Summary of the

# 2024 Arkansas Hay Verification Program



UofA DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
*University of Arkansas System*

# Summary of the 2024 Arkansas Hay Verification Program

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## Introduction and Program

This publication summarizes results from the 2024 Arkansas Hay Verification Program (AHVP). The AHVP collaborates with Arkansas forage producers, county extension agents, and state extension specialists. The goal of the AHVP is to implement extension recommendations for increasing hay production in accordance with goals established by both the producer and the county extension agent. The aim is to assist hay producers in Arkansas by improving the production and quality of their hay and forage resources.

Twelve hay fields are participating in the 2024 AHVP. Fields participate on a two-year rotating basis. Participating farms are located in Cleveland, Conway, Dallas, Drew, Faulkner, Jackson, Marion, Ouachita, Scott, Union, Van Buren, and White counties. Two fields from Scott County are participating. All 12 fields grow warm-season forages, which are currently required for AHVP.

Table 1 provides a summary of acreage and production for the participating fields. Total acreage for the 2024 AHVP was 397 acres, averaging 33 acres per field. This is an increase from 334 total acres and 28 acres per field in 2023 (Mitchell et al., 2024). Total hay production from the 2024 AHVP was 1,571 tons, with average yields of 4.03 tons per acre—0.20 tons per acre higher than 2023 yields (Mithell et al., 2024). Based on average hay prices received by farmers in 2024, the estimated value of production from the 2024 AHVP was $227,837.05 (USDA-NASS, 2024).

**Table 1. 2024 AHVP Acreage and Production**

| COUNTY/FIELD | ACREAGE | PRODUCTION (TONS/ACRE) | TOTAL PRODUCTION (TONS) |
|---|---|---|---|
| Cleveland | 20 | 4.02 | 80.40 |
| Dallas | 12 | 4.36 | 52.32 |
| Drew | 6.5 | 4.44 | 28.86 |
| Faulkner | 100 | 3.72 | 372.00 |
| Jackson | 29 | 3.31 | 95.99 |
| Marion | 46 | 3.78 | 173.88 |
| Ouachita | 45 | 5.28 | 237.60 |
| Scott A | 35 | 2.65 | 92.75 |
| Scott B | 28 | 3.74 | 104.72 |
| Union | 12 | 4.9 | 58.80 |
| Van Buren | 44 | 4.78 | 210.32 |
| White | 19 | 3.35 | 63.65 |

## Economic Data Collection

Participating producers work with county Extension agents to collect and record production and economic data in a standardized Excel file. This data is then used as inputs for the Mississippi State budget generator. Each time a field activity is performed (fertilizing, cutting, raking, baling, etc.), the participating producer and county agent record the tractor's make, model and horsepower and the implement's make, model, and dimensions. Per-unit prices and quantities for fertilizer and pesticide applications are recorded as well as additional cost items including custom rate application, net wrap and equipment rental costs, among others. Poultry litter prices and application rates are recorded separately from fertilizer applications. Information about bale dimensions and average bale weights is also recorded to estimate per-ton hay yields.

The Mississippi State University farm budget generator is a tool developed by the university's extension service to help Mississippi farmers and ranchers develop budgets for their agricultural operations. The generator allows users to input information specific to their operation including crop type, acreage and expected yields, as well as costs for

inputs such as seed, fertilizer and labor. The budget generator uses the field activities performed to estimate the per-acre machine costs (fuel, labor, repairs, depreciation, interest, taxes, etc.) associated with that activity. These machine costs are based on estimates from the American Society of Agricultural and Biological Engineers standards and formulas developed by Kay, Edwards, & Duffy (2020). The tool then generates an enterprise budget that estimates expected revenue, expenses and profitability measures such as net income and return on investment.

Budgets for each farm are in Appendix A, and each table reports revenue from hay production. A price of $145/ton is used as a placeholder and is based on average hay prices received by farmers from USDA-NASS (2024). Reporting state-level hay prices for Arkansas was discontinued by USDA-NASS in 2024. Operating, fixed and total specified costs are calculated for each farm. Operating costs (total direct costs) are expenses associated with the production of the crop and generally includes herbicides, fertilizers, insecticides, fuel, custom rate applications and labor. Hay hauling is assumed to be a separate farm enterprise. Fixed costs include non-cash expenses such as depreciation and cash expenses such as interest, taxes and housing costs on tractors and equipment. The rationale for including depreciation as a non-cash expense is to reflect cash savings to replace tractors and equipment after their useful life. Total specified costs are defined as operating (direct) costs plus fixed costs.

## Summary of 2024 Budgets

Table 2 summarizes hay budgets for the twelve fields in the 2024 Arkansas Hay Verification Program (AHVP). Operating costs averaged $339.69/acre, ranging from $156/acre in White County to $572/acre in Dallas County. This represents a 14 percent decrease from the 2023 average of $395.39/acre. Total costs (direct plus fixed) averaged $397.56/acre, ranging from $219.27 in White County to $640.84/acre. Total costs declined 20 percent from $496.59/acre in 2023. Notably, none of the 2024 fields were irrigated, in contrast to the high-cost irrigated field in Conway County included in 2023, which significantly inflated average fixed and total costs that year. Fixed costs averaged $57.88/acre in 2024, down from $101.19/acre in 2023. Excluding the irrigated Conway County field from the 2023 data, fixed costs were $69.76/acre.

**Table 2. 2024 AHVP Costs, Returns and Breakeven Prices**

| COUNTY/ FIELD | TOTAL DIRECT COSTS $/AC | TOTAL FIXED COSTS $/AC | TOTAL SPECIFIED COSTS $/AC | NET RETURNS[a] $/AC | BREAKEVEN[b] PRICE $/TON |
|---|---|---|---|---|---|
| Cleveland | $262 | $85 | $347 | $178 | $86 |
| Dallas | $572 | $69 | $641 | -$70 | $147 |
| Drew | $519 | $84 | $603 | -$7 | $136 |
| Faulkner | $246 | $67 | $312 | $227 | $84 |
| Jackson | $367 | $35 | $403 | -$42 | $122 |
| Marion | $323 | $54 | $377 | $516 | $100 |
| Ouachita | $400 | $92 | $492 | $184 | $93 |
| Scott A | $242 | $2 | $243 | $92 | $92 |
| Scott B | $257 | $1 | $258 | $223 | $69 |
| Union | $332 | $80 | $413 | $222 | $84 |
| Van Buren | $400 | $63 | $463 | $364 | $97 |
| White | $156 | $63 | $219 | $190 | $65 |

[a] Net returns, revenue minus total specified costs, estimated using $144/ton for hay prices.
[b] Total specified expenses divided by hay production per acre (Table 1).

Breakeven prices are calculated by dividing total specified costs by hay production per acre. The average breakeven price across the 2024 fields was $97.91/ton, down from $129.07/ton in 2023 and $111.88/ton in 2022 (Mitchell et al., 2024). Breakeven prices ranged from $65/ton in White County to $147/ton in Dallas County. Eleven of the 12 fields had breakeven prices below the 2024 average $145/ton estimated by USDA-NASS (2024).

Table 3 summarizes per-acre expenses for selected operating cost categories across the twelve AHVP fields in 2024. Fertilizer was the largest cost category, averaging $173.92/acre, with considerable variation across fields (standard deviation of $139.79) and a maximum of $429.60/acre. Several fields did not apply fertilizer, resulting in a minimum of zero. Fields that did not apply fertilizer had the largest applications of poultry litter, calculated separately from commercial fertilizer. Poultry litter averaged $14.83/acre but ranged as high as $100/acre. Herbicide costs averaged $21.23/acre, ranging from $0 to $163.55/acre.

