

A Robustness Checks

A.1 Falsification Test

I conduct a set of placebo tests to test if fallout had an effect on agricultural production before the period of NTS testing. I shift fallout exposure 10 years forward and 15 years forward. Only a subset of states from the sample report annual agricultural production before 1945. Since fallout is correlated year to year during the testing period, I only analyze the effects of the placebos on output on data from 1931 to 1950. Each regression includes weather controls, year fixed effects, and county fixed effects. I also provide specifications without weather controls. I run each regression specification with the first exposure term from the regression. For crops it is t-0 and animals it is t-1.

Table A1: Placebo crops, log outcomes: 1931-1950

	(1)	(2)	(3)	(4)	(5)	(6)
	YPA Plant	Wheat YPA Harv	Acres Harvested	YPA Plant	Corn YPA Harv	Acres Harvested
Placebo, t+10	-0.0377*** (0.014)	-0.0194** (0.010)	-0.0170** (0.007)	0.142*** (0.030)	0.109*** (0.023)	0.023** (0.0105)
Placebo, t+15	-0.017 (0.018)	-0.017 (0.012)	-0.001 (0.011)	-0.014 (0.031)	-0.032 (0.026)	-0.013 (0.012)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
Weather Controls	Yes	Yes	Yes	Yes	Yes	Yes

All Standard Errors are Clustered by County.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A2: Placebo crops, log outcomes, no weather controls: 1931-1950

	(1)	(2)	(3)	(4)	(5)	(6)
	YPA Plant	Wheat YPA Harv	Acres Harvested	YPA Plant	Corn YPA Harv	Acres Harvested
Placebo, t+10	0.006 (0.013)	0.001 (0.009)	0.006 (0.006)	0.072** (0.032)	0.061** (0.026)	0.0033 (0.011)
Placebo, t+15	0.020 (0.018)	0.008 (0.011)	0.009 (0.011)	0.054 (0.033)	0.032 (0.027)	0.001 (0.012)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes

All Standard Errors are Clustered by County.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3: Placebo livestock, log outcomes: 1931-1950

	(1)	(2)	(3)
	Sheep inventory	Sheep held for breeding	Milk cows inventory
Placebo, t+11	-0.060 (0.050)	-0.010 (0.019)	-0.009* (0.005)
Placebo, t+16	0.045 (0.043)	0.062* (0.034)	-0.001 (0.007)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	Yes	Yes	Yes

All Standard Errors are Clustered by County.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: Placebo livestock, log outcomes, no weather controls: 1931-1950

	(1)	(2)	(3)
	Sheep inventory	Sheep held for breeding	Milk cows inventory
Placebo, t+11	-0.065 (0.042)	-0.027 (0.018)	-0.0037 (0.005)
Placebo, t+16	0.031 (0.038)	0.101*** (0.031)	0.014** (0.006)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	Yes	Yes	Yes

All Standard Errors are Clustered by County.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A.2 Spatially Correlated Standard Errors

I incorporate spatially correlated errors using a modified version of code provided by Hsiang (2010) and which was edited by Thiemo Fetzer.¹ I replicate 50km, 100km, and 150km cut offs that appear in the robustness appendix of Hornbeck (2012) for the spatial correlation. Spatially correlated standard errors using these cutoffs are created using 1950 county centroids. Minnesota Population Center (2016) provides latitude and longitude for these counties. These standard errors correct for temporal and geographic correlation of standard errors as discussed in Conley (1999). I report spatially correlated standard errors for specifications (1), (2), and (3) from the main regressions. Interacted controls with time dummies complicates the calculation of the standard errors due to the proliferation of coefficients.

A.2.1 50km Cutoff

Table A5: Winter Wheat Yield Per Acre: 1945-1970

	(1)	(2)	(3)	(4)	(5)	(6)
	Acres Planted			Acres Harvested		
Exposure, t	-0.131*** (0.0192)	-0.101*** (0.019)	-0.105*** (0.019)	-0.071*** (0.010)	-0.053*** (0.009)	-0.056*** (0.009)
Exposure, t-1	-0.0159 (0.0131)	-0.028** (0.013)	-0.034*** (0.013)	-0.007 (0.009)	-0.016* (0.009)	-0.018** (0.01)
AvgExp 2-5 yrs ago	0.0400 (0.0263)	0.017 (0.026)	0.036 (0.026)	0.046** (0.018)	0.029* (0.017)	0.039** (0.017)
AvgExp 6-10 yrs ago	-0.267*** (0.035)	-0.208*** (0.034)	-0.097*** (0.035)	-0.246*** (0.027)	-0.189*** (0.0267)	-0.114*** (0.027)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
Weather Controls	No	Yes	Yes	No	Yes	Yes
State Time Trends	No	No	Yes	No	No	Yes
N	11,547	11,547	11,547	11,547	11,547	11,547
Adj r^2	0.01	0.116	0.138	0.010	0.134	0.167

50 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

¹Code for performing Spatial HAC standard errors is available from <http://www.trfetzner.com/category/software/>.

Table A6: Corn Yield Per Acre: 1945-1970

	(1)	(2)	(3)	(4)	(5)	(6)
	Acres Planted			Acres Harvested		
Exposure, t	-0.272*** (0.040)	-0.247*** (0.039)	-0.123*** (0.032)	0.017 (0.017)	0.000 (0.015)	0.008 (0.015)
Exposure, t-1	-0.417*** (0.049)	-0.357*** (0.045)	-0.196*** (0.037)	-0.060*** (0.016)	-0.0412*** (0.014)	-0.028** (0.013)
AvgExp 2-5 yrs ago	-1.665*** (0.118)	-1.035*** (0.103)	-0.635*** (0.087)	-0.337*** (0.042)	-0.182*** (0.039)	-0.151*** (0.038)
AvgExp 6-10 yrs ago	-0.428** (0.192)	-0.669*** (0.175)	0.307** (0.143)	0.213*** (0.062)	0.020 (0.062)	0.102* (0.061)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
Weather Controls	No	Yes	Yes	No	Yes	Yes
State Time Trends	No	No	Yes	No	No	Yes
N	9,928	9,928	9,928	9,928	9,928	9,928
Adj r^2	0.032	0.161	0.488	0.012	0.140	0.257

50 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A7: Winter Wheat Acres Harvested Conditioned on Acres Planted: 1945-1970

