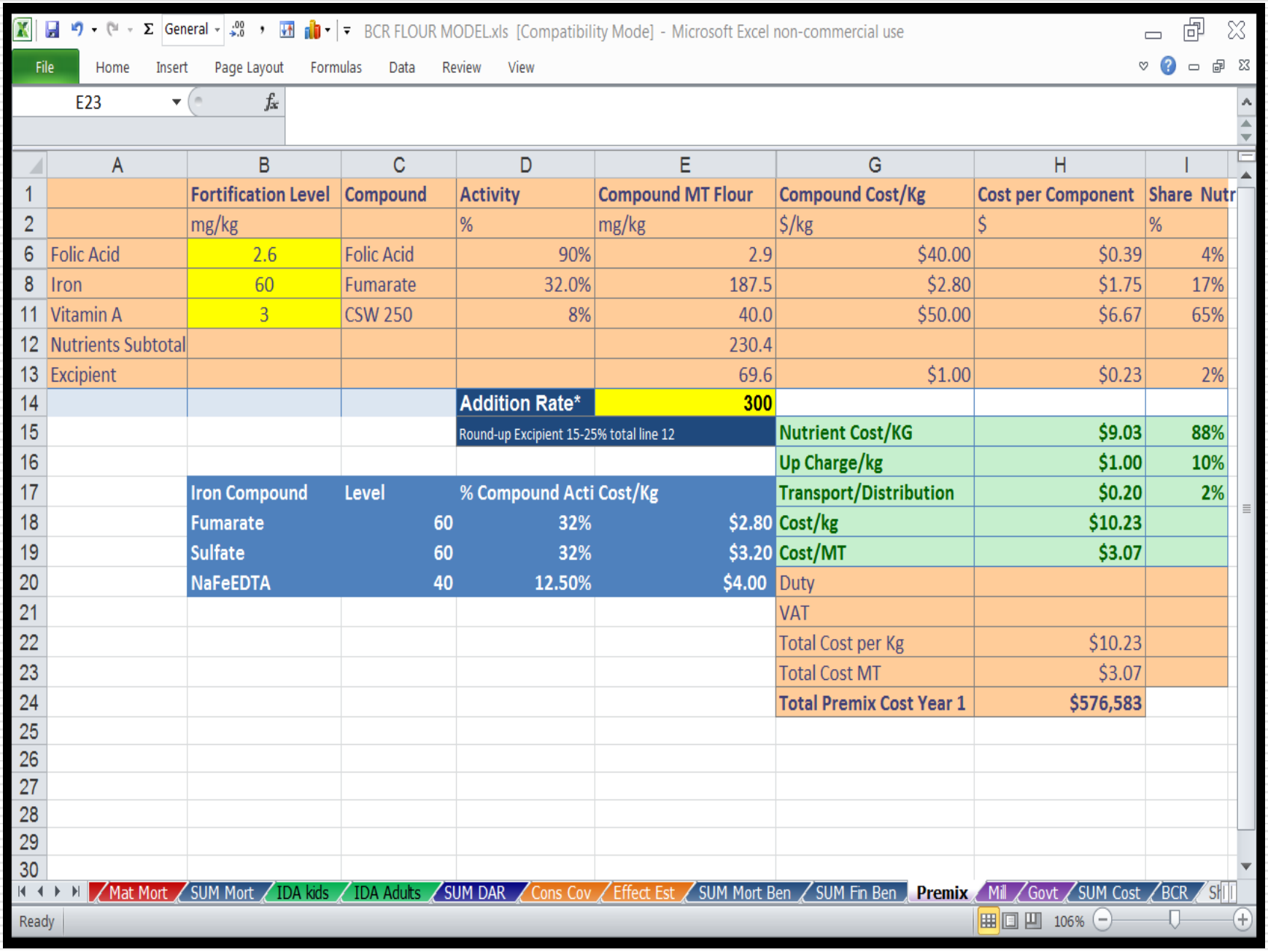
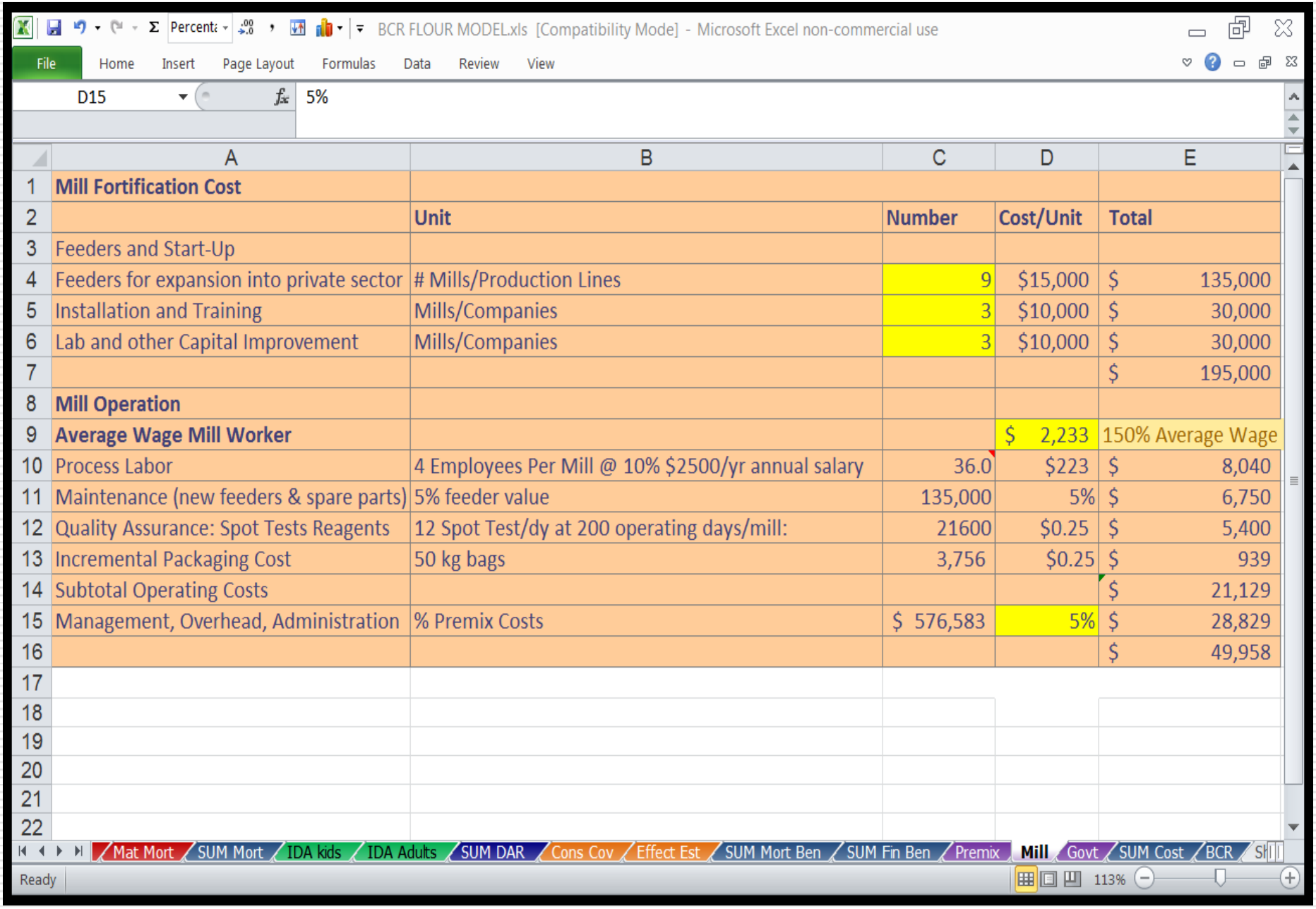
Session 4: Cost of Flour Fortification (3 Purple Cells)