**Table 3. Summary of costs from eleven fields participating in the 2024 Arkansas Hay Verification Program, ($/acre).**

| COST ITEM | AVERAGE | STD. DEV. | MAX | MIN |
|---|---|---|---|---|
| Fertilizer | 173.92 | 139.79 | 429.60 | 0.00 |
| Litter | 14.83 | 31.11 | 100.00 | 0.00 |
| Herbicide | 21.23 | 45.40 | 163.55 | 0.00 |
| Fuel | 22.89 | 10.58 | 33.37 | 0.75 |
| Labor | 33.94 | 18.30 | 56.34 | 1.58 |
| Repair & maintenance | 25.84 | 13.90 | 42.94 | 0.28 |
| Interest on op. cap. | 10.30 | 4.23 | 19.28 | 4.74 |
| Custom app/harvest | 33.52 | 71.02 | 203.50 | 0.00 |
| Other | 9.87 | 5.48 | 16.61 | 0.00 |
| Insecticide | 4.61 | 8.17 | 24.14 | 0.00 |

Note: Average ($/acre) is the average amount spent on each cost item across the 12 fields. This is not an "average cost" as defined in economics, which typically refers to the total cost per unit of output.

Other key expense categories included fuel ($22.89/acre), labor ($33.94/acre), and repairs and maintenance ($25.84/acre). These categories showed less variation than fertilizer but still reflected field-level differences in equipment use and production practices. Custom application and harvest costs had the highest variability, ranging from $0 to $203.50/acre, with an average of $33.52/acre. Interest on operating capital averaged $10.30/acre, and smaller cost categories such as insecticides and miscellaneous inputs ("Other") averaged $4.61/acre and $9.87/acre, respectively. Note that all averages reported here reflect average per-acre expenditures across fields, not economic average cost per unit of output.

## Production Data Collection

Participating county extension agents collaborate with producers to collect data required for making recommendations and monitoring production and quality. Soil samples are collected in the dormant period of warm-season forages (November–April), from each field using the following criteria set by the UADA: 20 acres or less per composite sample, approximately 15 points per composite sample, and collected to a 4-inch depth. Soil samples were submitted to the UADA Marianna Soil Testing Laboratory and analyzed for pH, Mehlich 3 nutrients, and estimated soil texture (Table 5). Composite soil sample data from multiple field locations were averaged to generate the most representative fertilizer recommendation. Production recommendations for forage management were offered on an as-needed basis, covering topics such as herbicide, insecticide, fertility, and harvest management. Hay yield was measured for each cutting by weighing a minimum of five bales, averaging the weight and extrapolating by the total number of bales produced (Table 4). Hay quality samples were collected by taking at least one core sample from each weighed bale. Hay quality samples were analyzed for moisture, crude protein, and fiber content by the UADA Fayetteville Agriculture Diagnostics Laboratory (https://aaes.uada.edu/technical-services/fayetteville-agricultural-diagnostic-analytical-laboratory/#).

### CLEVELAND COUNTY

A 20-acre Bahiagrass field in Cleveland County was enrolled in the 2024 Hay Verification Program for the second year. The field was soil sampled on 02/08/2024 for soil nutrient concentrations, fertilizer, and lime requirements to achieve a yield goal of 5 tons of dry matter production over three harvests. However, due to unforeseen circumstances, the field only received two applications of 125 lb. Urea (46-0-0) and 150 lb. Potash (0-0-60) per acre on May 29 and

**Table 4. Hay yield and quality parameters for the 12 fields participating in the 2024 Hay Verification Program.**

| COUNTY | AS IS YIELD | MOISTURE | CRUDE PROTEIN | TOT. DIGEST. NUTRIENTS | NUTRIENT REMOVAL | | |
|---|---|---|---|---|---|---|---|
| | TONS/ACRE | % | % | % | N | $P_2O_5$ | $K_2O$ |
| | | | | | ---------LBS/ACRE --------- | | |
| Cleveland | 0.62 | 10.1 | 8.6 | 56.1 | 29.9 | 8.0 | 34.0 |
| | 1.21 | 10.6 | 8.3 | 54.9 | 32.1 | 10.0 | 44.9 |
| | 1.35 | 8.2 | 7.6 | 54.6 | 18.7 | 6.3 | 22.1 |
| | 0.84 | 8.3 | 8.5 | 57.1 | 50.6 | 25.6 | 104.6 |
| Dallas | 2.03 | 12.5 | 13.2 | 58.9 | 49.7 | 15.6 | 58.1 |
| | 1.34 | 9.2 | 11.9 | 58.9 | 34.1 | 0.0 | 0.0 |
| | 0.99 | 6.7 | 8.7 | 53.9 | 40.8 | 0.0 | 0.0 |
| Drew | 1.57 | 7.6 | 8.8 | 54.8 | 41.2 | 16.1 | 60.3 |
| | 1.58 | 7.5 | 10.4 | 56.8 | 39.4 | 10.8 | 52.5 |
| | 1.28 | 16.3 | 8.5 | 53.7 | 18.9 | 6.7 | 7.9 |
| Faulkner | 0.83 | 13 | 8.9 | 57.2 | 37.5 | 21.1 | 17.4 |
| | 1.51 | 16 | 10.9 | 57.5 | 40.4 | 14.9 | 13.4 |
| | 1.38 | 18.5 | 10 | 50.4 | 28.1 | 10.4 | 35.5 |
| Jackson | 1.08 | 12.1 | 9.3 | 54.5 | 29.6 | 16.0 | 72.0 |
| | 1.13 | 10.5 | 9.4 | 54.5 | 29.5 | 11.7 | 49.2 |
| | 1.10 | 13.2 | 11 | 60.4 | 74.2 | 36.7 | 144.2 |
| Marion | 2.43 | 9.9 | 10.9 | 58.5 | 42.6 | 17.4 | 79.5 |
| | 1.36 | 12.9 | 12.8 | 60.6 | 68.9 | 16.9 | 96.0 |
| Ouachita | 1.93 | 10.2 | 12 | 60.2 | 49.6 | 13.0 | 71.7 |
| | 1.44 | 11.0 | 12.3 | 60.4 | 50.4 | 13.5 | 70.7 |
| | 1.44 | -- | -- | -- | -- | -- | -- |
| | 0.47 | 12.6 | 9.9 | 51.6 | 73.2 | 34.9 | 103.1 |
| Scott | 2.65 | 11.2 | 10.3 | 51.6 | 63.9 | 24.0 | 110.4 |
| | 2.18 | -- | -- | -- | -- | -- | -- |
| | 1.56 | 11.9 | 5.3 | 51.8 | 18.0 | 11.7 | 45.3 |
| Union | 1.20 | 10.3 | 11.1 | 58.8 | 37.6 | 14.6 | 64.3 |
| | 1.18 | 7.3 | 8.9 | 54.7 | 40.0 | 18.0 | 74.4 |
| | 1.51 | 14.0 | 12.6 | 58.8 | 34.8 | 13.4 | 46.8 |
| | 1.00 | 17.7 | 9.3 | 58.0 | 60.1 | 23.1 | 105.7 |
| Van Buren | 2.46 | 13.5 | 12.4 | 59.4 | 79.8 | 29.5 | 176.0 |
| | 2.33 | 22.7 | 11.9 | 57.5 | 34.6 | 14.6 | 48.4 |
| White | 1.18 | 12.9 | 8.8 | 56.6 | 29.9 | 0.0 | 0.0 |
| | 1.22 | 10.8 | 6.9 | 55.3 | 18.8 | 10.5 | 50.0 |
| | 0.96 | 10.1 | 8.6 | 56.1 | 29.9 | 8.0 | 34.0 |

July 8, 2024. The field was monitored throughout the growing season for weed and insect management following UADA recommendations; however, no weed or insect control efforts were needed. The field was harvested four times throughout the year on May 16, July 1, Aug. 8 and Oct. 9. The Cleveland County hay verification field produced an average annual production of 4.02 tons of hay per acre, with a total specified cost of $347 per acre and a breakeven price of $86 per ton of hay ($34.40 per 800 lb. bale). Net returns calculated using an estimated hay price of $144 per ton ($57.60 per 800lb. bale) was $178 per acre.