	(1)	(2)	(3)
Log acres planted	0.990*** (0.005)	0.994*** (0.005)	0.988*** (0.005)
Exposure, t	-0.060*** (0.012)	-0.048*** (0.012)	-0.049*** (0.012)
Exposure, t-1	-0.008 (0.007)	-0.012* (0.007)	-0.014** (0.007)
AvgExp 2-5 yrs ago	-0.005 (0.0138)	-0.011 (0.0145)	-0.001 (0.0146)
Avg. 6-10 yrs ago	-0.019 (0.020)	-0.018 (0.022)	0.018 (0.029)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	11,547	11,547	11,547
Adj r^2	0.850	0.857	0.859

50 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A8: Corn Acres Harvested Conditioned on Acres Planted: 1945-1970

	(1)	(2)	(3)
Log acres planted	1.247*** (0.028)	1.182*** (0.027)	0.995*** (0.023)
Exposure	-0.295*** (0.036)	-0.252*** (0.034)	-0.131*** (0.027)
Exposure,t-1	-0.354*** (0.044)	-0.315*** (0.042)	-0.168*** (0.034)
AvgExp 2-5 yrs ago	-1.276*** (0.099)	-0.829*** (0.091)	-0.484*** (0.075)
AvgExp 6-10 yrs ago	-0.568*** (0.169)	-0.641*** (0.156)	0.204 (0.127)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	9,928	9,928	9,928
Adj r^2	0.277	0.346	0.619

50 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A9: Log number of sheep in inventory

	(1)	(2)	(3)
Exposure,t-1	-0.075** (0.037)	-0.056 (0.037)	-0.056 (0.037)
AvgExp 2-5 yrs ago	-0.367*** (0.078)	-0.256*** (0.081)	-0.259*** (0.081)
AvgExp 6-10 yrs ago	-0.499*** (0.126)	-0.332** (0.136)	-0.335** (0.136)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	4,056	4,056	4,056
Adj r^2	0.004	0.013	0.014

50 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A10: Log number of sheep held for breeding

	(1)	(2)	(3)
Exposure,t-1	0.071*** (0.016)	0.078*** (0.017)	0.068*** (0.017)
AvgExp 2-5 yrs ago	0.099*** (0.038)	0.057 (0.040)	0.002 (0.040)
AvgExp 6-10 yrs ago	0.138** (0.062)	0.102 (0.065)	0.038 (0.067)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	7,655	7,655	7,655
Adj r^2	0.002	0.023	0.057

50 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A11: Log number of diary cows

	(1)	(2)	(3)
Exposure,t-1	0.002 (0.007)	0.005 (0.007)	-0.002 (0.006)
AvgExp 2-5 yrs ago	-0.029* (0.015)	-0.028* (0.015)	0.0048 (0.015)
AvgExp 6-10 yrs ago	-0.202*** (0.030)	-0.246*** (0.030)	0.033 (0.030)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	16,403	16,403	16,403
Adj r^2	0.003	0.029	0.215

50 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A.3 100km Cutoff

Table A12: Winter Wheat Yield Per Acre: 1945-1970

	(1)	(2)	(3)	(4)	(5)	(6)
	Acres Planted			Acres Harvested		
Exposure, t	-0.131*** (0.025)	-0.101*** (0.024)	-0.105*** (0.024)	-0.071*** (0.012)	-0.053*** (0.012)	-0.056*** (0.011)
Exposure,t-1	-0.016 (0.018)	-0.028 (0.017)	-0.034** (0.017)	-0.007 (0.013)	-0.016 (0.012)	-0.018 (0.012)
AvgExp 2-5 yrs ago	0.040 (0.034)	0.017 (0.033)	0.035 (0.033)	0.046** (0.022)	0.029 (0.021)	0.038* (0.021)
AvgExp 6-10 yrs ago	-0.267*** (0.0439)	-0.208*** (0.043)	-0.0970** (0.043)	-0.246*** (0.033)	-0.189*** (0.033)	-0.114*** (0.032)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
Weather Controls	No	Yes	Yes	No	Yes	Yes
State Time Trends	No	No	Yes	No	No	Yes
N	11,547	11,547	11,547	11,547	11,547	11,547
Adj r^2	0.010	0.116	0.138	0.010	0.134	0.167

100 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A13: Corn Yield Per Acre: 1945-1970

	(1)	(2)	(3)	(4)	(5)	(6)
	Acres Planted			Acres Harvested		
Exposure, t	-0.272*** (0.057)	-0.247*** (0.054)	-0.123*** (0.043)	0.017 (0.024)	0.000 (0.020)	0.008 (0.019)
Exposure, t-1	-0.417*** (0.0691)	-0.357*** (0.062)	-0.196*** (0.050)	-0.060*** (0.022)	-0.042** (0.017)	-0.028* (0.017)
AvgExp 2-5 yrs ago	-1.665*** (0.165)	-1.035*** (0.142)	-0.635*** (0.118)	-0.337*** (0.059)	-0.182*** (0.052)	-0.151*** (0.050)
AvgExp 6-10 yrs ago	-0.428 (0.271)	-0.669*** (0.239)	0.307 (0.188)	0.213** (0.086)	0.020 (0.083)	0.102 (0.079)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
Weather Controls	No	Yes	Yes	No	Yes	Yes
State Time Trends	No	No	Yes	No	No	Yes
N	9,928	9,928	9,928	9,928	9,928	9,928
Adj r^2	0.032	0.161	0.488	0.012	0.140	0.257

100 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A14: Winter Wheat Acres Harvested Conditioned on Acres Planted: 1945-1970

	(1)	(2)	(3)
Log acres planted	0.990*** (0.006)	0.994*** (0.006)	0.988*** (0.006)
Exposure, t	-0.060*** (0.015)	-0.048*** (0.015)	-0.048*** (0.0148)
Exposure, t-1	-0.008 (0.008)	-0.012 (0.008)	-0.014* (0.008)
AvgExp 2-5 yrs ago	-0.005 (0.017)	-0.011 (0.018)	-0.001 (0.018)
AvgExp 6-10 yrs ago	-0.019 (0.019)	-0.018 (0.019)	0.018 (0.020)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	11,547	11,547	11,547
Adj r^2	0.850	0.856	0.859

100 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A15: Corn Acres Harvested Conditioned on Acres Planted: 1945-1970

