A Correlation Between the Presence of Hamamelitannin and Blight Susceptibility in American Chestnut

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Aqueous extracts of hark from the blight-susceptible. American chestnut, European chestnut, and chinquapin were found to contain large quantities of hamamelitannin, a diester of gallic acid and hamamelose (2-C-hydroxymethyl-ribose). In contrast, aqueous extracts of bark from the blight-resistant Chinese chestnut and Japanese chestnut and blight-resistant roots of American chestnut were found to contain essentially no hamamelitannin. In addition, a prominent unknown peak is present in bark extracts of most samples of the blight-resistant Japanese and Chinese chestnuts and is absent from bark extracts of most of the samples of the blight-susceptible American chestnut. The unknown peak is also present in extracts from most of the samples of European chestnut, which is less susceptible than the American chestnut, and in several samples from largo surviving American chestnuts. Thus there does appear to be a correlation between blight susceptibility and the presence of hamamelitannin. No chemical correlation with resistance in large surviving

American chestnut has been observed, though the presence of the unknown peak may signal the. possibility of resistance.