[6]This website provides forms to start or alter an LLC in Arkansas: https://www.sos.arkansas.gov/business-commercial-services-bcs/forms-fees/llc.

**Table 5. Soil properties from the 12 fields participating in the 2024 Hay Verification Program.**

| COUNTY | TEXTURE† | CEC† | pH | OM | P | K | S | Ca | Mg |
|---|---|---|---|---|---|---|---|---|---|
| | -- | cmolc/kg | -- | % | ---------- ppm ---------- | | | | |
| Cleveland | Silt Loam | 6 | 6.1 | -- | 36 | 46 | 9 | 673 | 65 |
| Dallas | Silt Loam | 7 | 6.2 | -- | 215 | 139 | 9 | 779 | 67 |
| Drew | Silt Loam | 10 | 5.7 | -- | 12 | 50 | 11 | 1080 | 111 |
| Faulkner | Silt Loam | 12 | 6.5 | -- | 82 | 101 | 14 | 1634 | 99 |
| Jackson | Silt Loam | 6 | 5.9 | 1.9 | 40 | 68 | 7 | 586 | 95 |
| Marion | Silt Loam | 8 | 6.3 | -- | 118 | 55 | 9 | 999 | 69 |
| Ouachita | Silt Loam | 6 | 6.7 | -- | 61 | 140 | 9 | 662 | 35 |
| Scott 1 | Silt Loam | 9 | 5.6 | -- | 30 | 168 | 14 | 689 | 155 |
| Scott 2 | Silt Loam | 7 | 5.5 | -- | 31 | 40 | 17 | 523 | 70 |
| Union | Sandy Loam | 6 | 5.8 | -- | 179 | 53 | 7 | 474 | 36 |
| Van Buren | Silty Clay Loam | 12 | 7.1 | 3.9 | 60 | 134 | 13 | 2020 | 41 |
| White | Silt Loam | 8 | 7.0 | -- | 48 | 95 | 10 | 1229 | 59 |

†Soil Texture and Cation Exchange Capacity (CEC) are estimated based on other measured soil properties.

## DALLAS COUNTY

A 12-acre mixed warm-season grass field (including Bahiagrass, crabgrass, common Bermudagrass and white clover) in Dallas County was enrolled in the 2024 Hay Verification Program. An herbicide application of 1.5 quarts of 2,4-D per acre was made on April 6, 2024 using a 25-gallon ATV boomless sprayer. Fertility management included three applications throughout the growing season: 250 lb. Ammonium Nitrate ($NH_4NO_3$), 125 lb. Potash ($K_2O$), and 20 lb. Sulfur (S) per acre on April 26; 216 lb. $NH_4NO_3$ and 116 lb. Potash per acre on June 15; and 216 lb. $NH_4NO_3$ and 117 lb. Potash per acre on July 17, 2024. The field was monitored following UADA guidelines, and no additional insect or weed control was necessary. The field was harvested three times during the season on June 5, July 13 and Aug. 15, producing a total of 118 bales with an average yield of 4.36 tons of hay per acre. Specified costs per acre were $641, with a breakeven price of $147 per ton of hay ($58.80 per 800lb. bale). Net returns calculated using an estimated hay price of $144 per ton ($57.60 per 800 lb. bale) resulted in a loss of $70.00 per acre.

## DREW COUNTY

A 6.5-acre field on the campus of the University of Arkansas at Monticello was enrolled in the 2024 Hay Verification Program. The field had a mixed stand of warm-season grasses and primarily used for summer hay production. The field was soil sampled in March 2024 for soil nutrient concentrations and fertilizer requirements. Fertilizer applications were split across the growing season: the first on May 24 at 180 lb. Urea (46-0-0), 100 lb. DAP (18-46-0), and 180 lb. Potash (0-0-60) per acre; the second on June 26; and the final application on Aug. 7, 2024. The field was harvested three times on June 18, July 30 and Sept. 30, with baling occurring on June 23, Aug. 1 and Oct. 3, respectively. Forage analysis showed increasing quality throughout the season, with crude protein ranging from 8.7 percent to 10.4 percent and TDN from 53.9 percent to 56.8 percent. Total yield averaged 4.44 tons of hay per acre. The Drew County hay verification field produced an average annual production of 4.44 tons of hay per acre, with total specified costs of $603 per acre and a breakeven price of $136 per ton of hay ($54.40 per 800 lb. bale) resulting in a loss of $7.00 per acre.

## FAULKNER COUNTY

A 100-acre Bermudagrass field was enrolled in the 2024 Hay Verification Program. The field was soil sampled in February 2024 for soil nutrient concentrations and fertilizer requirements. An herbicide application of glyphosate, 2,

4-D, and metsulfuron occurred in late February to control winter weeds. Despite early growth, a late freeze delayed initial harvest until June 6, 2024. After harvest, the field received a fertilizer application of 70 lb. Urea, 100 lb. DAP, and 100 lb. Potash per acre. Armyworms were detected in early July and reached threshold levels, prompting insecticide application of Dimilin and Lambda-Cyhalothrin. The second cutting occurred on July 9, and then the field received a fertilizer application of 100 lb. Urea and 100 lb. Potash per acre. A second outbreak of armyworms required additional treatment of Dimilin and Lambda-Cyhalothrin, followed by a successful application of Besiege to achieve effective control. With a final harvest on Aug. 25, the Faulkner County hay verification field averaged 3.72 tons of hay per acre over the season. Specified cost totaled $312 per acre, resulting in a breakeven price of $84 per ton of hay ($33.60 per 800 lb. bale). Based on an estimated hay price of $144 per ton (57.60 per 800 lb. bale), net returns were calculated at $227 per acre.

### JACKSON COUNTY

A 29-acre Bermudagrass field enrolled in the 2024 Hay Verification Program. The field was sampled for soil nutrient concentrations and fertilizer requirements. The field received two fertilizer applications: 60 lb. of Urea and 80 lb. of Potash per acre, followed by a third application of 100 lb. of urea per acre after the second harvest. The field was monitored throughout the growing season for weed and insect management following USDA recommendations. However, no application of herbicide or insecticide was necessary. The field was harvested three times throughout the year: May 24, June 28 and Aug. 16, 2024. The Jackson County hay verification field produced an annual total production of 3.31 tons of hay per acre. Specified costs totaled $403 per acre, resulting in a breakeven price of $122 per ton of hay ($48.80 per 800 lb. bale). Net returns calculated using an estimated hay price of $144 per ton ($57.60 per 800 lb. bale) resulted in a loss of $42.00 per acre.

### MARION COUNTY

A 46-acre Greenfield hybrid Bermudagrass field on a fine sandy loam soil in Marion County was enrolled in the 2024 Hay Verification Program. The field received a burndown herbicide application of 1 qt glyphosate (Cornerstone), and 0.75 oz Patriot per acre on March 10, 2024. The field received an application of 4 tons per acre of poultry litter, with a nutrient concentration of 80 lb. N, 40 lb. P2O5, and 60 lb. K2O per ton. A supplemental application of 54 lb. Urea (46-0-0) and 31 lb. Potash (0-0-60) per acre was applied on May 15, and the field was baled on June 14. Forage quality analysis from the first harvest revealed 11 percent crude protein and 51 percent total digestible nutrients. The field received a second fertilizer application of 54 lb. Urea (46-0-0) and 31 lb. Potash (0-0-60) per acre on June 20. The field was baled for a second time on Aug. 4, and forage quality analysis revealed 10 percent crude protein and 59 percent total digestible nutrients. A final harvest was not taken due to a second armyworm infestation that severely impacted the field. The Marion County hay verification field produced an annual total production of 3.78 tons of hay per acre, with total specified costs of $377 per acre and a breakeven price of $100 per ton of hay ($40 per 800 lb. bale). Net returns were calculated at $516 per acre, based on an estimated hay price of $144 per ton (57.60 per 800 lb. bale).