	(1)	(2)	(3)
Log acres planted	1.247*** (0.036)	1.182*** (0.034)	0.995*** (0.027)
Exposure,t	-0.295*** (0.050)	-0.252*** (0.048)	-0.131*** (0.036)
Exposure, t-1	-0.354*** (0.062)	-0.315*** (0.058)	-0.168*** (0.046)
AvgExp 2-5 yrs ago	-1.276*** (0.139)	-0.829*** (0.125)	-0.484*** (0.101)
AvgExp 6-10 yrs ago	-0.568** (0.240)	-0.641*** (0.217)	0.204 (0.169)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	9,928	9,928	9,928
Adj r^2	0.277	0.346	0.619

100 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A16: Log number of sheep in inventory

	(1)	(2)	(3)
Exposure, t-1	-0.075** (0.038)	-0.056 (0.038)	-0.056 (0.038)
AvgExp 2-5 yrs ago	-0.367*** (0.083)	-0.256*** (0.084)	-0.259*** (0.084)
AvgExp 6-10 yrs ago	-0.499*** (0.129)	-0.332** (0.137)	-0.335** (0.138)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	4,056	4,056	4,056
Adj r^2	0.004	0.013	0.014

100 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A17: Log number of sheep held for breeding

	(1)	(2)	(3)
Exposure,t-1	0.071*** (0.019)	0.078*** (0.021)	0.067*** (0.021)
AvgExp 2-5 yrs ago	0.099** (0.045)	0.057 (0.047)	0.002 (0.0467)
AvgExp 6-10 yrs ago	0.138* (0.073)	0.102 (0.077)	0.038 (0.078)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	7,655	7,655	7,655
Adj r^2	0.002	0.023	0.07

100 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A18: Log number of dairy cows

	(1)	(2)	(3)
Exposure,t-1	0.002 (0.008)	0.005 (0.009)	-0.002 (0.007)
AvgExp 2-5 yrs ago	-0.029 (0.018)	-0.028 (0.019)	0.005 (0.017)
AvgExp 6-10 yrs ago	-0.202*** (0.036)	-0.246*** (0.037)	0.033 (0.034)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	16,403	16,403	16,403
Adj r^2	0.003	0.029	0.215

100 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A.4 150km Cutoff

Table A19: Winter Wheat Yield Per Acre: 1945-1970

	(1)	(2)	(3)	(4)	(5)	(6)
Exposure	-0.131*** (0.030)	-0.101*** (0.030)	-0.105*** (0.029)	-0.071*** (0.015)	-0.053*** (0.014)	-0.050*** (0.014)
Exposure,t-1	-0.016 (0.023)	-0.028 (0.022)	-0.033 (0.021)	-0.007 (0.017)	-0.016 (0.015)	-0.018 (0.015)
AvgExp 2-5 yrs ago	0.039 (0.0425)	0.017 (0.040)	0.035 (0.040)	0.046 (0.028)	0.029 (0.025)	0.038 (0.026)
AvgExp 6-10 yrs ago	-0.267*** (0.054)	-0.208*** (0.053)	-0.097* (0.051)	-0.246*** (0.04.)	-0.189*** (0.039)	-0.114*** (0.037)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
Weather Controls	No	Yes	Yes	No	Yes	Yes
State Time Trends	No	No	Yes	No	No	Yes
N	11,547	11,547	11,547	11,547	11,547	11,547
Adj r^2	0.010	0.116	0.138	0.010	0.134	0.167

150 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A20: Corn Yield Per Acre: 1945-1970

	(1)	(2)	(3)	(4)	(5)	(6)
Exposure	-0.272*** (0.073)	-0.247*** (0.069)	-0.123** (0.059)	0.017 (0.029)	0.000 (0.024)	0.008 (0.023)
Exposure,t-1	-0.417*** (0.090)	-0.357*** (0.079)	-0.196*** (0.063)	-0.060** (0.027)	-0.042** (0.020)	-0.028 (0.019)
AvgExp 2-5 yrs ago	-1.665*** (0.210)	-1.035*** (0.177)	-0.635*** (0.145)	-0.337*** (0.073)	-0.182*** (0.062)	-0.151** (0.061)
AvgExp 6-10 yrs ago	-0.428 (0.347)	-0.669** (0.300)	0.307 (0.225)	0.213** (0.107)	0.020 (0.102)	0.102 (0.094)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
Weather Controls	No	Yes	Yes	No	Yes	Yes
State Time Trends	No	No	Yes	No	No	Yes
N	9,928	9,928	9,928	9,928	9,928	9,928
Adj r^2	0.032	0.161	0.488	0.012	0.140	0.257

150 km cut off.Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A21: Winter Wheat Acres Harvested Conditioned on Acres Planted: 1945-1970

	(1)	(2)	(3)
Log acres planted	0.990*** (0.008)	0.994*** (0.007)	0.988*** (0.008)
Exposure	-0.060*** (0.0175)	-0.050*** (0.0178)	-0.048*** (0.0176)
Exposure,t-1	-0.0082 (0.009)	-0.012 (0.009)	-0.014 (0.009)
AvgExp 2-5 yrs ago	-0.005 (0.020)	-0.011 (0.021)	-0.001 (0.021)
AvgExp 6-10 yrs ago	-0.019 (0.023)	-0.018 (0.022)	0.018 (0.023)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	11,547	11,547	11,547
Adj r^2	0.850	0.856	0.859

150 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A22: Corn Acres Harvested Conditioned on Acres Planted: 1945-1970

	(1)	(2)	(3)
Log acres planted	1.247*** (0.044)	1.182*** (0.042)	0.995*** (0.033)
Exposure	-0.295*** (0.066)	-0.252*** (0.061)	-0.131*** (0.046)
Exposure,t-1	-0.354*** (0.081)	-0.315*** (0.075)	-0.168*** (0.058)
AvgExp 2-5 yrs ago	-1.276*** (0.177)	-0.829*** (0.156)	-0.484*** (0.122)
AvgExp 6-10 yrs ago	-0.568* (0.308)	-0.641** (0.274)	0.204 (0.204)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	9,928	9,928	9,928
Adj r^2	0.277	0.346	0.619

150 km cut off. Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A23: Log number of sheep in inventory

	(1)	(2)	(3)
Exposure,t-1	-0.075** (0.038)	-0.056 (0.038)	-0.056 (0.038)
AvgExp 2-5 yrs ago	-0.367*** (0.086)	-0.256*** (0.086)	-0.259*** (0.085)
AvgExp 6-10 yrs ago	-0.499*** (0.129)	-0.332** (0.136)	-0.335** (0.137)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	4,056	4,056	4,056
Adj r^2	0.004	0.013	0.014

