MISSISSIPPI STATE UNIVERSITY EXTENSION

2018–22 Crop Input Expense Summary

This publication summarizes estimated fertilizer, herbicide, insecticide, and fungicide expenses for corn, cotton, soybeans, sorghum, wheat, rice, and peanuts for Mississippi during the years 2018 to 2022. Estimated expenses are gathered from the Agricultural Planning Budgets created by the Department of Agricultural Economics at Mississippi State University. The expense for each input of each crop is the average expense across all seed types, growing conditions, and locations. Expenses are denoted in dollars per acre. A list of the expenses used in the following graphs can be seen in Tables 1–4.

Herbicide Expenses

Estimated herbicide expenses can be seen in Figure 1. Across all crop types, wheat had the lowest herbicide expense on average at $46.79 per acre in 2022. Rice had the highest expense at $135.29 per acre in 2022. Across all crop types, except rice, herbicide expenses have been trending lower since 2018. New herbicide technologies, along with decreasing costs of traditional herbicides, can greatly affect the expected average herbicide costs that a producer may face. Also, improved seed technologies that allow crops to be resistant to various herbicides can positively impact the herbicide expenses incurred.

Insecticide Expenses

Estimated insecticide expenses can be seen in Figure 2. There are dramatic differences in expenses depending on the crop. Cotton, on average, had the highest insecticide expense of $68.98 per acre in 2022, whereas wheat had the lowest expense of $4.11 per acre in 2022. Depending upon the crop, insecticide expenses have increased or remained relatively stable since 2021. As can be seen in the figure, cotton and sorghum had substantially higher insecticide expenses than all other crops considered. These crops are usually planted later (late spring to early summer) than the others and can experience more insect pressure.

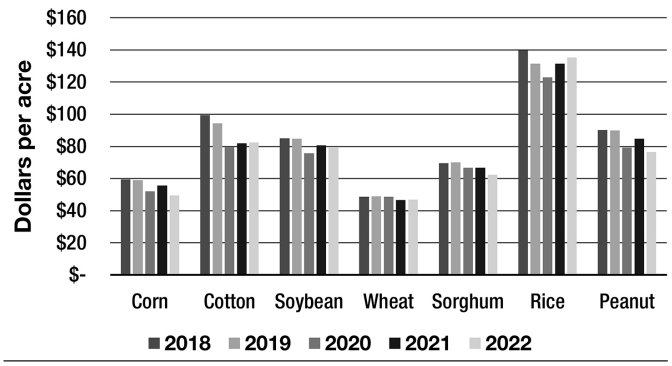

Figure 1. Estimated herbicide expense, 2018 to 2022.

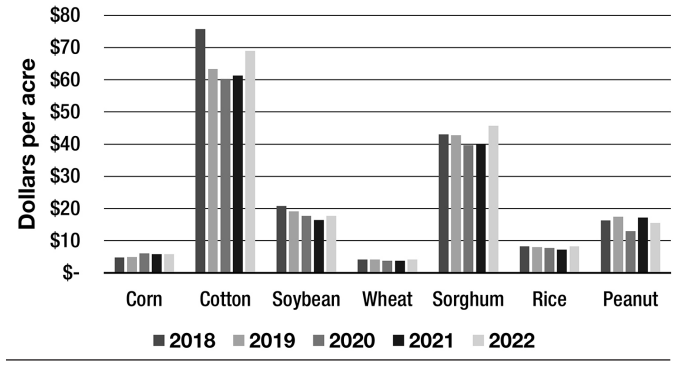

Figure 2. Estimated insecticide expense, 2018 to 2022.

Table 1. Herbicide cost per acre.

Crop	2018	2019	2020	2021	2022
Corn	$59.46	$58.95	$51.97	$55.58	$49.38
Cotton	$99.49	$94.36	$79.88	$82.04	$82.49
Soybean	$84.99	$84.88	$75.69	$80.78	$79.18
Wheat	$48.73	$48.89	$48.60	$46.56	$46.79
Sorghum	$69.68	$70.05	$66.83	$66.70	$62.27
Rice	$139.82	$131.42	$123.01	$131.53	$135.29
Peanut	$90.14	$89.85	$79.36	$84.79	$76.65

Table 2. Insecticide cost per acre.