### OUACHITA COUNTY

A 45-acre Jiggs Bermudagrass field in Ouachita County was enrolled in the 2024 Hay Verification Program. The field was soil sampled in February 2024 to determine nutrient concentrations and fertilizer requirements. An herbicide application of 1 oz. Pastora per acre was also made in February for early weed control. The field received three fertilizer applications throughout the growing season. Armyworm infestations were observed twice during the season, and the field was treated with Lambda-Cyhalothrin and Dimilin to prevent significant forage loss. Across four harvests, the Ouachita County hay verification field produced an annual total production of 5.28 tons of hay per acre. Specified costs totaled $492 per acre, resulting in a breakeven price of $93 per ton of hay ($37.2 per 800 lb. bale). Net returns were calculated at $184 per acre, based on an estimated hay price of $144 per ton (57.60 per 800 lb. bale).

### SCOTT COUNTY

Two fields in Scott County were enrolled in the 2024 Hay Verification Program. Field 1 was 28 acres of predominately bahiagrass with a slight stand of broomsedge scattered throughout. Field 2 was a 34-acre field with a 50/50 mix of fescue and Bermuda. Both fields were soil tested in January 2024, and soil nutrient

concentrations, fertilizer and lime recommendations were received. On March 23 both fields received an application of 2 tons/acre of broiler litter. Unforeseen weather conditions in the spring and early summer of 2024 delayed the first harvest on both fields. Field 1 was harvested on July 1 and Field 2 on July 5. The delay of harvest had a smothering effect on both fields, and a flush of warm season weeds was warranted. An application of Duracor at 20oz/ac on 7/25/2024 was applied on 7/20/2024 . Field 1 and Field 2 produced 2.19 and 2.65 ton/ac, respectively. The delay of harvest and lack of summer rain resulted in Field 2 not being harvested a second time. Field 1 was harvested the second time on Oct. 20 with a yield of 1.55 ton/ac. The Scott County hay verification fields produced an average annual production of 2.65 and 3.74 tons of hay per acre, for Field 1 and Field 2 respectively. Specified costs per acre were $243 and $258 for Field 1 and Field 2 respectively, resulting in a breakeven price of $92 per ton of hay ($36.80 per 800 lb. bale) on Field 1 and $69 per ton of hay ($27.60 per 800 lb. bale) for Field 2. Net returns calculated using an estimated hay price of $144 per ton (57.60 per 800 lb. bale) were $92 per acre for Field 1 and $223 per acre for Field 2.

### UNION COUNTY

A 12-acre field with a mixed stand of Bermudagrass and Bahiagrass was enrolled in the Hay Verification Program. Fertility recommendations were developed from soil samples processed Feb. 29, 2024 to meet a 4 ton/acre goal. The first harvest, to remove less desirable forage species, was made on May 7 and baled on May 10, resulting in 30 4x5 round bales, weighing an average of 964 pounds. Hay analysis revealed an average crude protein (CP) value of 5.3 percent and TDN of 52 percent. The field was fertilized on May 14 with 150 lb. of Urea (69 units of Nitrogen), 125 lb. Potash (75 units of Potassium), and 20 lb. of Sulfur. A second harvest occurred on June 11 and resulted in 27 bales with an average weight of 1,049 lbs. Hay analysis for the second cutting averaged 11.1 percent CP and 59 percent TDN. A second fertilizer application followed on June 20 with a 50-0-50 blend. Fall Armyworms were detected in early July, and an insecticide treatment was applied on July 6. The third harvest took place on July 30, producing 36 bales averaging 1,009 lbs.; hay quality measured 8.9 percent CP and 55 percent TDN. A second round of armyworm infestation led to an insecticide and herbicide application on Aug. 17. The final cutting occurred on Sept. 21, producing 19 bales with an average weight of 1,267 lbs. and testing at 12.6 percent CP and 59 percent TDN. The season concluded with the Union County hay verification field producing an annual production of 4.9 tons per acre, with total specified costs of $413 per acre and a breakeven price of $84 per ton of hay ($33.60 per 800 lb. bale). Net returns calculated using an estimated hay price of $144 per ton ($57.60 per 800 lb. bale) were $222 per acre.

### VAN BUREN COUNTY

A 44-acre Bermudagrass field near Scotland in Van Buren County was enrolled in the 2024 Hay Verification Program for the third year. A burndown application of 2.2 qts of Pin Dee, 0.8 qts of 50 percent glyphosate, and 1 oz Patriot were made on Feb. 24, 2024 to control winter weeds and prepare for the 2024 season. The field received a green-up application of 153 lb. Urea (46-0-0) and 100 lb. of Potash (0-0-60) per acre on May 13. The field was harvested on June 18, followed by a fertilizer application of 200 lb. Ammonium Nitrate (34-0-0), 100 lb. Potash (0-0-60), and 18 oz of Duracor per acre on June 26. Due to Armyworm and Bermudagrass Stem Maggots, the field was treated with 3.8 oz of Lambda-Cyhalothrin and 2 oz of Demilin per acre on July 19. Additionally, 20 acres received a 1 oz application of Out Rider for Johnsongrass control. A second hay cutting occurred on Aug. 3. Due to statewide oversupply of hay, the producer opted not to apply further fertilizer, focusing instead on weed management. A final herbicide application of 14 oz. glyphosate and 2.8 oz. Rezilon per acre was made on Aug. 14. The Van Buren County field averaged 4.78 tons of hay per acre for the season, with total specified costs of $463 per acre and a breakeven price of $97 per ton ($45 per 932 lb. bale). Based on an estimated hay price of $144 per ton, net returns were calculated at $364 per acre.

### WHITE COUNTY

A 19-acre mixed stand of Bermudagrass and Bahiagrass was enrolled in the 2024 Hay Verification Program. Winter annual broadleaf weeds were controlled with 1 qt./acre of 2,4-D amine applied on March 23, 2024. Soil samples collected on April 3 guided the fertilizer application of 110 lb. Urea and 83 lb. Potash per acre on May 1. The field

was harvested three times: on May 26 (46 bales, avg. 972 lbs.), July 11 (53 bales, avg. 874 lbs.) and Sept. 1 (44 bales, avg. 826 lbs.). The White County hay verification field produced an annual total production of 3.35 tons of hay per acre, with specified costs of $219 per acre and a breakeven price of $65 per ton of hay ($26 per 800 lb. bale). Net returns calculated using an estimated hay price of $144 per ton ($57.60 per 800 lb. bale) were $190 per acre.

