USDA
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NTFPs from Trees: Nontimber Forest Products that Support our Society and Economy

BLACK CHERRY

MEDICINE

Product: Medicine
Plant part used: Inner bark

Black cherry (*Prunus serotina* Ehrh.) tolerates a variety of climate and soil conditions, with most of the habitat having cool and moist conditions. The species grows throughout the Eastern United States (shown in green on the map below) and is most commonly associated with the northern hardwood forest type group. Large, commercially viable trees are found primarily in the Alleghany Plateau of Pennsylvania, New York, and West Virginia. Abundant advanced reproduction can be found in closed stands and vigorous regrowth can be observed from stump sprouts.

Key Points

- Black cherry bark is harvested for its medicinal values, although it is secondary to timber.
- The markets for herbal medicine from black cherry are not documented, with no estimates of bark harvest amounts and values.
- Across the 35 States in which black cherry is found, Pennsylvania has shown the most volume, growth, and positive net change in volume.
- The number of black cherry trees per acre has declined over all years examined.
- Estimated bark volume has increased over the last 2 decades, suggesting trees are getting bigger.

Nontimber Uses

- Native Americans used the inner bark, roots, stems, and fruits to treat a variety of ailments, including colds, coughs, cholera, and skin sores.
- Settlers used black cherry to flavor rum and to make a popular libation called cherry bounce.
- The primary product from black cherry is its bark, which is stripped from young trees. The inner bark is separated from the corky outer bark and then dried and ground to be used as an ingredient or formed into tablets, lozenges, and other soothing agents.
- Twigs and leaves also have medicinal value and contain a form of cyanide (i.e., prunasin), which is released when the foliage wilts.
- Black cherry oil, derived from the seed, contains ∝-eleostearic acid which may be effective at suppressing growth in cancer cells, with possibilities as a chemotherapeutic agent against breast cancer.
- Contemporary uses include cough medicine, tonics, and sedatives. The fruit is processed into jellies and wine.

Markets

- There is a dearth of information on the markets for black cherry bark, although it is commonly sold by herbal product companies.
- There is a lack of documentation on the volume of bark that is harvested, or the value of bark to the States from which it is harvested.

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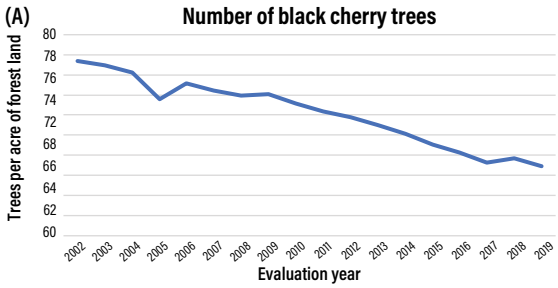
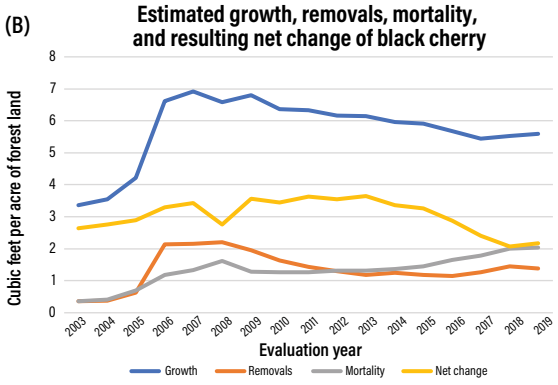
(A)



(B)



Status[a]

- Black cherry was found on Forest Inventory and Analysis (FIA) plots in 35 States, with Rhode Island, Maryland, and New York exhibiting the largest number of trees per acre of forest land.
- In the latest evaluation year, Pennsylvania, with about four black cherry trees per acre of forest land,[b] had the most volume (~580 cubic feet per acre[c]), the most growth (~12 cubic feet per acre[d]), and the greatest estimated positive net change (i.e., difference between growth and sum of mortality and removals).
- Over the years examined (1997–2019), there were about 70 black cherry trees per acre of forest land,[e] yet since 2002, the number of trees per acre has declined about 13 percent (see chart [A]).
- There has been negative net change in black cherry of about 18 percent from 2003 through 2019, with growth decreasing and mortality increasing (see chart [B]).
- Estimated bark volume has increased since 2006, from about 16.5 cubic feet per acre to about 20 cubic feet per acre in 2019.

[a] Estimates are based on observations of at least one specimen of the species in an inventory plot (representing about 6,000 acres of forest land). They are not based on all forest land for the State.
[b] At 68-percent confidence level, standard error is ± 4.53 percent of estimate.
[c] At 68-percent confidence level, standard error is ± 3.48 percent of estimate.
[d] At 68-percent confidence level, standard error is ± 8.30 percent of estimate.
[e] At 68-percent confidence level, standard error is ± 0.30 percent of estimate.

Management and Implications

- There is a lack of documentation on managing black cherry bark production and harvest, although there is a large body of knowledge on the silviculture of other trees harvested and managed for bark (e.g., cinnamon [*Cinnamomum verum*], cork [*Quercus suber*]).
- With a decline in the number of trees across all States, major negative impacts may be evident at finer resolutions, such as FIA unit (~1 million acres), county, or national forest. Public forests with black cherry populations are under pressure from the harvest of the bark.
- Although growth has declined, it far exceeds mortality and removals, indicating insignificant concerns for the long-term trend in bark production.
- Bark harvest is secondary to the timber value of black cherry and will remain so relative to management, although more knowledge on bark harvesting methods and levels would improve science-based silvicultural prescriptions.
- Bark volume has increased over the last 20 years, suggesting trees are getting bigger. Further examination of age-class distributions may reveal declines in younger growth. Enhanced and systematic reporting would support improved management decisions.

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The U.S. Department of Agriculture Forest Service **Forest Inventory and Analysis (FIA)** program tracks growth, mortality, and removals of forest trees and more. For additional information: https://www.fia.fs.fed.us/

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