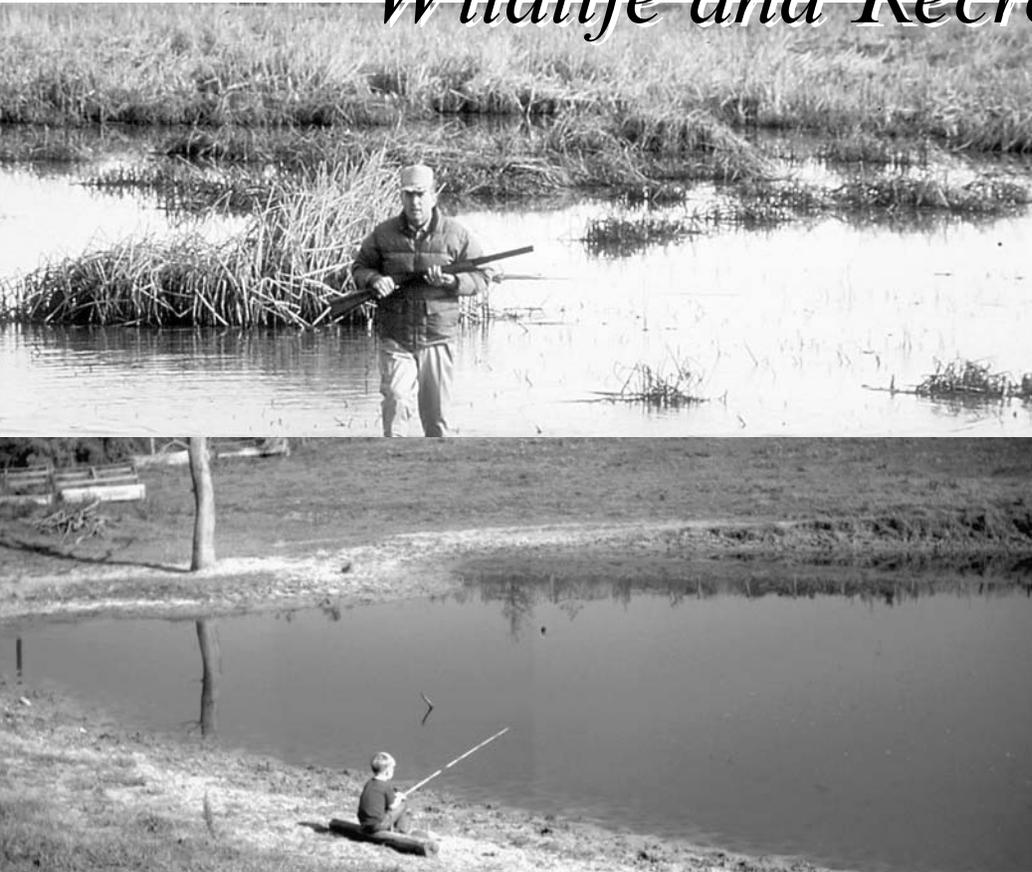


# NATURAL RESOURCE ENTERPRISES

## *Wildlife and Recreation*



## MOURNING DOVE MANAGEMENT FOR LANDOWNERS

For landowners interested in starting a natural resource-based alternative enterprise in the Southeast, managing fields planted to food plots for use by mourning doves (*Zenaida macroura*), and other wildlife species can be an attractive option.

One thing that makes it an attractive option is that it is not necessary to obligate large land areas to have a successful dove field. Other positive aspects include the small financial investment required, the direct and indirect benefits to other wildlife species, and the high level of social interaction and tradition associated with dove hunting.

The mourning dove is the most popular game bird in the country, with an annual harvest greater than all other game birds combined. In Mississippi, the mourning dove annual harvest is greater than any other game bird species. It is the number two most hunted small game species, second only to squirrels in numbers of hunters. Its quick flight, erratic movement, and its quality for eating make it popular among both hunters and wildlife enthusiasts.

Managing for doves can provide landowners enjoyment and an alternative source of income in the fall and winter.

NATURAL RESOURCE ENTERPRISES

## LIFE HISTORY

Mourning doves are medium-sized migratory birds that range from Alaska to most of South America. Recent surveys estimate there are approximately 500 million doves in the United States. Their song is a low-toned, mournful cooah, coo, coo, coo. The call of doves is a common sound in rural and suburban backyards, although it can easily go unnoticed. Although mourning doves are migratory birds, they will stay in warm climates, such as Mississippi, year-round. Whether they migrate or stay in one place year-round depends on their habitat and forage needs being met and the early winter's not being too severe.

