2017–21 Crop Input Expense Summary

MISSISSIPPI STATE UNIVERSITY EXTENSION

This publication summarizes estimated fertilizer, herbicide, insecticide, and fungicide expenses for corn, cotton, soybeans, sorghum, wheat, rice, and peanuts for Mississippi during the years of 2017 to 2021. Estimated expenses are gathered from the Agricultural Planning Budgets created by the Mississippi State University Department of Agricultural Economics. The expense for each input of each crop is the average expense across all seed types, growing conditions, and locations. Expenses are given in dollars per acre. Table 1 shows a summary of the expenses used in the following figures.

Herbicide Expenses

Figure 1 shows estimated herbicide expenses. Across all crop types, wheat has the lowest herbicide expenses on average at $46.56/acre in 2021. This was down from $50.84/acre on average spent on herbicides in wheat production in 2017. Rice, however, has the highest expense, with costs of $131.53/acre in 2021. Across all crop types, herbicide expenses have been trending lower since 2017. New herbicide technologies and decreasing costs of traditional herbicides can greatly affect a producer's expected average herbicide costs. Also, improved seed technologies that allow crops to be resistant to various herbicides can reduce herbicide expenses.

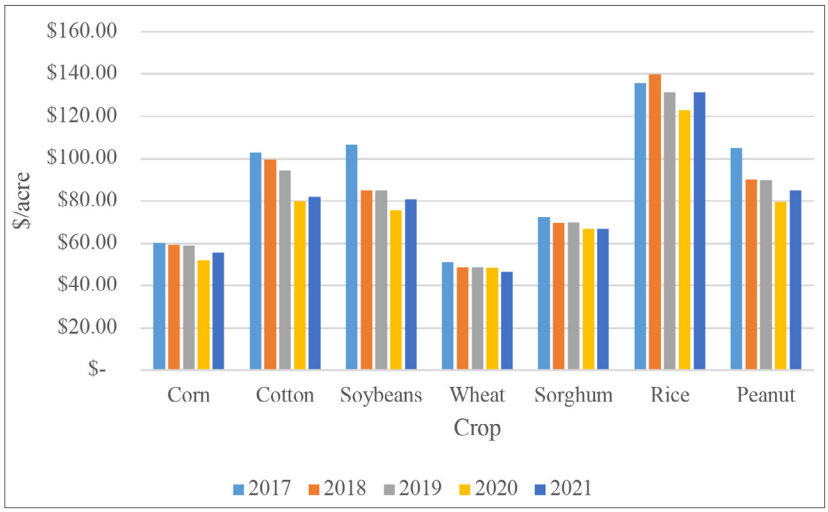

Figure 1. Estimated herbicide expenses, 2017–21.

Insecticide Expenses

Figure 2 shows estimated insecticide expenses. There are dramatic differences in expenses depending on the crop being grown. Cotton on average has the highest insecticide expense of $61.26/acre in 2021, whereas wheat has the lowest expense of $3.78/acre in 2021. Depending on the crop, insecticide expenses have been holding steady or trending downward since 2017. Cotton and sorghum have substantially higher insecticide expenses than all other crops considered. This is partly because these crops are usually planted later (late spring to early summer) than the others and can experience more insect pressure.

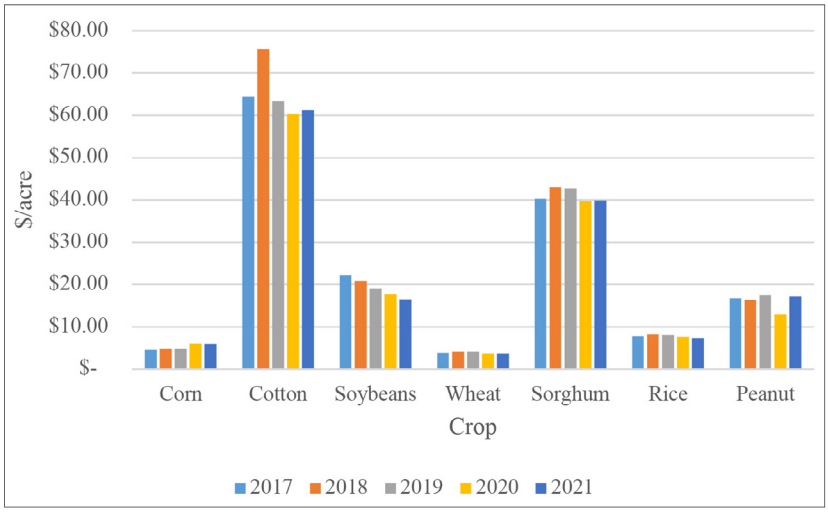

Figure 2. Estimated insecticide expenses, 2017–21.

Fungicide Expenses

Figure 3 shows estimated fungicide expenses. Fungicide expenses can vary greatly depending on the crop. Corn and sorghum have no fungicide expenses, while peanuts are estimated to have the highest fungicide expense of $100.14/acre in 2021. This is because wet and humid conditions in the Southeast make peanuts especially susceptible to a variety of fungal diseases.

Fertilizer Expenses

Figure 4 shows estimated fertilizer expenses. Unlike the other inputs considered in this publication, fertilizer expenses have been trending upward since 2017. Corn is estimated to have the highest fertilizer expense of $155.17/acre in 2021, followed by sorghum, rice, wheat, cotton, and soybeans. Peanuts are estimated to have no fertilizer expense. Peanuts and soybeans need little to no fertilzer since they are legumes, which "fix" nitrogen into soil using a process that involves soil-dwelling bacteria.

