

Data compiled by EPA: Biological Economics Analysis Division

1. Approximately 3.5 million pounds of acephate are used annually for agricultural purposes in the United States, based on yearly averages from 2015 to 2019.
2. Cotton and soybean usage constitutes about 95% of the total treated acres in the US each year.
3. Up to 90% of cotton and 75% of soybeans planted acreage is treated with acephate.
4. Acephate is primarily used on soybeans in the south/southeast regions and on cotton in the south/central regions of the US.
5. There has been a general trend of increased usage in agricultural use sites over the last 20 years.

Common use areas for acephate in cotton production include:

1. Seed treatment
2. Soil (in-furrow) treatment
3. Foliar treatment

These applications target different pests at various stages of cotton growth. Seed, soil, and early season foliar applications primarily target thrips, while later season foliar applications commonly target stink bugs and plant bugs.

Alternative options to acephate for thrip control as seed treatment include imidacloprid, either alone or in combination with thiodicarb. For in-furrow application against thrips, alternatives include aldicarb and imidacloprid. However, these alternatives are usually more expensive than acephate.

For early emergent foliar spray against thrips, growers have alternatives such as spinetoram, dicotophos, and dimethoate. However, these alternatives can be more expensive or have the potential to cause crop damage when mixed with herbicides, increasing operational costs and limiting application flexibility.

To control plant bugs and stink bugs later in the cotton production cycle, acephate is commonly used. Alternative chemical options for late season control include dicotophos, dicotophos with bifenthrin, and sulfoxaflor (for plant bugs only). These alternatives may be slightly more expensive but are more effective.

For soybean production, acephate is primarily used in the Mid-South region, particularly in Arkansas, Louisiana, Mississippi, and Texas. It is used to control various stink bug species, with the redbanded stink bug being the most important target.