**Table 6. Forage species, field size, harvest dates and total yield for the 12 fields participating in the 2024 Hay Verification Program.**

| COUNTY | SPECIES | FIELD SIZE (ACRES) | HARVEST DATES | | | | | YIELD (TONS/AC) |
|---|---|---|---|---|---|---|---|---|
| | | | 1st | 2nd | 3rd | 4th | 5th | |
| Cleveland | Bahiagrass | 20 | May 16 | July 1 | Aug. 8 | Oct. 9 | -- | 4.02 |
| Dallas | Mixed WSG | 12 | June 8 | July 13 | Aug. 15 | -- | -- | 4.36 |
| Drew | Bahiagrass | 6.5 | May 23 | Aug. 1 | Oct. 23 | -- | -- | 4.44 |
| Faulkner | Bermudagrass | 100 | June 6 | July 7 | Aug. 28 | -- | -- | 3.72 |
| Jackson | Mixed WSG | 29 | May 24 | June 28 | Aug. 12 | -- | -- | 3.31 |
| Marion | Bermudagrass | 46 | Jun 14 | Aug. 2 | -- | -- | -- | 3.78 |
| Ouachita | Bermudagrass | 45 | May 18 | June 19 | July 13 | Sept. 21 | -- | 5.28 |
| Scott 1 | Mixed WSG | 35 | July 5 | -- | -- | -- | -- | 2.65 |
| Scott 2 | Mixed WSG | 28 | July 1 | Oct. 20 | -- | -- | -- | 3.74 |
| Union | Mixed WSG | 12 | May 5 | June 11 | July 30 | Sept 21 | -- | 4.9 |
| Van Buren | Bermudagrass | 44 | June 18 | Aug. 14 | -- | -- | -- | 4.78 |
| White | Mixed WSG | 19 | May 26 | July 11 | Sept. 1 | -- | -- | 3.35 |

**Table 7. Fertilizer applications for each applicable timing for the 12 fields participating in the 2024 Hay Verification Program.**

| COUNTY | GREEN-UP | AFTER 1ST HARVEST | AFTER 2ND HARVEST | AFTER 3RD HARVEST |
|---|---|---|---|---|
| | ----------(lb/acre)---------- | | | |
| Cleveland 1 | -- | 125 lb. Urea + 125 lb. Potash | -- | 150 lb. Urea + 150 lb. Potash |
| Dallas | 200 lb. of Am. Nit. +100 lb. of Potash + 20 lb. of Sulfur | 200 lb. of Am. Nit. +100 lb. of Potash | 200 lb. of Am. Nit. +100 lb. of Potash | -- |
| Drew | 180 lb. Urea + 180 lb. Potash + 100 lb. DAP | 180 lb. Urea + 195 lb. Potash + 95 lb. DAP | 270 lb. Urea + 192 lb. Potash + 192 lb. TSP | -- |
| Faulkner | 70 lb. Urea +100 lb. DAP +100 lb. Potash | 100 lb. Urea | -- | -- |
| Jackson | 60 lb. Urea + 80 lb. Potash | 60 lb. Urea + 80 lb. Potash | 100 lb. Urea | -- |
| Marion | 4 Ton Poultry Litter | + 117 lb. Urea +52 lb. Potash | -- | -- |
| Faulkner | June 25 | 0.3 oz Patriot + 1 qt 2,4-D | | -- |
| Ouachita | Data not Recorded | Data not Recorded | Data not Recorded | Data not Recorded |
| Scott 1 | 2 Ton Poultry Litter | -- | -- | -- |
| Scott 2 | 2 Ton Poultry Litter | -- | -- | -- |
| Union | 150 lb. Urea + 125 lb. Potash + 20 lb. Sulfur | 109 lb. Urea + 83lb. Potash | 167 lb. Urea + 50 lb. Potash | -- |
| Van Buren | 153 lb. Urea + 100 lb Potash | 200 lb. Am. Nit. | -- | -- |
| White | 110 lb. Urea +100 lb. Potash | -- | -- | -- |

Urea (46-0-0); Am. Nit. (34-0-0); DAP (18-46-0); TSP (0-46-0); Potash (0-0-60).

**Table 8. Pest management dates and products used for the 12 fields participating in the 2024 Hay Verification Program.**

| COUNTY | DATE | HERBICIDE | INSECTICIDE |
|---|---|---|---|
| | ----------(product/acre)---------- | | |
| Cleveland | -- | -- | -- |
| Dallas | -- | -- | -- |
| Drew | -- | -- | -- |
| Faulkner | Feb. 26 | 22 oz Honcho | -- |
| | July 29 | -- | 2 oz Dimilin |
| | Aug. 6 | -- | 6 oz Besiege |
| Jackson | -- | -- | -- |
| Marion | March 12 | 1 oz Patriot + 1 qt Cornerstone + 5 qt Valcheck Surfact | -- |
| Ouachita | Feb. 17 | 1 oz Pastora | -- |
| | July 6 | -- | 3 oz Lambda Cy + 3 oz Dimilin |
| | Aug. 17 | -- | 3 oz Lambda Cy + 3 oz Dimilin |
| Scott 1 | July 29 | 20 oz Duracor | |
| Scott 2 | July 29 | 20 oz Duracor | |
| Union | July 6 | -- | 3 oz Lambda Cy + 32 oz Diflubenzuron |
| | Aug. 17 | 12 oz Duracor +1 pt 2,4-D Amine | 3 oz Lambda Cy + 32 oz Diflubenzuron |
| Van Buren | Feb. 24 | 2.2 qt Pin-dee | -- |
| | July 19 | -- | 3.8 oz Lambda Cy |
| | Aug. 14 | 14 oz Glyphosate | -- |
| White | Mar. 23 | 1 qt 2,4-D | -- |

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# Appendix
## Farm Budgets

**Table A1. Estimated Costs and Returns per acre, Cleveland County 2024.**

| ITEM | UNIT | PRICE | QUANTITY | Total Amount |
|---|---|---|---|---|
| INCOME | | | | |
| Bahiagrass | tons | $145.00 | 4.02 | $582.26 |
| | | | TOTAL INCOME | $582.26 |
| **DIRECT EXPENSES** | | | | |
| *FERTILIZER* | | | | |
| Urea | lbs | $0.24 | 275 | $66.00 |
| Potash | lbs | $0.24 | 275 | $66.00 |
| *OTHER* | | | | |
| Net Wrap | bale | $1.35 | 10.2 | $13.77 |
| *OPERATOR LABOR* | | | | |
| Tractors | hour | $18.69 | 2.0991 | $39.23 |
| *HAND LABOR* | | | | |
| Implements | hour | $9.06 | 0.0842 | $0.76 |
| *DIESEL FUEL* | | | | |
| Tractors | gal | $2.86 | 11.3448 | $32.45 |
| *REPAIR & MAINTENANCE* | | | | |
| Implements | acre | $31.12 | 1.00 | $31.12 |
| Tractors | acre | $5.34 | 1.00 | $5.34 |
| INTEREST ON OP. CAP. | acre | $7.44 | 1.00 | $7.44 |
| | | | TOTAL DIRECT EXPENSES | $262.11 |
| | | | RETURNS ABOVE DIRECT EXPENSES | $320.15 |
| **FIXED EXPENSES** | | | | |
| Implements | acre | $45.00 | 1.00 | $45.00 |
| Tractors | acre | $39.80 | 1.00 | $39.80 |
| | | | TOTAL FIXED EXPENSES | $84.80 |
| | | | TOTAL SPECIFIED EXPENSES | $346.91 |
| | | | RETURNS ABOVE TOTAL SPECIFIED EXPENSES | $235.35 |

Note: Cost of production estimates are based on 2024 input prices.

