



## Why is agriculture important to Louisiana?

Many Louisiana communities rely on agriculture for local jobs and their economic well-being. Agriculture is a major job contributor and economic engine for Louisiana. Louisiana food products are transported and consumed across the United States and around the world. Louisiana's farmers and processors embrace their responsibilities to provide food and fiber in a manner that is sustainable for many generations to come.

## Why do farmers burn in the first place?

For agriculture production to continue to thrive in Louisiana, responsible management of soil, water and air resources should be a priority. The wise use of fire by a skilled practitioner can be a very effective management tool. Farmers burn crop residues as a management tool to aid in timely crop planting and to manage pests (weeds, insects and diseases). For sugarcane growers, controlled burning reduces the amount of extraneous leafy material delivered with the cane to the factories for processing, which improves sugar recovery by the factories. Removing leafy material from fields also reduces yield losses in subsequent sugarcane crops.



Sugarcane burning in preparation for harvest.



Wheat straw burning in preparation for soybean planting.

## What are the benefits of burning crop residues?

### The benefits of burning sugarcane are:

- An overall lower cost of production that benefits farmers and consumers.
- More efficient harvesting of sugarcane in the field.
- Reducing the number of hauling units on the highways delivering sugarcane to the factories for processing, thus reducing wear and tear on public roads.
- Decreasing the volume of material to be processed by the factories, which shortens the harvest season by as much as 10 percent.
- Increasing sugar recovery from sugarcane by the factories and improving overall quality of the sugar produced.
- Decreasing yield losses in subsequent crops, because leafy trash blankets left over the winter reduce yields.

### The benefits of burning residues in other crops are to:

- Improve crop yields due to timely planting.
- Reduce diseases in some cropping situations.
- Lower arthropod pest populations in subsequent crops within those fields.
- Improve wildlife habitat when marshes are managed by controlled burns.



## What will happen if farmers are not able to burn?

The ability of farmers to burn sugarcane is a significant economic factor for the survival of the individual farmers and the sugarcane industry. The sugarcane plant consists of about 75 to 80 percent net cane (stalks) from which the juice is extracted and the sugar crystalized. The other 20 percent to 25 percent of the plant consists of leafy material, including tops, from which little or no sugar is produced. This leafy material is called trash.



Sugarcane burning in the field.

Burning sugarcane before harvest removes from one-half to two-thirds of this trash that would otherwise contribute nothing to sugar production. If that trash was not burned, the industry would spend another \$30 million or more in transportation and processing costs. Research data shows a reduction of 3 pounds in the yield of recoverable sugar per ton of sugarcane for each 1 percent of trash processed by the factory. Sugarcane trash blankets left on fields after the harvest of sugarcane reduce cane yield by 3-5 tons per acre in subsequent crops.

For other agricultural crops, burning residues after harvest also can be important. Proper residue management is critical to establishing optimum plant populations for many crops. One such example is the winter wheat and soybean double-crop system. To facilitate timely soybean planting after wheat in a double-crop system, straw and spring weeds may be managed in some situations by burning.



Whole stalk loading of burned sugarcane.

Delays in planting from adverse weather and equipment inefficiencies dealing with crop residue and weeds cause producers considerable difficulties in timely establishment of crop seedlings. In other situations such as that on land not in current crop production, plant residues are burned to expedite tillage operations. Controlled agricultural burns are periodically used to enhance forage production for beef cattle operations. Burning crop residue and weeds is an important option that may be the best available strategy in some situations.

It is critical that Louisiana agricultural producers do the best job possible with regard to smoke and ash management. The agricultural community recognizes the importance of being good neighbors to promote the public good. Following prescribed burn and smoke management guidelines will allow the wise use of burning with minimal effects on the general public.



Research is on-going to minimize the need for agricultural burning.



## What is a prescribed burn?

A prescribed burn can be defined as a controlled application of fire in a predetermined confined area to accomplish the harvest of sugarcane or removal of a crop residue under specified smoke and ash management guidelines.

What are the recommended procedures to be used in prescribed burning?

**The recommended procedures in prescribed burning are:**

- Step 1. Identify areas sensitive to smoke and ash.
- Step 2. Develop a prescribed burning plan.
- Step 3. Obtain fire weather forecast from U.S. National Weather Service.
- Step 4. Determine smoke category day.
- Step 5. Determine smoke and ash screening distance.
- Step 6. Determine trajectory of smoke and ash plume.
- Step 7. Evaluate the prescribed burning results.



Sugarcane burning



Louisiana marshes are sometimes burned to manage vegetation.

## What is smoke and ash management?

Smoke and ash management can be defined as conducting a prescribed burn under recommended weather conditions and with burning techniques designed to reduce the effects of smoke and ash generated by it on the environment, public health and welfare.

## What are the objectives of smoke and ash management?

**The objectives of smoke and ash management are to:**

- Be a good and considerate neighbor.
- Minimize the adverse effects caused by open field burning.
- Prevent smoke and ash from being blown across public highways, airports and electrical equipment.
- Prevent smoke and ash from affecting public areas, especially public health facilities such as hospitals, clinics, nursing homes, doctors' offices and so forth.
- Prevent smoke and ash from affecting schools during times when students and teachers are present.
- Prevent smoke and ash from affecting individual homes, subdivisions and other housing facilities.
- Minimize ash fallout that may result from agricultural burning.

## What is being done now to help this situation?

The Louisiana Department of Agriculture and Forestry and the LSU AgCenter developed the following training curriculum titled Louisiana Smoke Management Guidelines. The program is called the Certified Prescribed Burn Manager program and is administered by the state Department of Agriculture and Forestry.

## What is a 'certified prescribed burn manager,' or CPBM?

**A certified prescribed burn manager is an individual who:**

- Has successfully completed the approved certification program, as outlined in the training manual, and has passed a written test.
- Has performed at least five prescribed agricultural burns.
- Has received a letter of certification from the Louisiana Department of Agriculture and Forestry.

## What are additional responsibilities of a certified prescribed burn manager?

The certified prescribed burn manager will provide education and training to all of his or her employees who help to conduct burning operations. Further, the certified prescribed burn manager should ensure that all individuals who conduct prescribed burns are trained and certified. A thorough explanation of the goals and recommendations will help employees understand the importance of smoke and ash management.

In addition, it should be emphasized that prescribed burns should not go unattended. Accordingly, a certified prescribed burn manager should be on site whenever open field burning activities are conducted. Further, proper equipment for controlling and confining fires, including a water tank, should be available at all burns.

The guidelines taught in the prescribed burn management training program are designed to minimize the concentrations of smoke and ash in sensitive areas and to provide for cleaner air. The implementation of these voluntary guidelines will allow the industry to manage smoke and ash from agricultural burning more effectively. Growers are strongly encouraged to routinely incorporate these guidelines as standard management practices.

## What can be expected with the application of these guidelines?

Application of these guidelines should minimize the concentration of smoke and ash in sensitive areas and help to maintain air quality standards.

## Current status of certified prescribed burn manager programs

To date, Louisiana has almost 500 certified prescribed burn managers, primarily sugarcane producers. The burn manager certification program was developed in 2001 and has seen a consistent number of producers trained over the year. All the while, smoke and ash related complaints have been reduced by more than 75 percent. More recently, certified prescribed burn manager training was presented to managers who typically burn sections of the marsh.

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