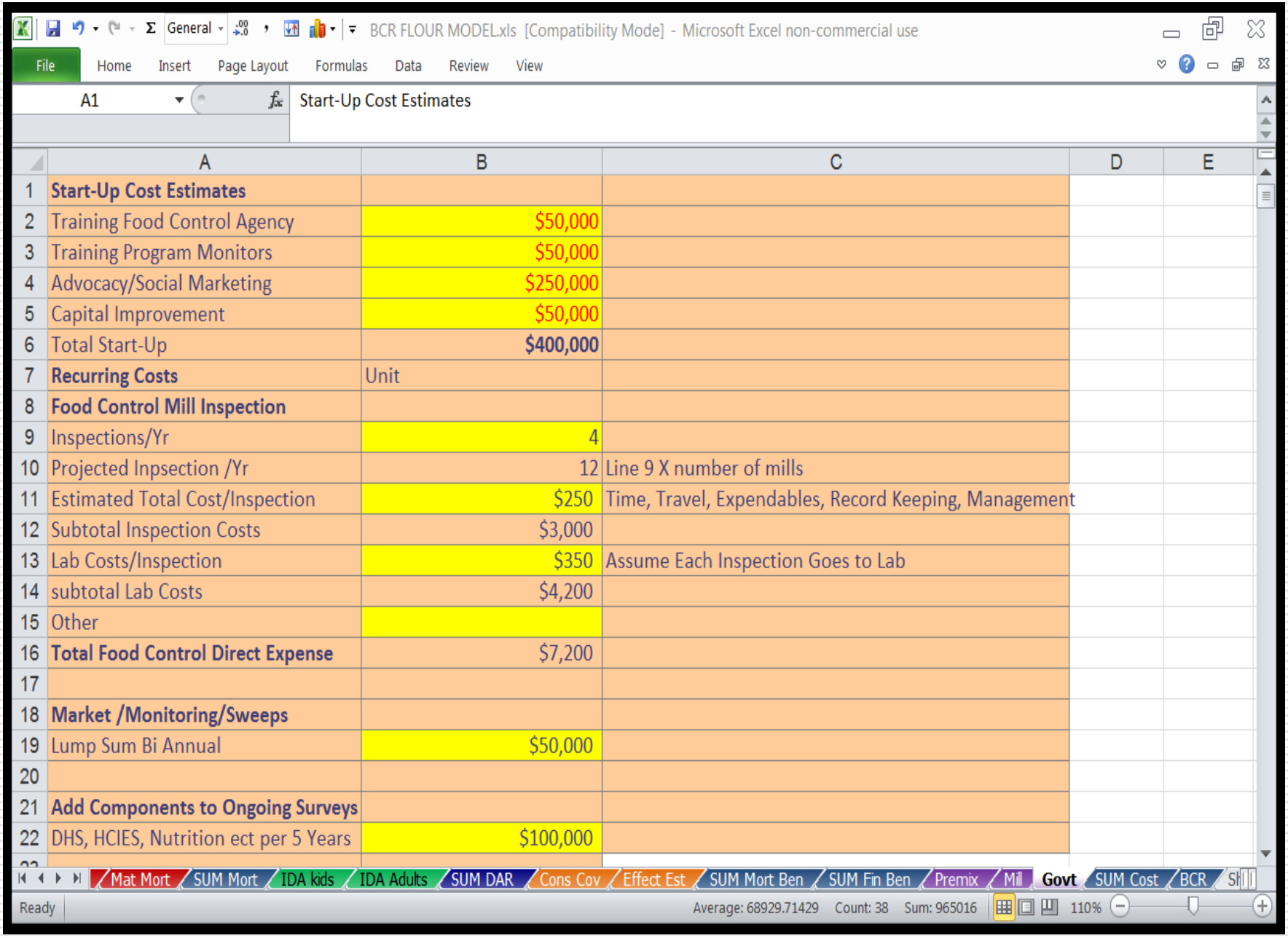
- Cost of Premix
  - Based on Levels Used in Effectiveness Estimate
- Costs of Industrial Implementation based on number of mills and volume of production
  - Start-up
  - Recurring
- Costs of Government Regulation, Inspection, Communication and Monitoring