Doves return to their breeding grounds in late winter. If there is an unusually heavy snowfall or temperatures near zero, many birds may die from freezing or not being able to find food. In Mississippi, early migrants may begin nesting as early as late February, and nesting increases through April. Clutch size averages two eggs per nesting cycle but can be as many as four eggs. For the first three days after the young hatch, the parents feed them crop milk, a highly nutritious liquid. After this, the young are fed seeds. The mourning dove nesting cycle takes approximately 33 days, beginning with nest building and incubation and ending with the fledglings leaving the nest. To maintain population numbers, pairs of birds try five or six nestings and often produce three or four broods in three to six nesting cycles per year. Generally five or six young will be raised per pair each year.

Mourning doves have a short lifespan, living on average just longer than one year. The mortality rate for first-year doves is between 60 and 75 percent, and adults have an average mortality rate of 50 to 60 percent. This is similar to rabbit, quail, and many other small game wildlife species. Because of their naturally high mortality rate, many doves that are not taken by hunters will die over the course of winter because of exposure, disease, or starvation. Hunters can annually harvest 15 percent of the mourning doves in the fall seasons without impacting the population as a whole.

Other doves that may be found using managed dove fields in the Southeastern United States include the Eurasian collared-dove (*Streptopelia decaocto*) and the ringed turtle-dove (*Streptopelia*

*risoria*). The Eurasian collared-dove (considered an exotic species) is becoming fairly common in some areas because of its rapid colonization of different parts of North America. The domesticated ringed turtle-dove is much less common and seems to be less capable of increasing its population once released into the wild. Both these species are most often observed in and around cities or suburban areas, but recently the Eurasian collared-dove has been found in rural areas where doves are hunted.

State regulations vary from state to state as to taking these exotic species during migratory bird hunting seasons. Be sure to check with your state wildlife agency regulations before taking such birds during regulated dove hunting seasons. Currently (2004) in Mississippi, you can harvest the Eurasian collared-dove during dove seasons, and this does not count against the specified bag limit of mourning doves.

The Eurasian collared-dove is considerably larger than the native mourning dove, has squared rather than pointed tail feathers, and is pale in color overall as compared to a mourning dove. Seen flying near each other, it is quite easy to tell the difference in species. The ringed turtle-dove is smaller than the Eurasian collared-dove but still slightly larger than the native mourning dove. The colors of this domesticated dove vary, but the overall appearance is usually very pale, almost white, and is very much different in coloration from the native mourning dove. Although the Eurasian collared-dove is larger, and paler, and its flight pattern is slightly different from that of mourning doves, when prepared for the table in the same manner as mourning doves, the taste is very similar.

For information about proper care of harvested doves in the field and preparation for freezing and for the table, contact the MSU Extension Wildlife and Fisheries Office at (662) 325-3174 or check the website: <http://msucares.com/wildfish/>.

## HABITAT AND FOOD

About the only things mourning doves eat are seeds and plants, although doves will sometimes eat insects. Their main diet is seeds from agricultural crops (grains), native grasses, and weeds. Mourning doves are poor scratchers and will not scratch for seeds. They feed primarily on open ground.

## PLANTING AND HARVESTING

Fields prepared for doves need to have some disked open areas to keep weeds from becoming established and going to seed. When managing your land for mourning doves, try to have foraging habitat near nesting sites. Doves will travel for food, but they prefer local food sources.

In Mississippi, nesting space is generally not a limiting factor. The preferred nesting habitat for doves is in trees or tall shrubs with an average height of 15 feet from the ground. A nesting site needs to provide cover from predators as well as protection from the sun in summer months and cold in late winter or early spring. In late winter, early nesting doves prefer coniferous trees for nesting to hide them from predators.

Doves require fresh water for drinking. There must be a pond, puddle, or stream near their nesting sites for access to fresh water daily, ideally in the morning and evening. The water source should be in an area with little vegetation. This gives them easy access to the water's edge and good visibility to be able to drink and watch for predators at the same time.