**Table A2. Estimated Costs and Returns per acre, Dallas County 2024.**

| ITEM | UNIT | PRICE | QUANTITY | TOTAL AMOUNT |
|---|---|---|---|---|
| INCOME | | | | |
| Mixed grass hay | tons | $145.00 | 4.36 | $632.42 |
| | | | TOTAL INCOME | $295.20 |
| **DIRECT EXPENSES** | | | | |
| *FERTILIZER* | | | | |
| Ammonium Nitrate | lbs | $0.22 | 1200 | $264.00 |
| Potash | lbs | $0.24 | 600 | $144.00 |
| Sulfur | lbs | $0.54 | 40 | $21.60 |
| *INSECTICIDE* | | | | |
| Lambda Cy | oz | $0.34 | 4 | $1.36 |
| *OTHER* | | | | |
| Net Wrap | bale | $1.35 | 9.83 | $13.27 |
| *OPERATOR LABOR* | | | | |
| Tractors | hour | $18.69 | 2.6395 | $49.33 |
| *HAND LABOR* | | | | |
| Implements | hour | $9.06 | 0.4684 | $4.24 |
| *DIESEL FUEL* | | | | |
| Tractors | gal | $2.86 | 8.216 | $23.50 |
| *GASOLINE* | | | | |
| Tractors | gal | $2.96 | 0.1435 | $0.42 |
| *REPAIR & MAINTENANCE* | | | | |
| Implements | acre | $27.36 | 1 | $27.36 |
| Tractors | acre | $3.63 | 1 | $3.63 |
| INTEREST ON OP. CAP. | acre | $19.28 | 1 | $19.28 |
| | | | TOTAL DIRECT EXPENSES | $571.99 |
| | | | RETURNS ABOVE DIRECT EXPENSES | $60.43 |
| **FIXED EXPENSES** | | | | |
| Implements | acre | $42.48 | 1 | $42.48 |
| Tractors | acre | $26.37 | 1 | $26.37 |
| | | | TOTAL FIXED EXPENSES | $68.85 |
| | | | TOTAL SPECIFIED EXPENSES | $640.84 |
| | | | RETURNS ABOVE TOTAL SPECIFIED EXPENSES | $(8.42) |

**Table A3. Estimated Costs and Returns per acre, Drew County 2024.**

| ITEM | UNIT | PRICE | QUANTITY | TOTAL AMOUNT |
|---|---|---|---|---|
| INCOME | | | | |
| Bahiagrass | tons | $145.00 | 4.44 | $643.18 |
| | | | TOTAL INCOME | $643.18 |
| **DIRECT EXPENSES** | | | | |
| *FERTILIZER* | | | | |
| Urea | lbs | $0.25 | 630 | $157.50 |
| Potash | lbs | $0.22 | 567 | $124.74 |
| DAP | lbs | $0.37 | 195 | $72.15 |
| TSP | lbs | $0.31 | 92 | $28.52 |
| *OTHER* | | | | |
| Net Wrap | bale | $1.35 | 11.29 | $15.24 |
| *OPERATOR LABOR* | | | | |
| Tractors | hour | $18.69 | 1.9327 | $36.12 |
| *HAND LABOR* | | | | |
| Implements | hour | $9.06 | 0.2525 | $2.29 |
| *DIESEL FUEL* | | | | |
| Tractors | gal | $2.86 | 10.4457 | $29.87 |
| *REPAIR & MAINTENANCE* | | | | |
| Implements | acre | $33.19 | 1 | $33.19 |
| Tractors | acre | $4.74 | 1 | $4.74 |
| INTEREST ON OP. CAP. | acre | $14.90 | 1 | $14.90 |
| | | | TOTAL DIRECT EXPENSES | $519.26 |
| | | | RETURNS ABOVE DIRECT EXPENSES | $123.92 |
| **FIXED EXPENSES** | | | | |
| Implements | acre | $48.51 | 1 | $48.51 |
| Tractors | acre | $35.45 | 1 | $35.45 |
| | | | TOTAL FIXED EXPENSES | $83.96 |
| | | | TOTAL SPECIFIED EXPENSES | $603.22 |
| | | | RETURNS ABOVE TOTAL SPECIFIED EXPENSES | $39.96 |

**Table A4. Estimated Costs and Returns per acre, Faulkner County 2024.**

| ITEM | UNIT | PRICE | QUANTITY | TOTAL AMOUNT |
|---|---|---|---|---|
| INCOME | | | | |
| Bermudagrass | tons | $ 145.00 | 3.72 | $539.40 |
| | | | TOTAL INCOME | $539.40 |
| **DIRECT EXPENSES** | | | | |
| *FERTILIZER* | | | | |
| Urea | lbs | $0.25 | 170 | $41.65 |
| DAP | lbs | $0.39 | 100 | $39.10 |
| Potash | lbs | $0.24 | 100 | $23.80 |
| *HERBICIDE* | | | | |
| Glyphosate | oz | $0.20 | 22 | $4.29 |
| 2-4,D Amine | qt | $4.00 | 1 | $4.00 |
| Patriot | oz | $4.00 | 0.33 | $1.32 |
| *INSECTICIDE* | | | | |
| Dimilon | oz | $1.95 | 4 | $7.80 |
| Lambda Cy | oz | $0.61 | 8 | $4.88 |
| Besiege | oz | $1.91 | 6 | $11.46 |
| *OTHER* | | | | |
| Net Wrap | bale | $1.35 | 5.67 | $7.65 |
| *ADJUVANTS* | | | | |
| Agri-Dex Crop Oil | oz | $0.20 | 0.08 | $0.02 |
| *CUSTOM SPRAY* | | | | |
| App by Air (5 gal) | appl | $11.54 | 1 | $11.54 |
| *OPERATOR LABOR* | | | | |
| Tractors | hour | $18.69 | 1.571 | $29.36 |
| *DIESEL FUEL* | | | | |
| Tractors | gal | $2.86 | 9.4333 | $26.98 |
| *REPAIR & MAINTENANCE* | | | | |
| Implements | acres | $19.31 | 1 | $19.31 |
| Tractors | acres | $5.18 | 1 | $5.18 |
| INTEREST ON OP. CAP. | acre | $7.27 | 1 | $7.27 |
| | | | TOTAL DIRECT EXPENSES | $245.61 |
| | | | RETURNS ABOVE DIRECT EXPENSES | $293.79 |
| **FIXED EXPENSES** | | | | |
| Implements | acres | $27.74 | 1 | $27.74 |
| Tractors | acres | $38.79 | 1 | $38.79 |
| | | | TOTAL FIXED EXPENSES | $66.53 |
| | | | TOTAL SPECIFIED EXPENSES | $312.14 |
| | | | RETURNS ABOVE TOTAL SPECIFIED EXPENSES | $227.26 |

**Table A.5. Estimated Costs and Returns per acre, Jackson County 2024.**

| ITEM | UNIT | PRICE | QUANTITY | TOTAL AMOUNT |
|---|---|---|---|---|
| INCOME | | | | |
| Mixed grass hay | tons | $145.00 | 3.31 | $479.37 |
| | | | TOTAL INCOME | $479.37 |
| **DIRECT EXPENSES** | | | | |
| *FERTILIZER* | | | | |
| Urea | lbs | $0.64 | 220 | $140.80 |
| Potash | lbs | $0.45 | 240 | $108.00 |
| *OTHER* | | | | |
| Net Wrap | bale | $1.35 | 9.31 | $12.57 |
| *OPERATOR LABOR* | | | | |
| Tractors | hour | $18.69 | 1.7435 | $32.59 |
| *HAND LABOR* | | | | |
| Implements | hour | $9.06 | 0.101 | $0.92 |
| *DIESEL FUEL* | | | | |
| Tractors | gal | $2.86 | 11.6661 | $33.37 |
| *REPAIR & MAINTENANCE* | | | | |
| Implements | acre | $24.09 | 1 | $24.09 |
| Tractors | acre | $7.26 | 1 | $7.26 |
| INTEREST ON OP. CAP. | acre | $7.85 | 1 | $7.85 |
| | | | TOTAL DIRECT EXPENSES | $367.45 |
| | | | RETURNS ABOVE DIRECT EXPENSES | $111.92 |
| **FIXED EXPENSES** | | | | |
| Implements | acre | $35.10 | 1 | $35.10 |
| Tractors | acre | $54.39 | 1 | $54.39 |
| | | | TOTAL FIXED EXPENSES | $89.49 |
| | | | TOTAL SPECIFIED EXPENSES | $456.94 |
| | | | RETURNS ABOVE TOTAL SPECIFIED EXPENSES | $22.43 |