	A	B	C	D	E	G	H	I
1		Fortification Level	Compound	Activity	Compound MT Flour	Compound Cost/Kg	Cost per Component	Share Nutr
2		mg/kg		%	mg/kg	$/kg	$	%
6	Folic Acid	2.6	Folic Acid	90%	2.9	$40.00	$0.39	4%
8	Iron	60	Fumarate	32.0%	187.5	$2.80	$1.75	17%
11	Vitamin A	3	CSW 250	8%	40.0	$50.00	$6.67	65%
12	Nutrients Subtotal				230.4			
13	Excipient				69.6	$1.00	$0.23	2%
14				Addition Rate*	300			
15				Round-up Excipient 15-25% total line 12		Nutrient Cost/KG	$9.03	88%
16						Up Charge/kg	$1.00	10%
17		Iron Compound	Level	% Compound Acti	Cost/Kg	Transport/Distribution	$0.20	2%
18		Fumarate	60	32%	$2.80	Cost/kg	$10.23	
19		Sulfate	60	32%	$3.20	Cost/MT	$3.07	
20		NaFeEDTA	40	12.50%	$4.00	Duty		
21						VAT		
22						Total Cost per Kg	$10.23	
23						Total Cost MT	$3.07	
24						Total Premix Cost Year 1	$576,583	
25								
26								
27								
28								
29								
30								