150 km cut off.Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A24: Log number of sheep held for breeding

	(1)	(2)	(3)
Exposure,t-1	0.071*** (0.023)	0.078*** (0.024)	0.068*** (0.024)
AvgExp 2-5 yrs ago	0.099* (0.0508)	0.057 (0.0540)	0.0023 (0.0529)
AvgExp 6-10 yrs ago	0.138 (0.087)	0.102 (0.091)	0.038 (0.09)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	7,655	7,655	7,655
Adj r^2	0.002	0.023	0.057

150 km cut off.Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A25: Log number of diary cows

	(1)	(2)	(3)
Exposure,t-1	0.0019 (0.009)	0.0048 (0.011)	-0.0024 (0.008)
AvgExp 2-5 yrs ago	-0.027 (0.022)	-0.028 (0.022)	0.005 (0.019)
AvgExp 6-10 yrs ago	-0.202*** (0.042)	-0.246*** (0.043)	0.0327 (0.036)
Year FE	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Weather Controls	No	Yes	Yes
State Time Trends	No	No	Yes
N	16,403	16,403	16,403
Adj r^2	0.003	0.029	0.215

150 km cut off.Conley SE in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

B Changes in Farm Behavior Associated with Fallout Exposure

B.1 U.S. Agricultural Census Panel Regressions

In this section, I report the relationship between average fallout deposition over a five year period and U.S. agricultural Census outcomes. I study outcomes to test whether farmers adjusted their production decisions in response to fallout induced productivity shocks. To test whether fallout-induced productivity shocks may have led to farm closures, I examine the effects of fallout on the log number of farm operations in a county. I also test whether these shocks were internalized into agricultural land values and if these fallout shocks altered how much land farmers put into crop production.

The period analyzed is restricted to seven Censuses between 1939 and 1969. The enumerator definition of a farm is (relatively) consistent over this period (and there is a substantial change in what constitutes a farm after the 1969 Census). I report four different fixed effect specifications. Following the example set by Schlenker et al. (2005), I drop all counties with populations greater than 200,000 people in 1990 or more than 400 people per square mile in 1990. These restrictions remove urban counties and counties that might have potentially biasing underlying growth trends from the sample. I also run regressions on a sample of counties west of the 100th Meridian. According to Schlenker et al. (2005), this boundary roughly separates irrigated agriculture from rain-fed agriculture in the United States. Schlenker et al. (2005) argue that running regressions separately for the two regions, east and west, is the appropriate specification.

$$y_{i,t} = \beta_1 AvgExp_{i,t-1/t-5} + \beta_2 AvgExp_{i,t-6/t-10} + \mathbf{AvgW}_{i,t-1/t-5} \Theta_1 + \mathbf{AvgW}_{i,t-6/t-10} \Theta_2 + \alpha_i + \gamma_{s,t} + \epsilon_{i,t} \quad (1)$$

Equation 1 describes the full empirical specification. $y_{i,t}$ denotes the Census outcome studied. The variables of interest are $AvgExp$ and denote average I-131 deposition between one and five years prior and average I-131 deposition between six and ten years prior. To control for potential correlations between fallout and weather, I include monthly weather controls. \mathbf{AvgW} denotes average monthly temperature and precipitation controls between one and five years prior and between six and ten years prior. County fixed effects are represented by α_i and state Census year fixed effects, $\gamma_{s,t}$, account for shocks during Census years that are shared among counties within the same state. Finally, clustered standard errors at the county level are represented by $\epsilon_{i,t}$.

Table B1: Effects of Lagged Deposition on Log Number of Farms Per County, Entire Continental U.S., 1939-1969.

	(1)	(2)	(3)	(4)
AvgExp 1-5 yrs ago	0.007 (0.009)	-0.015 (0.015)	-0.015 (0.014)	0.014 (0.011)
AvgExp 6-10 yrs ago	0.048*** (0.013)	-0.009 (0.017)	-0.026 (0.017)	-0.015 (0.016)
County FE	Yes	Yes	Yes	Yes
Census Yr FE	Yes	Yes	Yes	No
Weather Controls	No	Yes	Yes	Yes
State by Census Yr FE	No	No	No	Yes
State Time Trends	No	No	Yes	No
N	19,394	19,394	19,394	19,394
<i>Adj.r</i> ²	0.946	0.959	0.967	0.970

All Standard Errors are Clustered by County.
 $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B2: Effects of Lagged Deposition on Land Value Per Acre, Entire Continental U.S., 1939-1969.

	(1)	(2)	(3)	(4)
AvgExp 1-5 yrs ago	-8.019 (6.336)	-15.12* (8.152)	-2.383 (4.790)	-9.910 (6.139)
AvgExp 6-10 yrs ago	-26.77*** (10.01)	-22.84*** (8.825)	-8.339 (5.183)	-7.193* (3.831)
County FE	Yes	Yes	Yes	Yes
Census Yr FE	Yes	Yes	Yes	No
Weather Controls	No	Yes	Yes	Yes
State by Census Yr FE	No	No	No	Yes
State Time Trends	No	No	Yes	No
N	19,394	19,394	19,394	19,394
Adj r^2	0.590	0.607	0.642	0.647

All Standard Errors are Clustered by County.

$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B3: Effects of Lagged Deposition on Share of Farmland Reported as Cropland, Entire Continental U.S., 1939-1969.

	(1)	(2)	(3)	(4)
AvgExp 1-5 yrs ago	-0.010*** (0.00296)	-0.012*** (0.00460)	-0.007** (0.00345)	-0.003 (0.00283)
AvgExp 6-10 yrs ago	-0.013*** (0.004)	-0.011*** (0.003)	-0.008*** (0.003)	0.000 (0.002)
County FE	Yes	Yes	Yes	Yes
Census Yr FE	Yes	Yes	Yes	No
Weather Controls	No	Yes	Yes	Yes
State by Census Yr FE	No	No	No	Yes
State Time Trends	No	No	Yes	No
N	19,394	19,394	19,394	19,394
Adj r^2	0.941	0.957	0.963	0.967

All Standard Errors are Clustered by County.

$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B4: Effects of Lagged Deposition on Log Number of Farms Per County, Continental U.S. West of 100th Meridian, 1939-1969.