Mourning doves prefer seeds from the following plant species:

American sweetgum	Japanese millet
barley	Johnsongrass
barnyard grass	lespedeza
bristlegrass	pine seed
browntop millet	poke weed
buckwheat	primrose millet
Carolina cranebill	rye
common ragweed	sedges
corn	sesame
cowpeas	soybean
croton	Sudan grass
crowfoot	sunflower
Egyptian wheat	wheat
dove proso millet	wild peas
grain sorghum	

You should begin preparing a field that will provide food for doves and other wildlife species in early spring. By the time late summer arrives, some grains will have begun to shatter to provide food for the returning doves now beginning to flock to available food sources.

Plant a variety of grains, such as sunflower, browntop millet, and sorghum to increase the seed availability to the doves from early fall through winter. As an example, Mississippi Department of Wildlife, Fisheries, and Parks, in cooperation with Mississippi State University Extension Service, planted a demonstration field in 2003. The demonstration field alternated rows of browntop millet, sunflower, and bare ground. Two weeks before dove season, the rows between the millet and sunflower were disked to create bare ground that removed weeds that had grown since planting and provided open areas for doves to alight for feeding and to find grit. Also, leaving bare ground between rows made finding downed birds much easier for the hunters.

Here is a suggested planting sequence for mourning doves: Plant two strips of browntop millet, disk one strip for bare ground, plant one strip of sunflower, disk one strip for bare ground, and so forth. Repeat this sequence throughout the field.

- browntop millet
- browntop millet
- bare ground
- sunflower
- bare ground
- browntop millet
- browntop millet
- bare ground
- sunflower
- bare ground
- browntop millet
- browntop millet

If you plan to harvest grain crops, leave several rows unharvested, to provide seed through the winter for birds and other wildlife. Browntop millet will reseed if not disturbed or manipulated and allowed to mature. Simply disk the field lightly in the spring and fertilize. The millet seed left behind from the previous year will germinate and provide a good stand that can substantially lower your second-year planting costs. If you leave unharvested strips of millet and sunflower, this will provide food and cover for returning doves, coinciding with the split second and third hunting seasons.

Disk unplanted strips two to three weeks before dove season to ensure the open ground doves prefer to alight and walk around on. Disking also lets doves get to the seed that has shattered and is on the ground next to the planted strips. Disking at least two weeks ahead gives the birds enough time to recover from this habitat disturbance. For further information on the feeding preferences and planting recommendations for mourning doves and other wildlife species of the Southeast, see the Wildlife Food-Planting Guide for the Southeast, Extension Publication 2111.

If you don't want to use sunflower, either because of competing wildlife, such as deer eating the sunflower, or for some other reason, substitute a nonbird resistant variety of grain sorghum, milo, or Egyptian wheat. To correct a serious anticipated weed problem before planting, using Extension herbicide recommendations for selective species control as provided in Publication 1532, the 2004 Weed Control Guidelines for Mississippi.

## ESTIMATED COSTS

Costs for preparing a dove food plot as a wildlife enterprise will vary greatly, depending on the type of seed you plant, how you manage the standing crop, whether you provide cold drinks and water or other amenities to the hunters, whether you provide flagged stands, and if you will provide a meal and/or lodging after the hunt. To recover costs and make a profit, you should think about all of these factors when deciding what you will charge to hunt on your land.

You can use the following figures to calculate the cost of preparing a dove field: plant browntop millet at a rate of 8 pounds per acre if drilled, 10

pounds per acre if broadcast; and for best results, have a soil test before planting to determine the right fertilizer and possibly lime that will need to be added. If you don't have a soil test, 300 pounds per acre of 6-12-12 fertilizer for the browntop millet and 13-13-13 for the sunflower will be adequate on most soils.

An average 10-acre field of browntop millet and sunflower planted in strips will have the following estimated costs: seed will cost \$10 to \$12 per acre (varies, depending on time of the year you buy it, variety, and brand). Fertilizer prices can range from \$350 to \$400, depending on the fertility of the soil. Lime prices vary from \$45 to \$60 per ton (depending on the quality of the soil, it is best to have this tested before planting). Equipment and labor is estimated at \$30/hr for 8 hours of preparation, planting, and disking before season, or a total of \$240. Estimated total cost: \$700 (this is probably a higher estimate than average). Cost of herbicide applications, if needed, would be added to these costs.