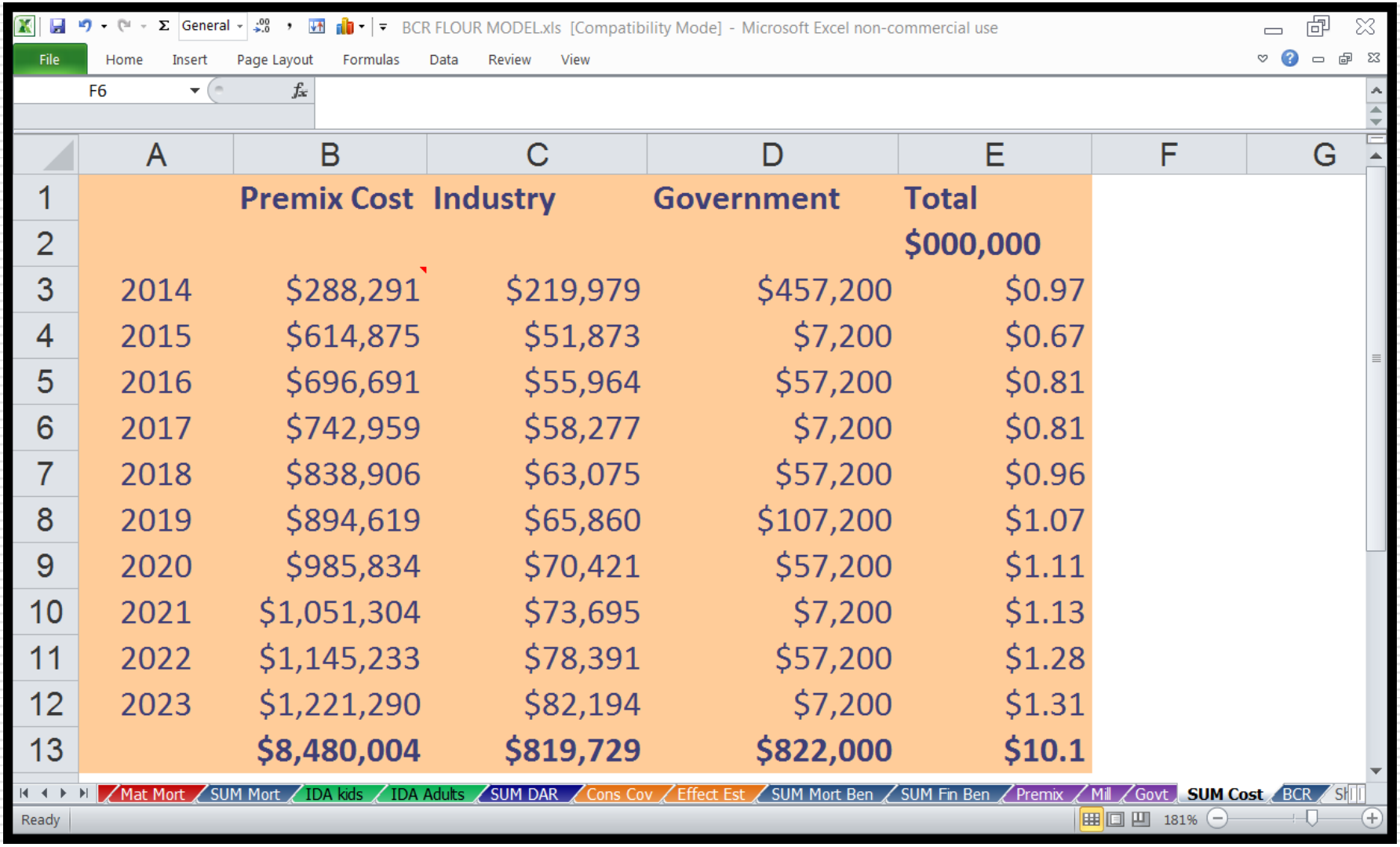


	A	B	C	D	E
1	**Mill Fortification Cost**				
2		**Unit**	**Number**	**Cost/Unit**	**Total**
3	Feeders and Start-Up				
4	Feeders for expansion into private sector	# Mills/Production Lines	9	$15,000	$ 135,000
5	Installation and Training	Mills/Companies	3	$10,000	$ 30,000
6	Lab and other Capital Improvement	Mills/Companies	3	$10,000	$ 30,000
7					$ 195,000
8	**Mill Operation**				
9	**Average Wage Mill Worker**			$ 2,233	150% Average Wage
10	Process Labor	4 Employees Per Mill @ 10% $2500/yr annual salary	36.0	$223	$ 8,040
11	Maintenance (new feeders & spare parts)	5% feeder value	135,000	5%	$ 6,750
12	Quality Assurance: Spot Tests Reagents	12 Spot Test/dy at 200 operating days/mill:	21600	$0.25	$ 5,400
13	Incremental Packaging Cost	50 kg bags	3,756	$0.25	$ 939
14	Subtotal Operating Costs				$ 21,129
15	Management, Overhead, Administration	% Premix Costs	$ 576,583	5%	$ 28,829
16					$ 49,958
17					
18					
19					
20					
21					
22					