	(1)	(2)	(3)	(4)
AvgExp 1-5 yrs ago	0.003 (0.0106)	-0.003 (0.015)	-0.009 (0.017)	0.000 (0.013)
AvgExp 6-10 yrs ago	-0.024 (0.0188)	-0.018 (0.021)	-0.017 (0.021)	-0.018 (0.02)
County FE	Yes	Yes	Yes	Yes
Census Yr FE	Yes	Yes	Yes	No
Weather Controls	No	Yes	Yes	Yes
State by Census Yr FE	No	No	No	Yes
State Time Trends	No	No	Yes	No
N	3,723	3,723	3,723	3,723
Adj r^2	0.966	0.972	0.974	0.975

All Standard Errors are Clustered by County.

$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B5: Effects of Lagged Deposition on Land Value Per Acre, Continental U.S. West of 100th Meridian, 1939-1969.

	(1)	(2)	(3)	(4)
AvgExp 1-5 yrs ago	-1.419 (1.502)	-1.153 (2.617)	4.165 (2.835)	-2.631 (2.589)
AvgExp 6-10 yrs ago	-13.68*** (4.795)	-13.04*** (4.167)	-2.499 (2.815)	-3.801 (2.509)
County FE	Yes	Yes	Yes	Yes
Census Yr FE	Yes	Yes	Yes	No
Weather Controls	No	Yes	Yes	Yes
State by Census Yr FE	No	No	No	Yes
State Time Trends	No	No	Yes	No
N	3,723	3,723	3,723	3,723
Adj r^2	0.706	0.795	0.815	0.817

All Standard Errors are Clustered by County.

$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B6: Effects of Lagged Deposition on Share of Farmland Reported as Cropland, Continental U.S. West of 100th Meridian, 1939-1969.

	(1)	(2)	(3)	(4)
AvgExp 1-5 yrs ago	-0.007*** (0.003)	-0.003* (0.002)	-0.002 (0.002)	0.001 (0.02)
AvgExp 6-10 yrs ago	-0.009*** (0.003)	-0.004** (0.002)	-0.002 (0.002)	0.000 (0.002)
County FE	Yes	Yes	Yes	Yes
Census Yr FE	Yes	Yes	Yes	No
Weather Controls	No	Yes	Yes	Yes
State by Census Yr FE	No	No	No	Yes
State Time Trends	No	No	Yes	No
N	3,723	3,723	3,723	3,723
Adj r^2	0.923	0.939	0.942	0.946

All Standard Errors are Clustered by County.
 $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

C Additional Figures

C.1 Estimated I-131 Deposition By Test Series

Note: Scales for Ranger 1951 and Hardtack 1958 include values for zero to highlight variation in deposition patterns.

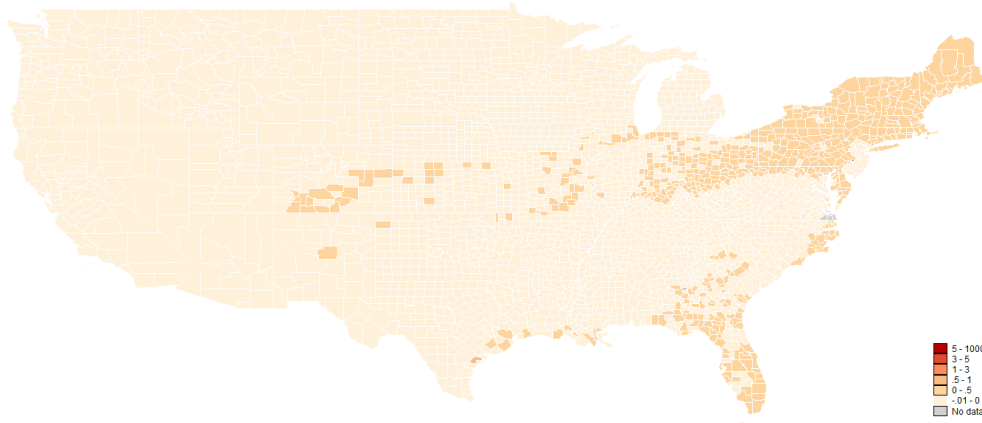


Figure C1: 1951, Operation Ranger, I-131 Deposition per meter sq, 1,000s nCi

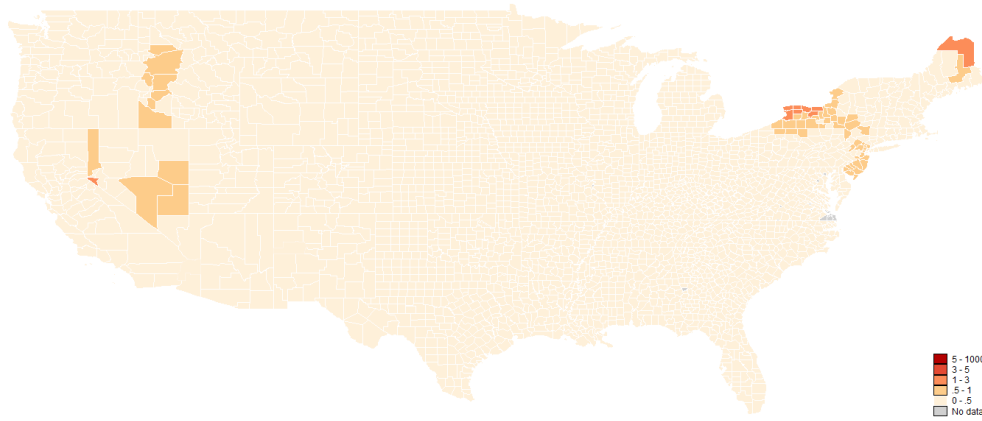


Figure C2: 1951, Operation Buster Jangle, I-131 Deposition per per meter sq, 1,000s nCi

