

# New England Cider Apple Program

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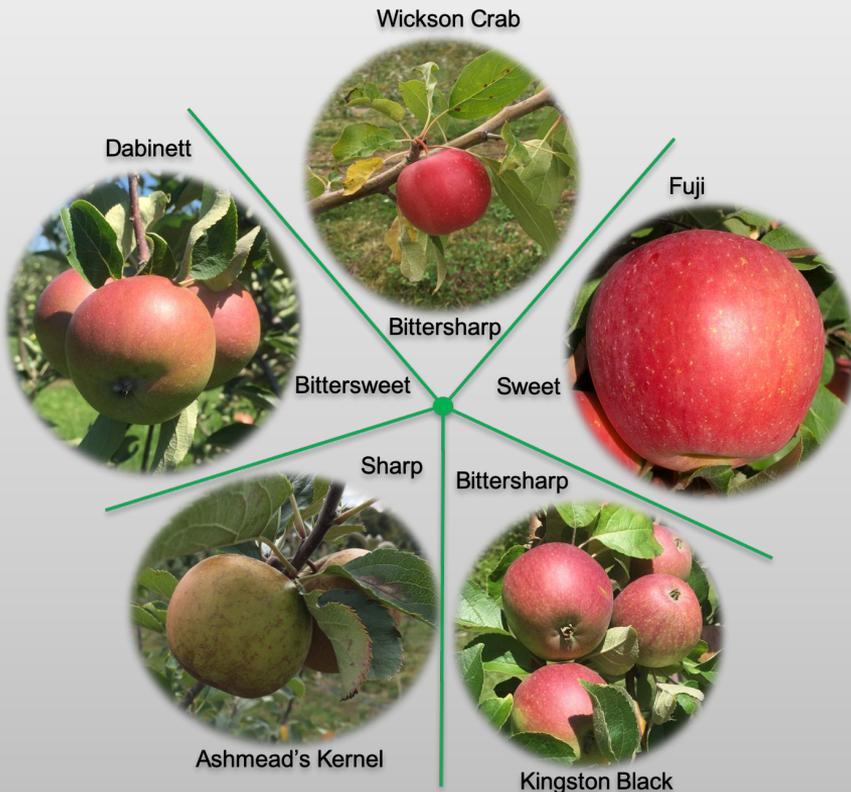
## Abstract

Craft hard cider production -and consumption- has been on the rise in the United States. Not all apples are suitable for the craft cider market. There remains a dearth of cider-specific apples in production in the Northeast. Many of the varieties that possess the most desirable qualities for juice are considered too difficult to grow, despite a general lack of scientific evidence to support this notion. In order to determine regional suitability of specialty cider apple varieties currently being grown in New England, this project will address three critical areas; 1) observation of growth habit and incidence of pest and disease damage on specific cider apple cultivars, 2) efficacy of mechanical string thinning and 3) effect of plant growth regulators and hedging on return bloom.

## Introduction

Cider apple classifications based on acidity and tannins were developed in 1903 by BTP Barker at the Long Ashton Research Station in N. Somerset U.K. and were an attempt to bring some semblance of order to the many apple cultivars grown specifically for cider production. Sharps, like Ashmead's Kernel and Golden Russet; Bittersharp, like Kingston Black and Wickson Crab; and Bittersweets, like Dabinett and Yarlington Mill, all add body, depth and complexity to a craft cider. Additionally, sugars, measured as Brix, are highly desirable in an apple destined for the cider press. These sugars, once consumed by yeast, are converted into alcohol. Desert apples, or Sweets, like Fuji and Honeycrisp, are not considered to be specific cider apples as they lack the tannins needed to contribute the flavor profiles often associated with a finely crafted hard cider. They are, however, used as a base for the majority of cider in production in the U.S. Because of their short supply in the marketplace and the unique characteristics they may impart to ciders, cider specific apple varieties are more profitable for growers than growing dessert cultivars for sales to cider makers.

Classification	Acid (%)	Tanin (%)
Sharp	>0.45	<0.2
Bittersharp	>0.45	>0.2
Bittersweet	<0.45	>0.2
Sweet	<0.45	<0.2



## General Approach

There are many apple varieties that are considered to be true craft cider apples. A significant number of these are traditionally grown in England, France, and Spain. Understanding how these varieties as well as American heritage apple varieties perform in New England requires rigorous study. Practical pest observations have not been well-documented and have been, in large part, based on anecdotal observation. Pest damage on cider apple varieties will be assessed at five orchards across Massachusetts and Southern Vermont bi-weekly throughout the growing season. Damage from more than ten common apple pests will be recorded and compared to desert varieties grown in the same orchard thus determining relative susceptibility of cider varieties to these most common pests. Biennial bearing has been shown to be a significant production challenge to many of these varieties as well. Mechanical string thinning will be evaluated for efficacy in breaking biennial bearing habits and improving fruit quality. Additionally, effect of plant growth regulators and hedging on return bloom of cider apples will be evaluated. Thinning and hedging methods will be trialed on cider varieties, however, the results of this work will have the ability to be applied to other apple varieties beyond the cider production system thus increasing the impact of this project.



Orchards will provide pest management records to assess the potential for reduced pesticide input. Cider makers have a higher tolerance for certain cosmetic blemishes on apples that neither direct nor wholesale markets will tolerate. This provides the cider apple grower with an additional means of increasing profit efficacy through reduced input on high demand cider fruit.

Sooty blotch, flyspeck and other superficial blemishes on GoldRush, a scab-resistant apple variety gaining popularity in modern cider production.

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