Crop	2018	2019	2020	2021	2022
Corn	$4.83	$4.87	$6.05	$5.88	$5.80
Cotton	$75.69	$63.35	$60.27	$61.26	$68.98
Soybean	$20.80	$19.06	$17.75	$16.43	$17.66
Wheat	$4.11	$4.11	$3.72	$3.78	$4.11
Sorghum	$42.99	$42.75	$39.72	$39.84	$45.71
Rice	$8.22	$8.01	$7.71	$7.29	$8.22
Peanut	$16.32	$17.40	$12.96	$17.15	$15.49

Fungicide Expenses

Estimated fungicide expenses can be seen in Figure 3. Fungicide expenses can vary greatly depending on the crop. Corn and sorghum had no fungicide expenses since no automatic applications are suggested. However, expenses could occur if disease pressure increases. Peanuts are estimated to have the highest fungicide expense of $120.27 per acre in 2022. The high fungicide expenses found in peanut production are due to wet, humid conditions in the Southeast, which create an environment that increases the occurrence of fungal disease.

Fertilizer Expenses

Estimated fertilizer expenses can be seen in Figure 4. Compared to the other inputs considered in this article, fertilizer expenses have seen the most dramatic increases compared to 2021 estimations. Corn is estimated to have the highest fertilizer expense of $224.91 per acre in 2022, followed by sorghum, rice, wheat, cotton, and soybeans. Peanuts are estimated to have no fertilizer expense. Peanuts and soybeans have reduced fertilizer needs, as they do not typically require a nitrogen application 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, one may have considerably different expenses dependent on the crop and production techniques practiced.

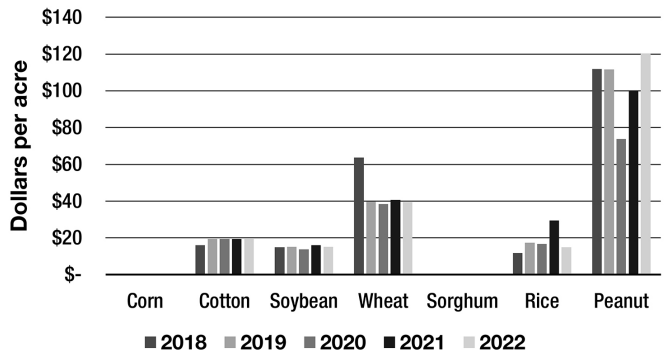

Figure 3. Estimated fungicide expense, 2018 to 2022.

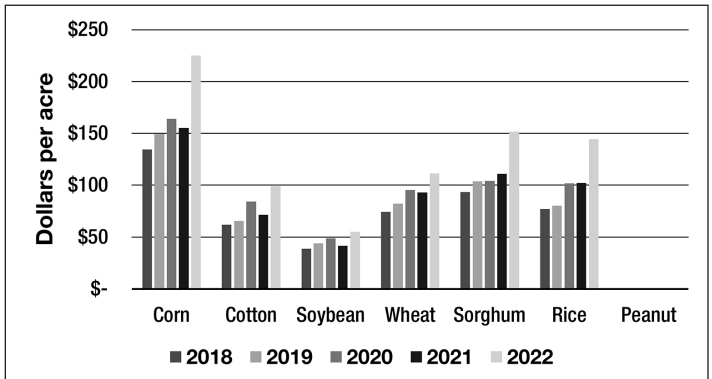

Figure 4. Estimated fertilizer expense, 2018 to 2022.

Table 3. Fungicide cost per acre.

Crop	2018	2019	2020	2021	2022
Corn	$0.00	$0.00	$0.00	$0.00	$0.00
Cotton	$16.12	$19.34	$19.34	$19.34	$19.34
Soybean	$15.05	$15.10	$13.77	$16.06	$15.23
Wheat	$63.69	$39.74	$38.41	$40.74	$39.58
Sorghum	$0.00	$0.00	$0.00	$0.00	$0.00
Rice	$11.87	$17.51	$16.69	$29.60	$15.06
Peanut	$111.75	$111.71	$73.72	$100.14	$120.27

Table 4. Fertilizer cost per acre.

Crop	2018	2019	2020	2021	2022
Corn	$134.36	$149.72	$163.93	$155.17	$224.91
Cotton	$61.63	$65.29	$84.23	$71.31	$99.22
Soybean	$38.64	$43.95	$48.66	$41.34	$54.98
Wheat	$74.13	$82.19	$95.44	$93.11	$111.15
Sorghum	$93.52	$103.72	$104.26	$111.04	$151.43
Rice	$77.07	$80.22	$101.59	$101.96	$144.60
Peanut	$0.00	$0.00	$0.00	$0.00	$0.00

Publication 3758 (POD-05-22)

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