	A	B	C	D	E
1	**Start-Up Cost Estimates**				
2	Training Food Control Agency	$50,000			
3	Training Program Monitors	$50,000			
4	Advocacy/Social Marketing	$250,000			
5	Capital Improvement	$50,000			
6	Total Start-Up	**$400,000**			
7	**Recurring Costs**	Unit			
8	**Food Control Mill Inspection**				
9	Inspections/Yr	4			
10	Projected Inpsection /Yr	12	Line 9 X number of mills		
11	Estimated Total Cost/Inspection	$250	Time, Travel, Expendables, Record Keeping, Management		
12	Subtotal Inspection Costs	$3,000			
13	Lab Costs/Inspection	$350	Assume Each Inspection Goes to Lab		
14	subtotal Lab Costs	$4,200			
15	Other				
16	**Total Food Control Direct Expense**	$7,200			
17					
18	**Market /Monitoring/Sweeps**				
19	Lump Sum Bi Annual	$50,000			
20					
21	**Add Components to Ongoing Surveys**				
22	DHS, HCIES, Nutrition ect per 5 Years	$100,000			

Blue Worksheet: SUM Cost Summary 10 Year Budget



BCR FLOUR MODEL.xls [Compatibility Mode] - Microsoft Excel non-commercial use

File Home Insert Page Layout Formulas Data Review View

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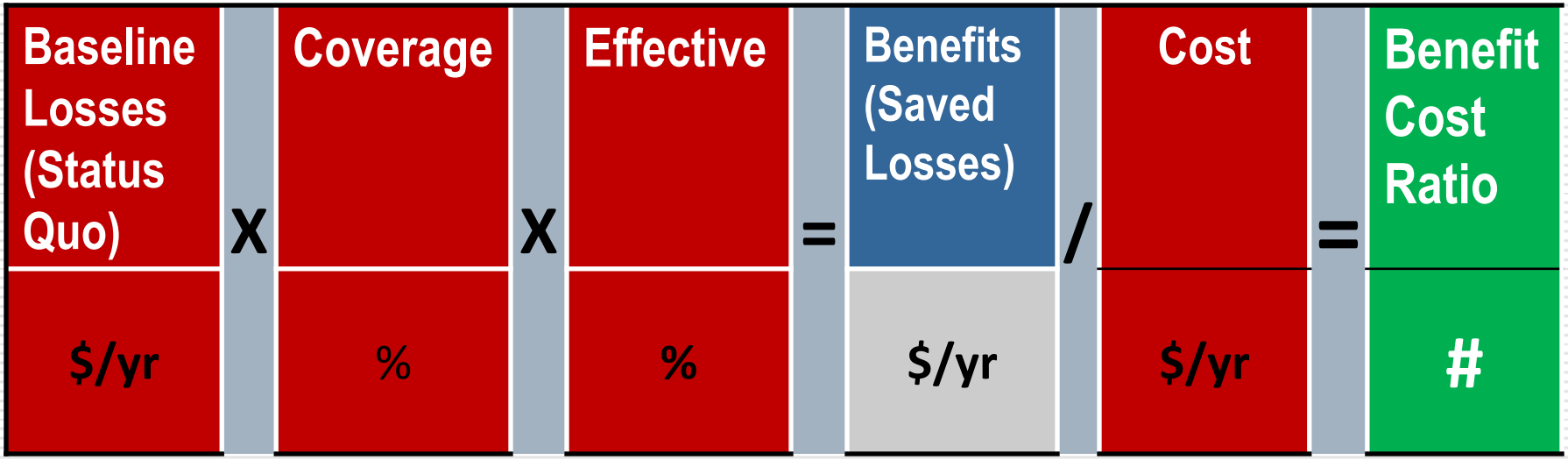
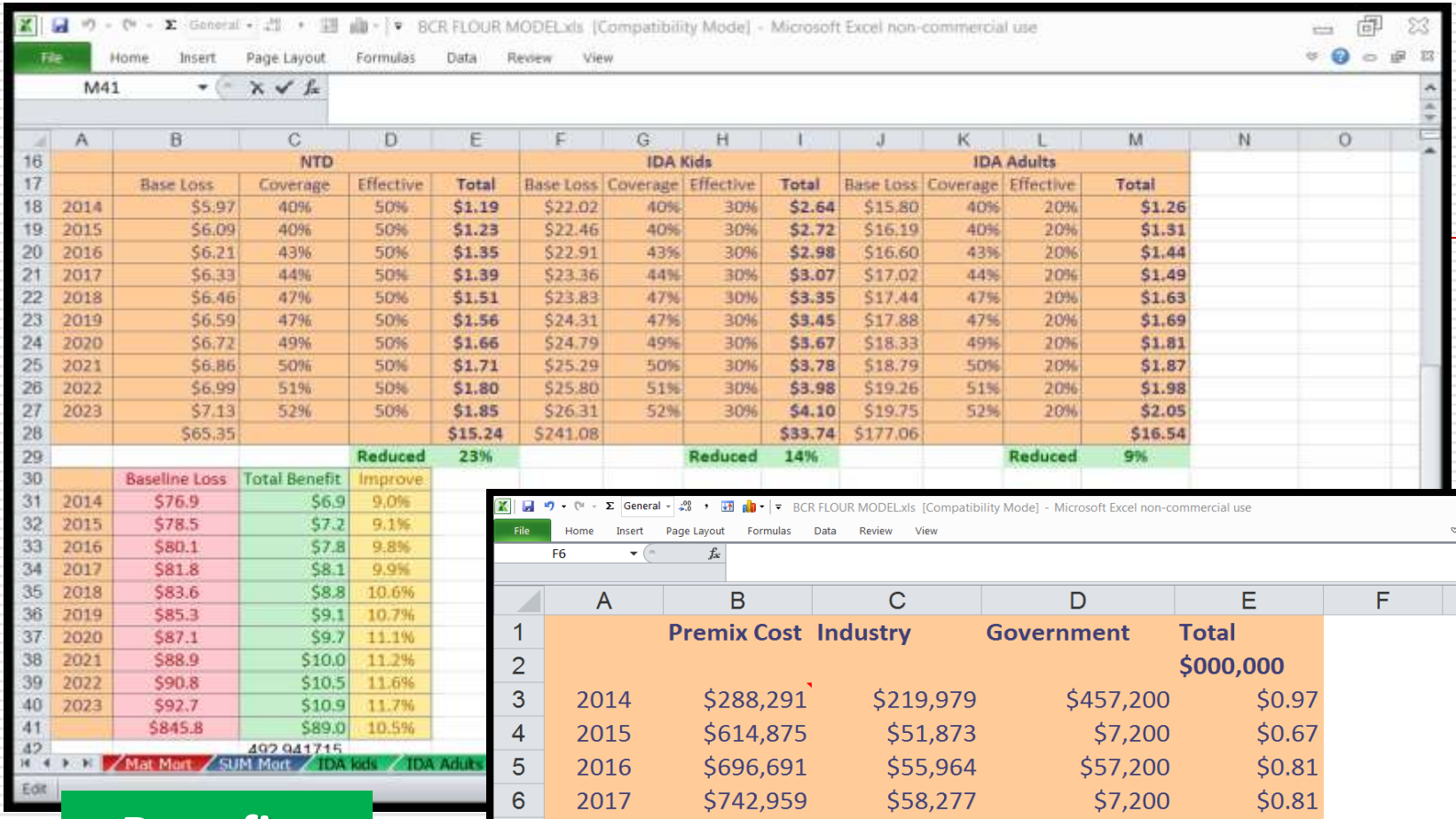
	A	B	C	D	E	F	G
1		Premix Cost	Industry	Government	Total		
2					$000,000		
3	2014	$288,291	$219,979	$457,200	$0.97		
4	2015	$614,875	$51,873	$7,200	$0.67		
5	2016	$696,691	$55,964	$57,200	$0.81		
6	2017	$742,959	$58,277	$7,200	$0.81		
7	2018	$838,906	$63,075	$57,200	$0.96		
8	2019	$894,619	$65,860	$107,200	$1.07		
9	2020	$985,834	$70,421	$57,200	$1.11		
10	2021	$1,051,304	$73,695	$7,200	$1.13		
11	2022	$1,145,233	$78,391	$57,200	$1.28		
12	2023	$1,221,290	$82,194	$7,200	$1.31		
13		**$8,480,004**	**$819,729**	**$822,000**	**$10.1**		

Mat Mort | SUM Mort | IDA kids | IDA Adults | SUM DAR | Cons Cov | Effect Est | SUM Mort Ben | SUM Fin Ben | Premix | Mill | Govt | SUM Cost | BCR