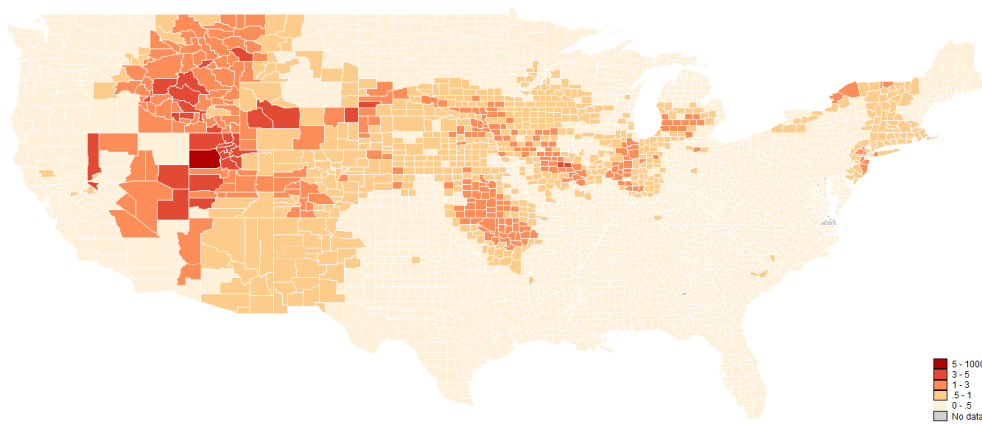


Figure C3: 1952, Operation Tumbler Snapper, I-131 Deposition per per meter sq, 1,000s nCi

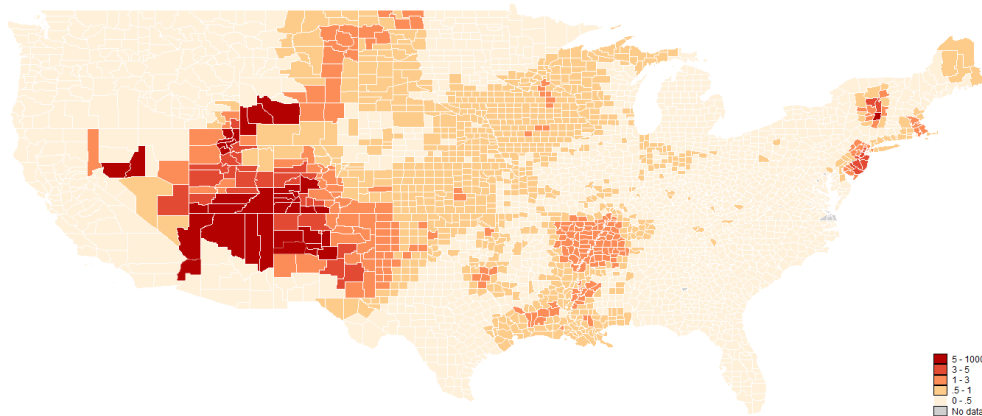


Figure C4: 1953, Operation Upshot Knothole, I-131 Deposition per per meter sq, 1,000s nCi

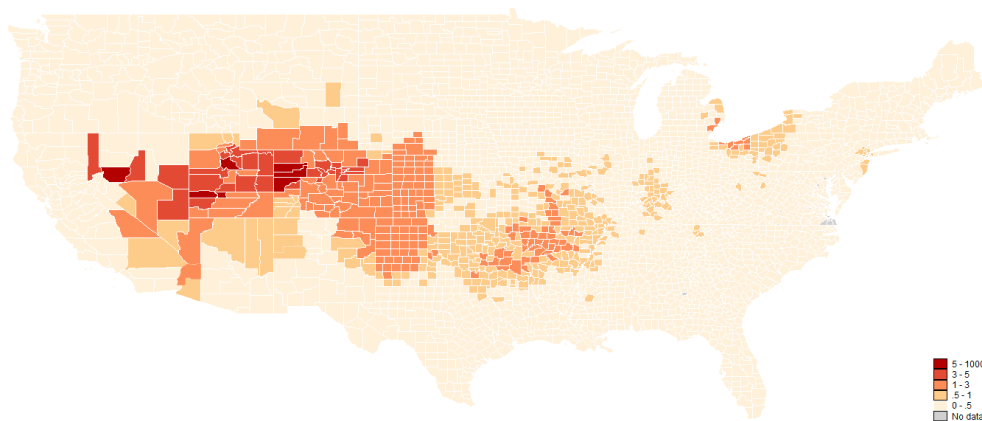


Figure C5: 1955, Operation Teapot, I-131 Deposition per per meter sq, 1,000s nCi

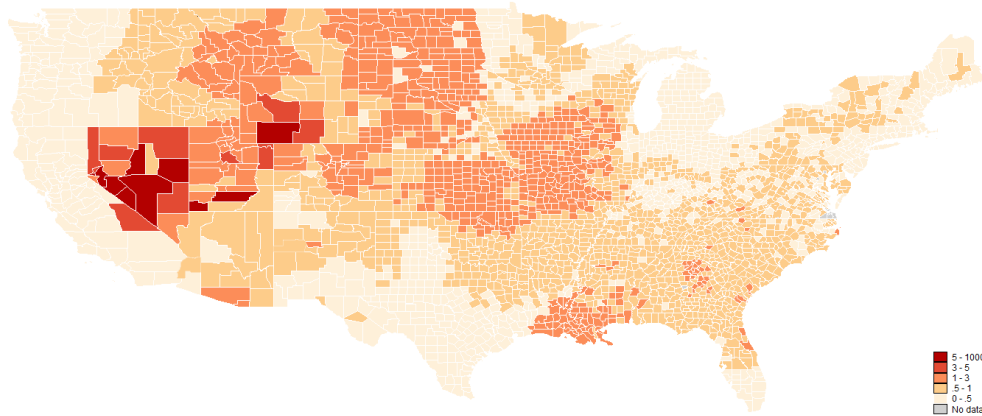


Figure C6: 1957, Operation Plumbbob, I-131 Deposition per per meter sq, 1,000s nCi

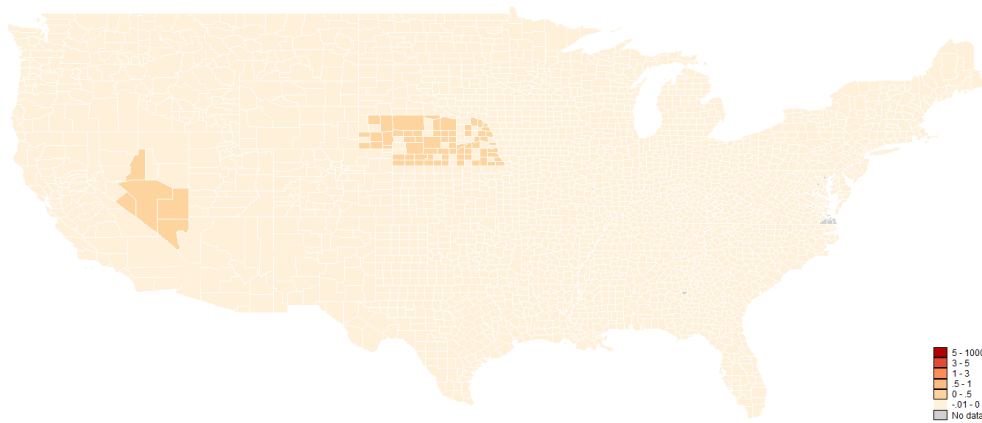


Figure C7: 1958, Operation Hardtack, I-131 Deposition per per meter sq, 1,000s nCi,
1,000s nCi