**Table A6. Estimated Costs and Returns per acre, Marion County 2024.**

| ITEM | UNIT | PRICE | QUANTITY | TOTAL AMOUNT |
|---|---|---|---|---|
| INCOME | | | | |
| Bermudagrass | tons | $145.00 | 3.78 | $548.69 |
| | | | TOTAL INCOME | $548.69 |
| **DIRECT EXPENSES** | | | | |
| *FERTILIZER* | | | | |
| Poultry Litter | tons | $25.00 | 4 | $100.00 |
| Urea + Potash | lb | $0.32 | 348 | $111.36 |
| *HERBICIDE* | | | | |
| Patriot | oz | $3.68 | 1 | $3.68 |
| Cornerstone | qt | $5.99 | 1 | $5.99 |
| *OTHER* | | | | |
| Net Wrap | bale | $1.35 | 8.69 | $11.73 |
| *ADJUVANTS* | | | | |
| Valcheck | qt | $5.30 | 0.11 | $0.58 |
| *CUSTOM FERT* | | | | |
| Custom Spread(Truck) | appl | $7.50 | 1 | $7.50 |
| *OPERATOR LABOR* | | | | |
| Tractors | hour | $18.69 | 1.3908 | $25.99 |
| *HAND LABOR* | | | | |
| Implements | hour | $9.06 | 0.1685 | $1.53 |
| *DIESEL FUEL* | | | | |
| Tractors | gal | $2.86 | 7.119 | $20.36 |
| *REPAIR & MAINTENANCE* | | | | |
| Implements | acre | $20.65 | 1 | $20.65 |
| Tractors | acre | $3.13 | 1 | $3.13 |
| INTEREST ON OP. CAP. | acre | $10.28 | 1 | $10.28 |
| | | | TOTAL DIRECT EXPENSES | $322.78 |
| | | | RETURNS ABOVE DIRECT EXPENSES | $225.91 |
| **FIXED EXPENSES** | | | | |
| Implements | acre | $30.87 | 1 | $30.87 |
| Tractors | acre | $23.45 | 1 | $23.45 |
| | | | TOTAL FIXED EXPENSES | $54.32 |
| | | | TOTAL SPECIFIED EXPENSES | $377.10 |
| | | | RETURNS ABOVE TOTAL SPECIFIED EXPENSES | $171.59 |

**Table A7. Estimated Costs and Returns per acre, Ouachita County 2024.**

| ITEM | UNIT | PRICE | QUANTITY | TOTAL AMOUNT |
|---|---|---|---|---|
| INCOME | | | | |
| Bermudagrass | tons | $145.00 | 5.28 | $765.16 |
| | | | TOTAL INCOME | $765.16 |
| **DIRECT EXPENSES** | | | | |
| *FERTILIZER* | | | | |
| Fert Bulk Mix | lbs | $0.23 | 900 | $207.00 |
| *HERBICIDE* | | | | |
| Pastora | oz | $20.00 | 1 | $20.00 |
| *INSECTICIDE* | | | | |
| Lambda Cy + Dimilin | oz | $1.46 | 12 | $17.52 |
| *OTHER* | | | | |
| Net Wrap | bale | $1.35 | 12.3 | $16.61 |
| *OPERATOR LABOR* | | | | |
| Tractors | hour | $18.69 | 2.4887 | $46.51 |
| *HAND LABOR* | | | | |
| Implements | hour | $9.06 | 0.3652 | $3.31 |
| *DIESEL FUEL* | | | | |
| Tractors | gal | $2.86 | 10.7912 | $30.86 |
| *REPAIR & MAINTENANCE* | | | | |
| Implements | acres | $38.26 | 1 | $38.26 |
| Tractors | acres | $4.68 | 1 | $4.68 |
| INTEREST ON OP. CAP. | acres | $15.19 | 1 | $15.19 |
| | | | TOTAL DIRECT EXPENSES | $399.94 |
| | | | RETURNS ABOVE DIRECT EXPENSES | $365.22 |
| **FIXED EXPENSES** | | | | |
| Implements | acres | $56.64 | 1 | $56.64 |
| Tractors | acres | $35.10 | 1 | $35.10 |
| | | | TOTAL FIXED EXPENSES | $91.74 |
| | | | TOTAL SPECIFIED EXPENSES | $491.68 |
| | | | RETURNS ABOVE TOTAL SPECIFIED EXPENSES | $273.48 |

**Table A8. Estimated Costs and Returns per acre, Scott County Field A 2024.**

| ITEM | UNIT | PRICE | QUANTITY | TOTAL AMOUNT |
|---|---|---|---|---|
| INCOME | | | | |
| Mixed grass hay | tons | $145.00 | 2.65 | $383.53 |
| | | | TOTAL INCOME | $383.53 |
| **DIRECT EXPENSES** | | | | |
| *CUSTOM* | | | | |
| Custom Harvest | bales | $25.00 | 6.29 | $157.25 |
| *FERTILIZER* | | | | |
| Poultry Litter | tons | $25.00 | 2 | $50.00 |
| *HERBICIDE* | | | | |
| Duracor | oz | $0.78 | 20 | $15.60 |
| *CUSTOM FERT* | | | | |
| Custom Spread(Truck) | appl | $7.50 | 1 | $7.50 |
| *OPERATOR LABOR* | | | | |
| Tractors | hour | $18.69 | 0.0677 | $1.27 |
| *HAND LABOR* | | | | |
| Implements | hour | $9.06 | 0.0338 | $0.31 |
| *DIESEL FUEL* | | | | |
| Tractors | gal | $2.86 | 0.3658 | $1.05 |
| *REPAIR & MAINTENANCE* | | | | |
| Implements | acres | $0.18 | 1 | $0.18 |
| Tractors | acres | $0.17 | 1 | $0.17 |
| INTEREST ON OP. CAP. | acres | $8.26 | 1 | $8.26 |
| | | | TOTAL DIRECT EXPENSES | $241.59 |
| | | | RETURNS ABOVE DIRECT EXPENSES | $141.94 |
| **FIXED EXPENSES** | | | | |
| Implements | acres | $0.27 | 1 | $0.27 |
| Tractors | acres | $1.28 | 1 | $1.28 |
| | | | TOTAL FIXED EXPENSES | $1.55 |
| | | | TOTAL SPECIFIED EXPENSES | $243.14 |
| | | | RETURNS ABOVE TOTAL SPECIFIED EXPENSES | $140.39 |

**Table A9. Estimated Costs and Returns per acre, Scott County Field B 2024.**

| ITEM | UNIT | PRICE | QUANTITY | TOTAL AMOUNT |
|---|---|---|---|---|
| INCOME | | | | |
| Mixed grass hay | tons | $145.00 | 3.74 | $542.75 |
| | | | TOTAL INCOME | $542.75 |
| **DIRECT EXPENSES** | | | | |
| *CUSTOM* | | | | |
| Custom Harvest | bales | $25.00 | 8.14 | $203.50 |
| *FERTILIZER* | | | | |
| Poultry Litter | tons | $14.00 | 2 | $28.00 |
| *HERBICIDE* | | | | |
| Duracor | oz | $0.78 | 20 | $15.60 |
| *OPERATOR LABOR* | | | | |
| Tractors | hour | $18.69 | 0.0677 | $1.27 |
| *HAND LABOR* | | | | |
| Implements | hour | $9.06 | 0.0338 | $0.31 |
| *DIESEL FUEL* | | | | |
| Tractors | gal | $2.86 | 0.2613 | $0.75 |
| *REPAIR & MAINTENANCE* | | | | |
| Implements | acres | $0.18 | 1 | $0.18 |
| Tractors | acres | $0.10 | 1 | $0.10 |
| INTEREST ON OP. CAP. | acres | $7.57 | 1 | $7.57 |
| | | | TOTAL DIRECT EXPENSES | $257.28 |
| | | | RETURNS ABOVE DIRECT EXPENSES | $285.47 |
| **FIXED EXPENSES** | | | | |
| Implements | acres | $0.27 | 1 | $0.27 |
| Tractors | acres | $0.76 | 1 | $0.76 |
| | | | TOTAL FIXED EXPENSES | $1.03 |
| | | | TOTAL SPECIFIED EXPENSES | $258.31 |
| | | | RETURNS ABOVE TOTAL SPECIFIED EXPENSES | $284.44 |