Ready 181%

National Roadmap to Defining Cost Benefit Ratio





		NTD				IDA Kids				IDA Adults			
		Base Loss	Coverage	Effective	Total	Base Loss	Coverage	Effective	Total	Base Loss	Coverage	Effective	Total
2014		$5.97	40%	50%	$1.19	$22.02	40%	30%	$2.64	$15.80	40%	20%	$1.26
2015		$6.09	40%	50%	$1.23	$22.46	40%	30%	$2.72	$16.19	40%	20%	$1.31
2016		$6.21	43%	50%	$1.35	$22.91	43%	30%	$2.98	$16.60	43%	20%	$1.44
2017		$6.33	44%	50%	$1.39	$23.36	44%	30%	$3.07	$17.02	44%	20%	$1.49
2018		$6.46	47%	50%	$1.51	$23.83	47%	30%	$3.35	$17.44	47%	20%	$1.63
2019		$6.59	47%	50%	$1.56	$24.31	47%	30%	$3.45	$17.88	47%	20%	$1.69
2020		$6.72	49%	50%	$1.66	$24.79	49%	30%	$3.67	$18.33	49%	20%	$1.81
2021		$6.86	50%	50%	$1.71	$25.29	50%	30%	$3.78	$18.79	50%	20%	$1.87
2022		$6.99	51%	50%	$1.80	$25.80	51%	30%	$3.98	$19.26	51%	20%	$1.98
2023		$7.13	52%	50%	$1.85	$26.31	52%	30%	$4.10	$19.75	52%	20%	$2.05
		$65.35			$15.24	$241.08			$33.74	$177.06			$16.54
				Reduced	23%			Reduced	14%			Reduced	9%

	Baseline Loss	Total Benefit	Improve
2014	$76.9	$6.9	9.0%
2015	$78.5	$7.2	9.1%
2016	$80.1	$7.8	9.8%
2017	$81.8	$8.1	9.9%
2018	$83.6	$8.8	10.6%
2019	$85.3	$9.1	10.7%
2020	$87.1	$9.7	11.1%
2021	$88.9	$10.0	11.2%
2022	$90.8	$10.5	11.6%
2023	$92.7	$10.9	11.7%
	$845.8	$89.0	10.5%
		492.941715	

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				$000,000
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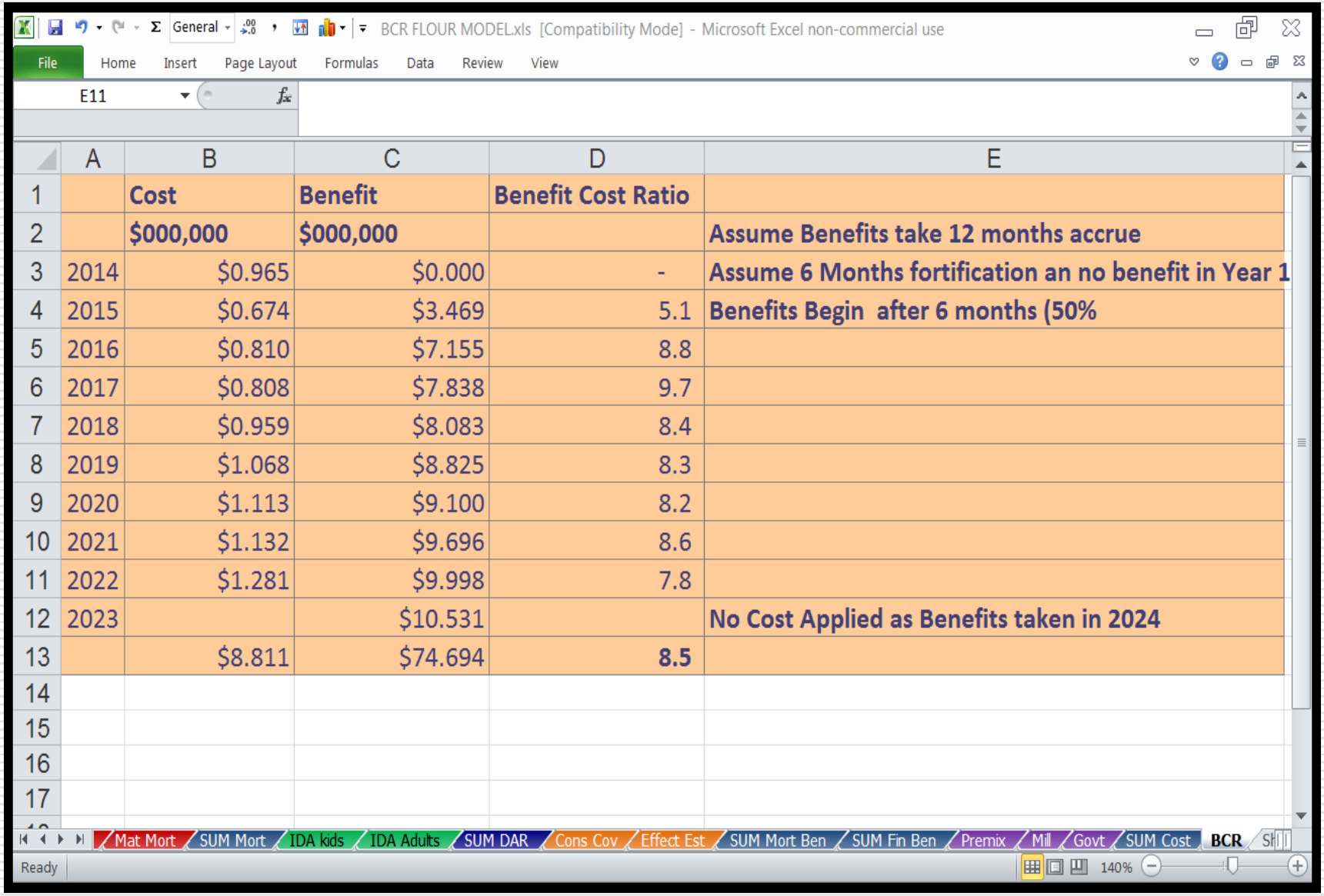
Benefits / Costs = BCR



