

TIMELY INFORMATION

Agriculture & Natural Resources

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Late Spring Freeze Impact on Acorn Production*

The 2007 late-spring freeze killed back new growth on many hardwoods trees, particularly those in northern Alabama. It could also potentially impact acorn production on both red and white oaks in the coming year. Acorn crop success is of interest not only for forest reproduction, but also because acorns are an important food source for much of Alabama's wildlife population including deer, turkey, waterfowl, and small mammals such as squirrels and rabbits.

Oaks flower early spring between March and April. If the crop is a success, white oak acorns mature late summer and then fall from the canopy beginning September and October of the same year. Red oaks take two years to complete this process. Low temperatures in the spring often do not adversely affect oak flowers and pollination. However, late spring freezes that damage new shoots and leaves, such as the one that occurred this year, may impact mast production.

Since acorns mature in the late summer it is really too early to determine the effect on acorn production right now. Landowners and forest managers should survey their trees in July and August for maturing acorns to better determine fall production.

The good news is that even widespread freezes do not affect all timber stands in the same way, potentially limiting losses across the state. Southern portions of the state may see less damage than northern counties. Even in areas that were hard hit by the freeze, small differences in slope position (ridge top vs. lower slope) and aspect (south vs. north facing slope) may greatly affect the crop. Also, late freezes may affect current year white oak acorn production, but cause little damage to existing red oak crops that were pollinated last year.

Success of acorn crops can vary widely from year to year. Here are some other factors that can cause acorn crop failure in oaks.

- Tree age
- Stand density (overcrowding)
- Insect damage
- Increased rainfall during the time of pollination
- Hail and severe weather

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