**Table A10. Estimated Costs and Returns per acre, Union County 2024.**

| ITEM | UNIT | PRICE | QUANTITY | TOTAL AMOUNT |
|---|---|---|---|---|
| INCOME | | | | |
| Mixed grass hay | tons | $145.00 | 4.90 | $710.77 |
| | | | TOTAL INCOME | $710.77 |
| **DIRECT EXPENSES** | | | | |
| *FERTILIZER* | | | | |
| Urea | lbs | $0.24 | 425 | $102.00 |
| Potash | lbs | $0.24 | 258 | $61.92 |
| Sulfur | lbs | $0.54 | 20 | $10.80 |
| *HERBICIDE* | | | | |
| Duracor | oz | $0.82 | 12 | $9.84 |
| 2,4-D amine | pt | $5.00 | 1 | $5.00 |
| *INSECTICIDE* | | | | |
| Lambda Cy | oz | $0.51 | 6 | $3.06 |
| Diflubenzuron | oz | $1.06 | 6 | $6.36 |
| *OTHER* | | | | |
| Twine | bun | $33.50 | 0.176 | $5.90 |
| *OPERATOR LABOR* | | | | |
| Tractors | hour | $18.69 | 2.5587 | $47.82 |
| *HAND LABOR* | | | | |
| Implements | hour | $9.06 | 0.189 | $1.71 |
| *DIESEL FUEL* | | | | |
| Tractors | gal | $2.86 | 10.0712 | $28.80 |
| *REPAIR & MAINTENANCE* | | | | |
| Implements | acres | $32.88 | 1 | $32.88 |
| Tractors | acres | $4.34 | 1 | $4.34 |
| INTEREST ON OP. CAP. | acres | $11.98 | 1 | $11.98 |
| | | | TOTAL DIRECT EXPENSES | $332.41 |
| | | | RETURNS ABOVE DIRECT EXPENSES | $378.36 |
| **FIXED EXPENSES** | | | | |
| Implements | acres | $47.92 | 1 | $47.92 |
| Tractors | acres | $32.39 | 1 | $32.39 |
| | | | TOTAL FIXED EXPENSES | $80.31 |
| | | | TOTAL SPECIFIED EXPENSES | $412.72 |
| | | | RETURNS ABOVE TOTAL SPECIFIED EXPENSES | $298.05 |

**Table A11. Estimated Costs and Returns per acre, Van Buren County 2024.**

| ITEM | UNIT | PRICE | QUANTITY | TOTAL AMOUNT |
|---|---|---|---|---|
| INCOME | | | | |
| Berm Tifton/Common | tons | $145.00 | 4.78 | $693.15 |
| | | | TOTAL INCOME | $693.15 |
| **DIRECT EXPENSES** | | | | |
| *FERTILIZER* | | | | |
| Urea | lbs | $0.25 | 153 | $38.25 |
| Potash | lbs | $0.24 | 200.5 | $48.12 |
| Ammonium Nitrate | lbs | $0.25 | 200 | $49.60 |
| *HERBICIDE* | | | | |
| 50% Glyphosate | qts | $15.00 | 0.8 | $12.00 |
| Pendimethalin | pt | $6.63 | 4.4 | $29.17 |
| Patriot + Surfactant | oz | $3.68 | 7 | $25.76 |
| DuraCor | oz | $2.76 | 18 | $49.64 |
| Outrider | oz | $17.50 | 1 | $17.50 |
| 41% Glyphosate | oz | $0.17 | 14 | $2.38 |
| Rezilon | oz | $9.68 | 2.8 | $27.10 |
| *INSECTICIDE* | | | | |
| Lambda Cy | oz | $0.39 | 3.8 | $1.48 |
| Dimilon | oz | $0.70 | 2 | $1.40 |
| *OTHER* | | | | |
| Net Wrap | bale | $1.35 | 5.14 | $6.94 |
| *ADJUVANTS* | | | | |
| Surfactant | oz | $0.66 | 6 | $3.96 |
| *CUSTOM FERT* | | | | |
| Custom Spread(Truck) | appl | $7.50 | 2 | $15.00 |
| *OPERATOR LABOR* | | | | |
| Tractors | hour | $18.69 | 1.216 | $22.73 |
| *HAND LABOR* | | | | |
| Implements | hour | $9.06 | 0.1015 | $0.92 |
| *DIESEL FUEL* | | | | |
| Tractors | gal | $2.86 | 7.6257 | $21.81 |
| *REPAIR & MAINTENANCE* | | | | |
| Implements | acre | $12.66 | 1 | $12.66 |
| Tractors | acre | $4.47 | 1 | $4.47 |
| INTEREST ON OP. CAP. | acre | $8.84 | 1 | $8.84 |
| | | | TOTAL DIRECT EXPENSES | $399.73 |
| | | | RETURNS ABOVE DIRECT EXPENSES | $293.42 |
| **FIXED EXPENSES** | | | | |
| Implements | acre | $29.47 | 1 | $29.47 |
| Tractors | acre | $33.64 | 1 | $33.64 |
| | | | TOTAL FIXED EXPENSES | $63.11 |
| | | | TOTAL SPECIFIED EXPENSES | $462.84 |
| | | | RETURNS ABOVE TOTAL SPECIFIED EXPENSES | $230.31 |

**Table A12. Estimated Costs and Returns per acre, White County 2024.**

| ITEM | UNIT | PRICE | QUANTITY | TOTAL AMOUNT |
|---|---|---|---|---|
| INCOME | | | | |
| Mixed grass hay | tons | $145.00 | 3.35 | $486.09 |
| | | | TOTAL INCOME | $486.09 |
| **DIRECT EXPENSES** | | | | |
| *FERTILIZER* | | | | |
| Urea | lbs | $0.25 | 110 | $27.17 |
| Potash | lbs | $0.25 | 100 | $24.70 |
| *HERBICIDE* | | | | |
| 2,4-D | qt | $5.83 | 1 | $5.83 |
| *OTHER* | | | | |
| Net Wrap | bale | $1.35 | 7.53 | $10.17 |
| *OPERATOR LABOR* | | | | |
| Tractors | hour | $18.69 | 1.6691 | $31.20 |
| *HAND LABOR* | | | | |
| Implements | hour | $9.06 | 0.0656 | $0.59 |
| *DIESEL FUEL* | | | | |
| Tractors | gal | $2.86 | 8.5612 | $24.49 |
| *REPAIR & MAINTENANCE* | | | | |
| Implements | acre | $23.18 | 1 | $23.18 |
| Tractors | acre | $4.00 | 1 | $4.00 |
| INTEREST ON OP. CAP. | acre | $4.74 | 1 | $4.74 |
| | | | TOTAL DIRECT EXPENSES | $156.07 |
| | | | RETURNS ABOVE DIRECT EXPENSES | $330.02 |
| **FIXED EXPENSES** | | | | |
| Implements | acre | $33.38 | 1 | $33.38 |
| Tractors | acre | $29.82 | 1 | $29.82 |
| | | | TOTAL FIXED EXPENSES | $63.20 |
| | | | TOTAL SPECIFIED EXPENSES | $219.27 |
| | | | RETURNS ABOVE TOTAL SPECIFIED EXPENSES | $266.82 |

# Notes

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
*University of Arkansas System*

United States Department of Agriculture, University of Arkansas, and County Governments Cooperating



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