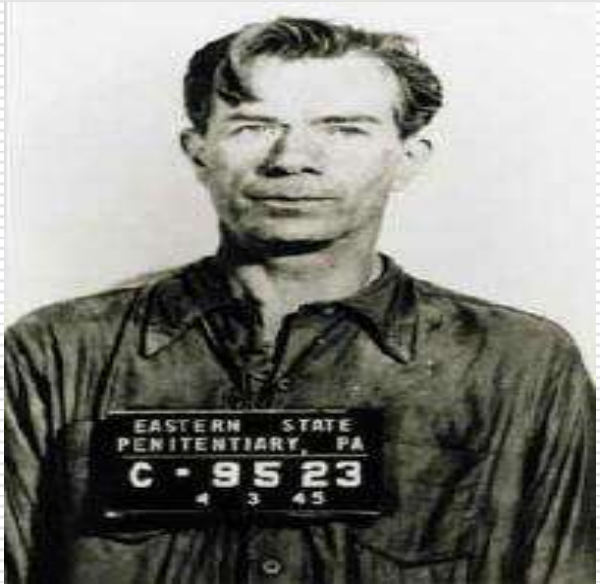
	A	B	C	D	E
1		**Cost**	**Benefit**	**Benefit Cost Ratio**	
2		**$000,000**	**$000,000**		**Assume Benefits take 12 months accrue**
3	2014	$0.965	$0.000	-	**Assume 6 Months fortification an no benefit in Year 1**
4	2015	$0.674	$3.469	5.1	**Benefits Begin after 6 months (50%**
5	2016	$0.810	$7.155	8.8	
6	2017	$0.808	$7.838	9.7	
7	2018	$0.959	$8.083	8.4	
8	2019	$1.068	$8.825	8.3	
9	2020	$1.113	$9.100	8.2	
10	2021	$1.132	$9.696	8.6	
11	2022	$1.281	$9.998	7.8	
12	2023		$10.531		**No Cost Applied as Benefits taken in 2024**
13		$8.811	$74.694	**8.5**	
14					
15					
16					
17					

Session 4b: Prepare 10 Minute Presentation for Saturday

- Short Advocacy Presentation
  - Benefit Summary, Costs of Fortification
    - Provide key national facts and global evidence to support the critical parameters in the projections.
  - Benefit Cost Ratio
- Will policymakers and colleagues consider the outputs credible?
  - What can you do to make them more credible?
- Plans finalizing BCR and promoting the BCR?
  - Identify and fill-in Key Gaps in Data or Logic
  - What kinds of technical assistance might be provided.

Context of Multiple Rationales for Investment in Flour Fortification

- Moral
  - Humanitarian Imperative
- Good Governance
  - Obligation to Citizen Rights to Nutrition
- Economic Growth Development
  - National Development Investment



Willie Sutton: Infamous Bank Robber in 1930's USA Depression Era.
Question: *Why do you rob banks?*
Answer: "*That's where the money is.*"