## LIABILITY INSURANCE

Liability is a real concern for landowners allowing access to their land. Landowners who charge a fee need more protection for themselves and the hunters or other recreational users who access their land. If there is any doubt as to the potential for litigation from allowing fee access for dove hunting or other recreational use, it is advisable to seek the advice and counsel of an attorney. You can buy liability insurance separately or add it as a rider to an operation policy you already have. Consider developing a waiver or including a release agreement that must be signed by everyone who hunts on your property. If there are any risk factors, such as old well sites, downed power lines, dead trees that may fall, or other risks that could be seen as landowner negligence, you should inform users or solve the problems before allowing access to your property.

When getting insurance, you should be aware that liability insurance covers loss caused by negligence but not loss caused by a willful act of the insured. Negligence is one of the conditions that can be greatly reduced on most private lands through risk planning. Anyone who allows public use of his or her land for recreational use, whether

or not a fee is charged for access and/or use of the property, should consider getting sufficient liability insurance coverage. Liability insurance companies generally limit the total liability of the insurance company to a specific sum per occurrence, which may be much less than the liability incurred by the insured, but it does reduce the risk of loss.

If you already have insurance on your property, you can work with your present insurer to see if a rider can be added as a supplement to the policy you already have to get adequate liability coverage. Others who plan to lease their land to an individual or group may require the lessee(s) to get liability insurance as a part of their written lease agreements. A number of insurance companies offer a rider for coverage of public recreational use or for hunting clubs. If you have questions about the need for liability insurance for the type of natural-resource enterprise you are considering, you may want to consult your attorney.

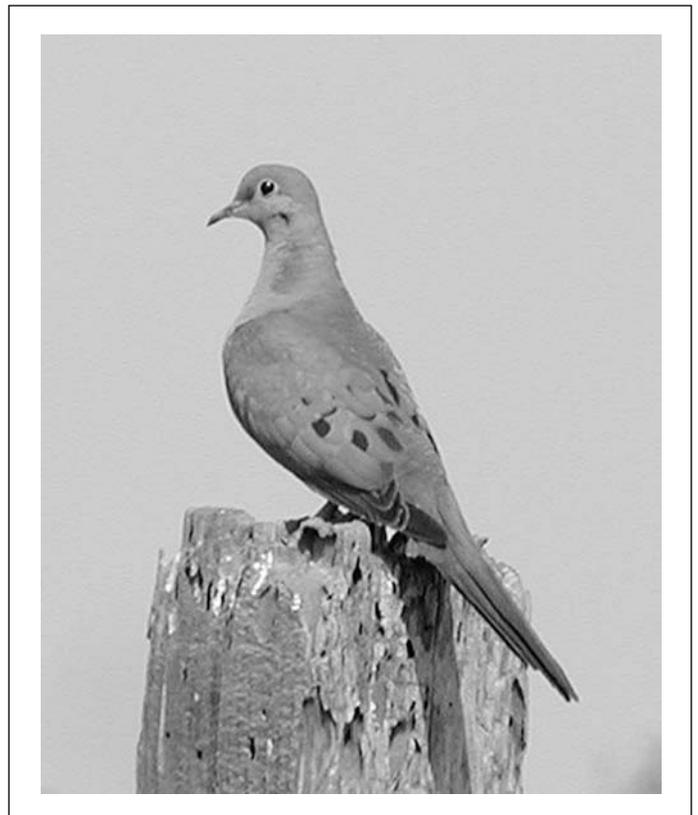
## REGULATIONS

The mourning dove is a federally-regulated migratory bird, but because it is also a widely hunted game species, it requires certain restrictions on hunting. When you are hunting mourning doves, the maximum allowed bore size of a shotgun is 10 gauge, the shotgun must not hold more than three shells at any given time, and it is illegal to use bait or live decoys to attract doves. Federal regulation requires that grains used to attract doves must be planted in a standard agricultural manner. Changing the field after the grain has matured, by disking or bush hogging is allowed, as long as you don't add grain of any type to the field. It is illegal to place piles of grain or to add other grain of any type into the field. If there is any question about the way grain in the field has been manipulated, you can contact the U.S. Fish and Wildlife Service enforcement agent or State Wildlife Agency enforcement officers and ask them to conduct a field check before hunting season to make sure you comply with existing regulations.