C.2 National Cancer Institute Images Describing Fallout Dispersal

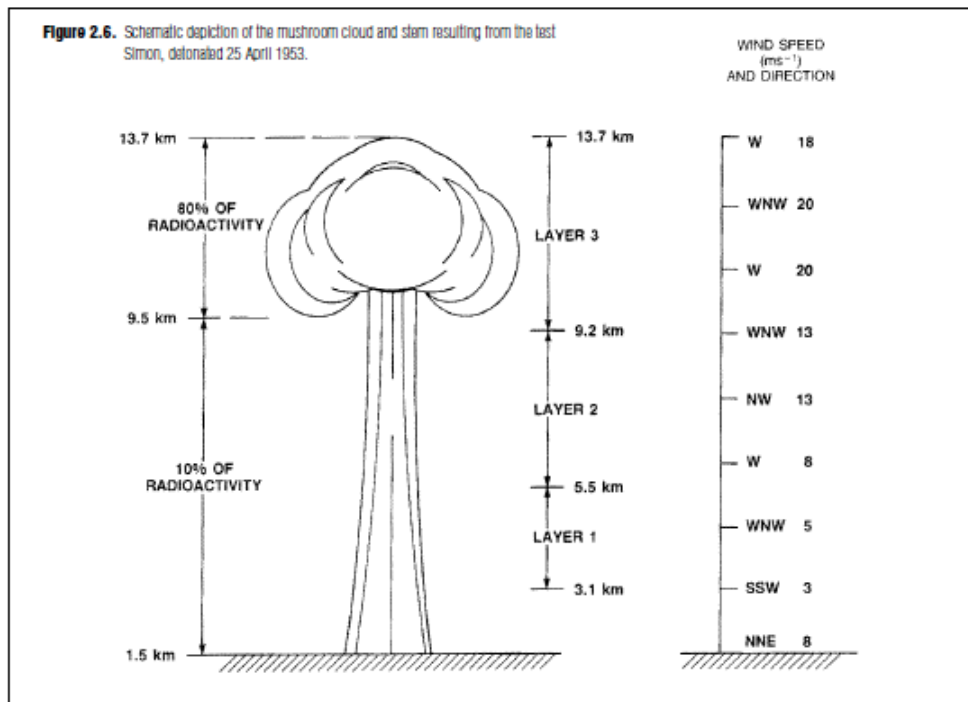


Figure C8: Mushroom Cloud and Wind Patterns. Source: NCI 1997

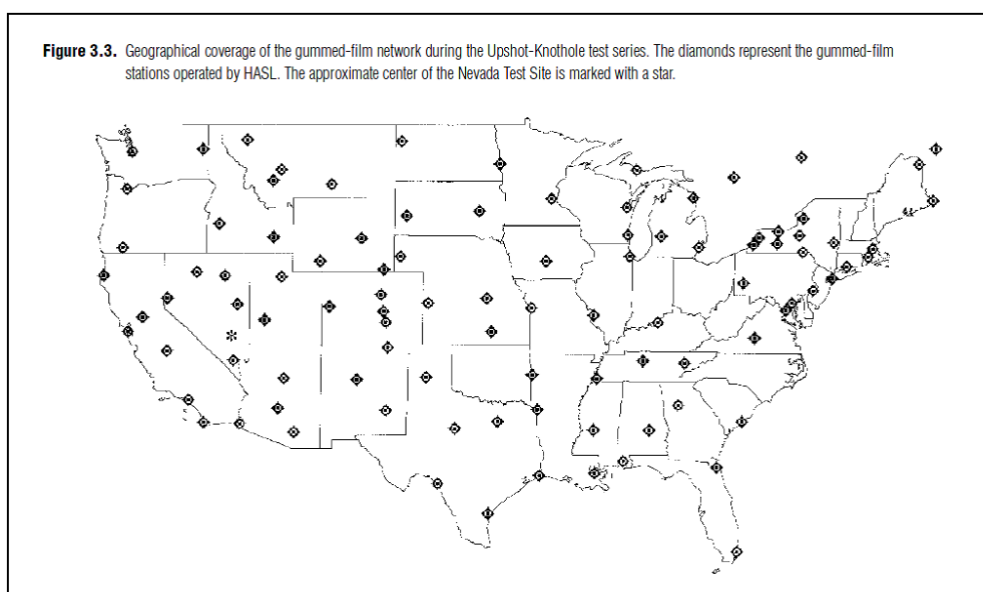


Figure C9: Map of National Radiation Monitoring Stations 1953. Source: NCI (1997)