Conclusion

This publication is intended to inform growers and others in the agricultural sector of the price trends of the major inputs involved in row crop production. As with all estimated expenses, individual expenses may vary considerably depending on the crop and production techniques practiced.

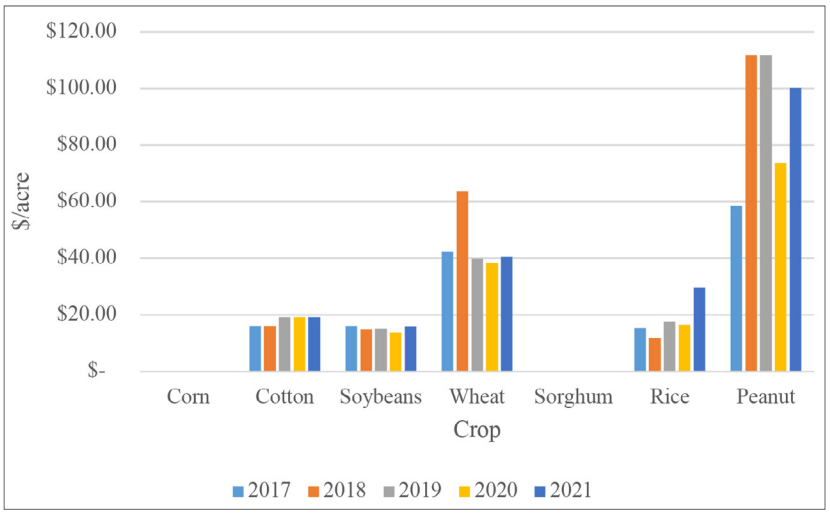

Figure 3. Estimated fungicide expenses, 2017–21.

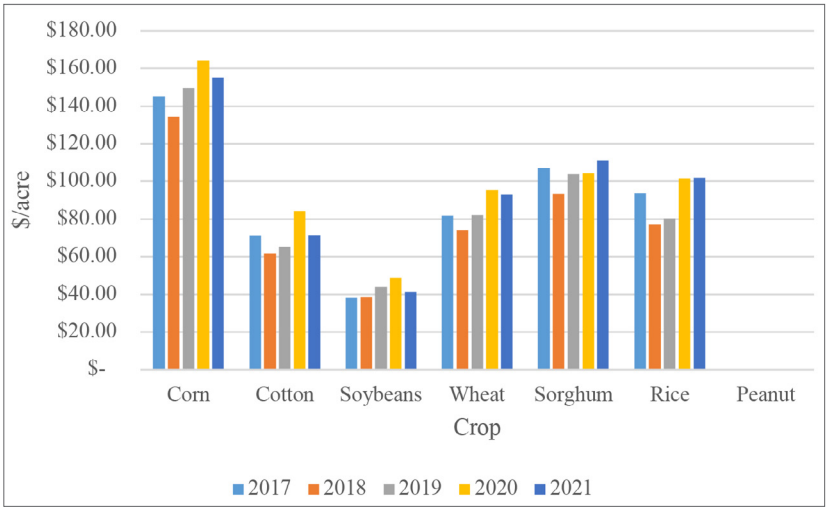

Figure 4. Estimated fertilizer expenses, 2017–21.

Table 1. Summary of variable expenses.

Herbicide Cost ($/acre)					
Crop	**2017**	**2018**	**2019**	**2020**	**2021**
Corn	60.22	59.46	58.95	51.97	55.58
Cotton	102.87	99.49	94.36	79.88	82.04
Soybeans	106.63	84.99	84.88	75.69	80.78
Wheat	50.84	48.73	48.89	48.60	46.56
Sorghum	72.45	69.68	70.05	66.83	66.70
Rice	135.64	139.82	131.42	123.01	131.53
Peanuts	104.97	90.14	89.85	79.36	84.79

Insecticide Cost ($/acre)					
Crop	**2017**	**2018**	**2019**	**2020**	**2021**
Corn	4.54	4.83	4.87	6.05	5.88
Cotton	64.47	75.69	63.35	60.27	61.26
Soybeans	22.14	20.80	19.06	17.75	16.43
Wheat	43.87	4.11	4.11	3.72	3.78
Sorghum	40.23	42.99	42.75	39.72	39.84
Rice	7.74	8.22	8.01	7.71	7.29
Peanuts	16.83	16.32	17.40	12.96	17.15

Fungicide Cost ($/acre)					
Crop	**2017**	**2018**	**2019**	**2020**	**2021**
Corn	0	0	0	0	0
Cotton	16.12	16.12	19.34	19.34	19.34
Soybeans	16.28	15.05	15.10	13.77	16.06
Wheat	42.30	63.69	39.74	38.41	40.74
Sorghum	0	0	0	0	0
Rice	15.32	11.87	17.51	16.69	29.60
Peanuts	58.61	111.75	111.71	73.72	100.14

Fertilizer Cost ($/acre)					
Crop	**2017**	**2018**	**2019**	**2020**	**2021**
Corn	145.03	134.36	149.72	163.93	155.17
Cotton	71.06	61.63	65.29	84.23	71.31
Soybeans	38.21	38.64	43.95	48.66	41.34
Wheat	81.79	74.13	82.19	95.44	93.11
Sorghum	107.05	93.52	103.72	104.26	111.04
Rice	93.66	77.07	80.22	101.59	101.96
Peanuts	0	0	0	0	0

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