It is important for all hunters who will be allowed access to your land to know the rules and regulations that apply to the hunt, and it is essential they abide by them. Have all hunters show up at a set time and location before they enter the field to

discuss rules and regulations you expect them to obey while on your property. This discussion would include the following:

1. Inform hunters of shooting hours, for example: 30 minutes before sunrise until sunset. Plan either a morning or afternoon shoot, but do not allow both the first day, or you will find yourself having birds stay around only a very short while. To keep birds returning to a prepared field, set up morning or afternoon hunts only once or twice a week and never on two days in a row. Ideally, it is best to alternate one hunt per week in the morning and, if desired, another in the afternoon later on in the week.
2. To avoid confusion and potential over harvesting of the birds coming to the field, all hunters who are finished shooting or who have shot their limit should leave the field as soon as possible afterward. The legal bag limit is 15 mourning doves in Mississippi, and the possession limit is 30, except on the first day of the season. The possession limit is not allowed on the first day of any of the three separate hunting seasons.
3. Legally, shotguns must not be able to hold more than three shells at any time when hunting doves (one in the chamber and two in the magazine



of pumps and semi-automatics). When hunting doves, except for use of side by side, over and under, or single shot shotguns, the hunter must plug his shotgun so that not more than two shells can be inserted into the magazine.

4. Hunters must have a valid state hunting license that is signed and on their person before going into the field or qualify for an exemption as dictated by the Mississippi Department of Wildlife, Fisheries, and Parks.

For comprehensive regulation information on mourning doves in Mississippi, contact the Mississippi Department of Wildlife, Fisheries, and Parks, Wildlife Division, 1505 Eastover Drive, Jackson, MS 39211. Website: [www.mdwfp.com](http://www.mdwfp.com).

## SAFETY

Safety is paramount to having an enjoyable dove hunt. Few things will sour hunter enthusiasm or enjoyment faster than being cited for a violation or having a hunter shot by another hunter shooting at a low-flying bird.

The following simple rules of thumb will help your hunt go smoothly and safely:

- ✓ Keep hunters separated a safe distance, which is at least 100 yards between hunters.
- ✓ Remind hunters never to shoot at low-flying birds or birds that alight in the field because of the danger of shooting a fellow hunter.
- ✓ Recommend that all hunters wear protective glasses.
- ✓ Never allow anyone in the field to drink or take alcohol into the field during shooting hours.

## OTHER CONSIDERATIONS

Managing a dove field properly will provide many hours of shooting enjoyment as well as doves harvested for the grill or skillet. When designing your management strategy, include posting small signs with station numbers, and request that hunters stay near their posts while shooting. This will keep hunters from clustering in hot spots, such as areas where most birds fly into the field, which could lead to a hunting accident.

You need to post starting and ending times for morning and evening shoots, and hunters need to

follow them. The earlier all shooters leave a field, the more likely birds will keep returning to the field as long as food continues to be available. For example, hunters who begin shooting 30 minutes before sunrise and leave by 9:30 a.m. or earlier will enable doves to return to the field to feed. However, if doves are shot in the field until noon, many of the birds will find other places to feed. The more time hunters spend shooting doves in your field, the higher the likelihood that the number of returning birds will decrease significantly. The same principles also apply for afternoon hunts. While the birds may fly later in the afternoon on very hot days, it is still best to leave the field as soon as possible to let the birds return to feed before sunset. Once a shooter reaches his bag limit and leaves the field, invite another shooter to move to the empty station if he wants to, to increase his chance for shots.

If you want to shoot your dove field twice per week, it is best to space the hunts apart, for example on a Saturday, and either a Tuesday or Wednesday. Keeping hunts three or more days apart and limiting the number of hours hunters are in the field should keep birds returning to the field through the season.

## FINDING DOWNED BIRDS

It is important for dove management, as well as good sportsmanship, that you make every effort to find downed birds. If you have a retriever, this should be easy. Let the dog do the work for you. Without a dog, though, more effort is needed. One strategy is to stop every time you shoot a bird and remove your shells. Do not reload until you find the downed bird to ensure you are not tempted to take another bird, thus having two birds down in different places. Disking strips into your field will also be helpful. It will let you see into the rows of vegetation and more easily find the downed bird.