C.3 Cumulative Losses by Agricultural Commodity

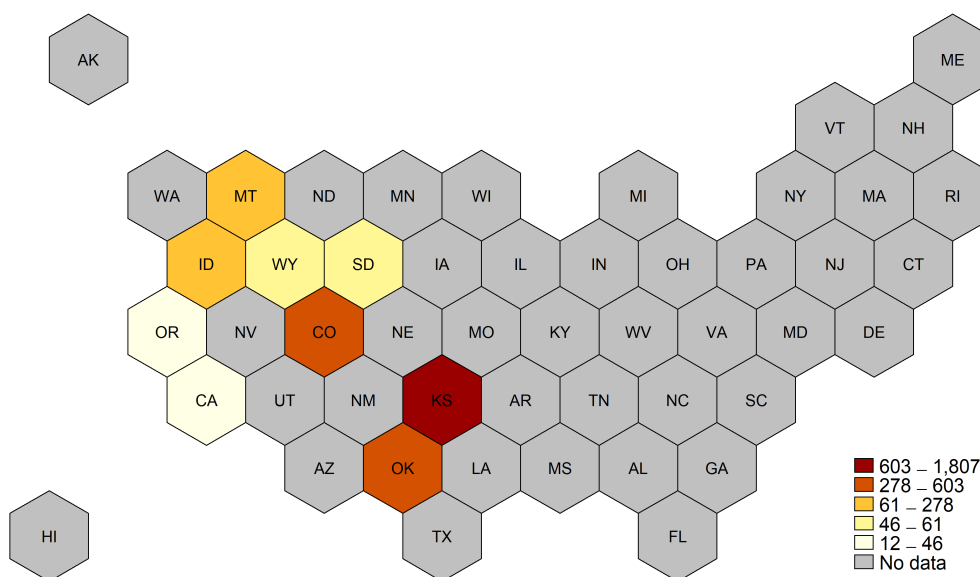


Figure C10: Cumulative Wheat Losses, Millions of 2016\$

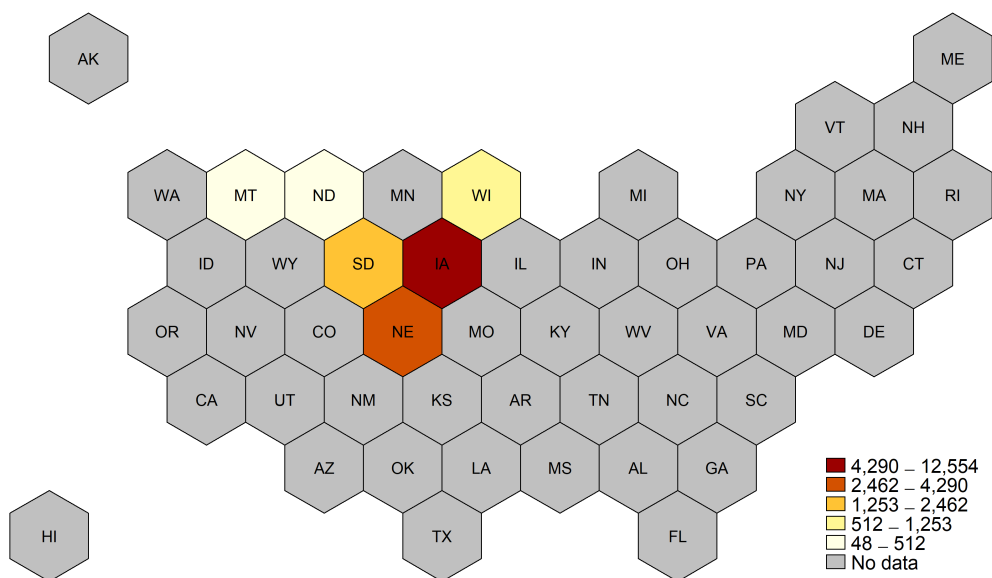


Figure C11: Cumulative Corn Losses, Millions of 2016\$

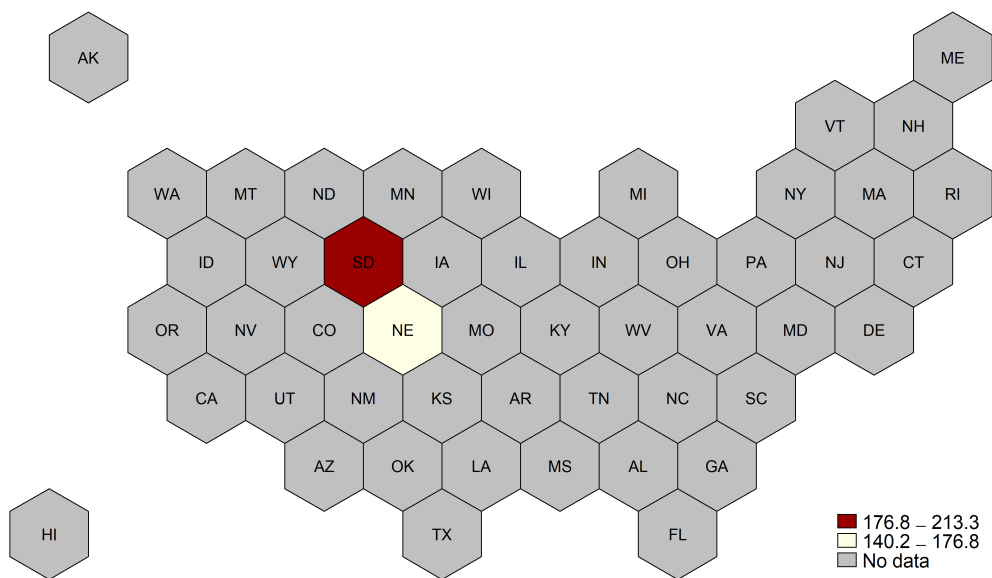


Figure C12: Cumulative Sheep Inventory Losses, Millions of 2016\$

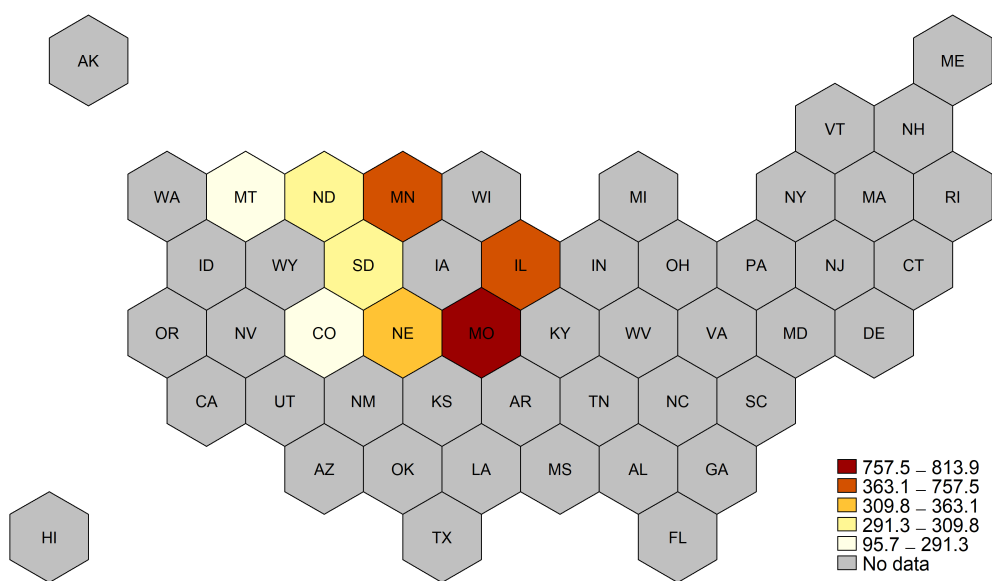


Figure C13: Cumulative Dairy Cow Inventory Losses, Millions of 2016\$

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