## ADVICE FOR HUNTERS

You should be ready to answer questions from novice hunters regarding hunting basics. When advising an inexperienced hunter, suggest he aim for birds within 20 to 30 yards, and pick shots based on his level of skill. The hunter's ability will determine how much time is needed in the field and how many

shots he takes to bag his limit. On average, a hunter will use about 75 shells to reach a 15-bird bag limit. This will vary greatly, based on experience and shooting skill. An excellent hunter skilled in wing-shooting may use 25 shells or fewer to take his limit.

The shot size, shotgun action type, and gauge are mostly based on personal preference. Most hunters select small shot sizes from 7 1/2 to 9's. The main point is that doves do not require magnum loads or large-sized shot. Also, shooting a light recoiling shotgun will make a large difference by the end of the hunt for a new hunter's comfort.

For the average hunter, shotgun choke is also a personal choice. Skeet or improved cylinder choke is generally more than enough for shooting doves. For a double gun, ideal chokes are improved cylinder and modified.

## COMFORT AND FEES CHARGED

The first season is generally quite hot, and it is advisable for hunters to wear either camo or dull colored clothing. Besides dressing light, you may want to carry a small ice chest filled with cold water and sodas for drinking while in the field.

Depending on the facilities and fees charged, some landowners choose to provide water, soda, and/or a meal for the hunters. The costs to hunters can vary from as low as \$10 per shooter per hunt to more than \$100, depending on costs and amenities the landowner has provided to the hunters. To recover costs of preparing a dove field, landowners must know those costs. Some landowners with lodging and dining facilities offer package hunts for corporate or other groups at appropriate costs, which may be more than \$250 per hunter and may have facilities for a morning fishing trip and afternoon hunt

Currently, the most common prices seen advertised for a half-day dove hunt in Mississippi range from \$10 per hunter to \$150 per hunter. Again, this varies, depending on the services and amenities provided, and whether the hunt will be on land prepared by the landowner as a dove food plot or simply a harvested corn or wheat field.

## HUNTER EXPECTATIONS

When paying to enter a dove field, hunters should expect the following:

- ✓ Everyone entering the field will practice safe hunting conditions. You won't know this unless all other hunters are friends who you know are experienced and ethical hunters.
- ✓ The landowner, or someone in charge of the hunt, should provide ground rules that include what the field size is limited to and where the property lines are.
- ✓ Alcoholic beverages are prohibited from the field during the hunt.
- ✓ All hunters have been informed not to shoot at low-flying birds or birds alighting in the field because of risk of shooting another hunter.
- ✓ Legal shooting hours will be adhered to.
- ✓ All hunters will make every possible effort to find all downed birds.
- ✓ Bag limits will be strictly adhered to.
- ✓ Harvested doves will not be cleaned in the field.
- ✓ Hunters will collect and take spent shells out of the field for proper disposal when they are finished shooting.
- ✓ Hunters will stay within the general area of their stations except to find downed birds.
- ✓ Hunters are expected to leave the field when they have taken their bag limit of birds, when they tire of shooting, or at a set time (when hunting in the morning – 9:30 to 10:00 a.m., no later than 15 minutes before sun set if hunting in the afternoon).
- ✓ If water or cold drinks are provided, how often will such beverages be provided.
- ✓ Everyone will be required to plug repeating shotguns to prevent their holding more than two shells in the magazine.



This publication is provided as an educational tool and reference source and is not a substitute for individualized legal advice regarding liability for fee recreational use of private lands for hunting or other related purposes. Lease agreements for recreational use of private lands should be written documents that have been prepared or reviewed by an appropriate attorney. The use of the information provided in this publication by any person constitutes an agreement to hold harmless the authors, Mississippi State University Extension Service, and the Mississippi Department of Wildlife, Fisheries and Parks for any liability, claims, damages, or expenses that may be incurred as a result of reference to or reliance on the information contained in this publication.

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**Acknowledgements:** We greatly appreciate the formal reviews of this publication and helpful suggestions provided by Dr. Greg K. Yarrow, Associate Professor of Wildlife, Clemson University; Dr. James Armstrong, Associate Professor & Extension Wildlife Specialist, Auburn University; and Dr. Rebecca Stout-McPeake, Extension Wildlife Specialist, University of Arkansas.

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**Publication 2335**

Extension Service of Mississippi State University, cooperating with U.S. Department of Agriculture. Published in furtherance of Acts of Congress, May 8 and June 30, 1914. JOE H. MCGILBERRY, Director (5M-06-04)