

### Evaluation of Varietal Ciders Produced at WSU Mount Vernon NWREC

From 2003 to 2013, each cider was evaluated by four or more professional cider makers trained in cider evaluation using the protocol developed by Peter Mitchell (Mitchell F&D Ltd. Pershore, UK). From 2003 to 2008, the evaluators varied from year to year, drawn from the same pool of 10 evaluators; ciders were sent to all evaluators for independent evaluations. From 2009 to 2013, evaluators met together once per year to evaluate the ciders. All years, cider evaluations were conducted blind with each cider identified by a code. Each evaluator received one evaluation form for each cider. Evaluators described each cider in terms of type (sharp, sweet, bittersweet, bittersharp), color, and aroma. Characteristics were rated on a scale of low-medium-high, and included acidity, bitterness, sweetness, astringency, and body. Evaluations also included a flavor profile. Ciders were presented to the evaluators in a specific order so that evaluators' palates were not conflicted; first, samples containing high acid and low tannin were evaluated followed by samples with decreasing levels of acid and increasing levels of tannin.

**Table 1. Characteristics of varietal ciders produced from cider and dessert apples at WSU Mount Vernon NWREC, made and evaluated 2004 – 2013 (AC=acidity; BIT=bitterness; SW=sweetness; AST=astringency; BDY=body; all rated to scale of Low-Medium-High).**

CULTIVAR	DESCRIPTION	COLOR	AROMA	AC	BIT	SW	AST	BDY	FLAVOR PROFILE
Amere de Berthcourt	Moderately to highly bitter; bittersweet	Gold	Confectionery, estery, honey, aspirin, grass, vanilla	L	M-H	L	M-H	M	Astringent with long bitter aftertaste, good blender to boost bitterness. Honey, vanilla, artificial fruit.
Blanc Mollet	Mild to moderately bitter French bittersweet	Deep gold	Caramel, pear & Jolly Rancher with wood, biscuit, tropical fruits	L	MH	L	M	M	A medium bodied bittersweet cider with light flavors & aromatics. Medium length finish with a bitter & mildly astringent aftertaste. A nice addition to a bittersweet blend.
Brown's Apple	Sharp	Amber	Citrus, banana, butter, rummy	M	M	L	M	M	Good balance, a little bland, would benefit from blending, nice nose. Citrus, apple, fresh cut grass, butterscotch, honey
Brown Snout	Mildly bittersweet	Amber	Apple, nutty, banana, maple, caramel, resinous	M	M	L	M	H	Stand-alone single-varietal cider; good body, balance & mouth feel; juice needs acid adjustment prior to fermentation. Easy to drink even as a single varietal. Makes a darker viscous cider. Apple, slight banana, nutty, butterscotch
Bulmer's Norman	Mildly bitter, bittersweet	Gold	Apple, honey, confectionery, pear drops	M	L-M	M	L-M	M	Good balance, light body for a bittersweet. Cider a little thin, aftertaste short-lived but astringent, builds and lingers, refreshing.
Cap of Liberty	Moderately bitter, bittersharp	Gold to slightly amber	Apple, bittersweet spicy, butterscotch, citrus, cidery	M-H	M-H	L	M	M-H	Unbalanced, bitterness lingers, body viscous but not heavy. Long bitter aftertaste, sour, need to have acids balanced, complex spicy flavors will be enhanced when balanced

Chisel Jersey	Full English bittersweet	Golden amber	Bittersweet apple, Band-Aid (phenolic), citrus, floral, spicy, earthy & woody	L	MH	ML	MH	MH	Barnyard character typical of English farmhouse cider. Slight citrus & fruitiness accompanied by pronounced bitterness. Very long tannic, astringent finish. Good for structure, character & complexity in a blend.
Dabinett	Moderate bittersweet	Amber	Apple, banana	M	M-H	L	H	M-H	Has body and astringency, tannins are harsh and tend to dominate flavor. Good alone for those who like a stout cider, otherwise blend to soften tannin; good nose. Apple, raisins
Domaines	Mildly bitter, bittersharp	Gold	Phenol, honey, dried fruit, woody, spicy, citrus, tropical fruit	L	L	L	L	L	Nice tannin and aroma with light body and medium length finish. Fruity aftertaste. A pleasant cider with complex flavors. Needs acid addition for full balance.
Finkenwerder Herbstprinz	German, sharp multi-purpose apple	Yellow	Green/bittersweet apple, caramel, citrus, cooked and dried fruit, honey, white wine, fusel alcohol	H	L	L	L	L	Light bodied acidic cider with a clean, dry, medium length finish. Good acid source for blending.
Foxwhelp	Mildly bitter, bittersharp	Amber	Slightly spicy, banana, nutty	H	L-M	L	L-M	M	No outstanding character, will add some body and lot of acid to blends; earthy tones. Best use as blender. Sharp apple, pear, butterscotch
Frequin Rouge	Moderately bitter, bittersweet	Amber golden	Cidery, nutmeg, Band-Aid, clove, vanilla, honey	L-M	M-H	L	M-H	M	Viscous with some body, astringent with complex aromas. May be best as a blender to boost tannins and add complexity. Cidery, nutmeg, vanilla, slightly warms the back of the mouth, moderate bitter aftertaste lingers
Golden Russet	Medium sharp russet cider and dessert apple	Straw	Estery, green apple, candy apple, honey, cidery, tropical fruit	M	LM	M	L	MH	Full-bodied, alcoholic, complex aromatics with good acid. Medium length Sauvignon Blanc finish. Excellent base for dessert apple cider blend.
Granniwinkle	Old American moderately sharp cider apple	Straw	Estery, floral, tropical fruit, confectionary, woody, green apple, cidery	M	L	L	L	L	Clean, crisp and fruity light bodied cider with short finish and refreshing aftertaste of melon, currant, honey and dried fruit. Would work well as Champagne style cider or blend.
Gravenstein, Red (Worthen)	Sharp; culinary and dessert apple	Gold	Applesauce, apple, pear drops	M	L	L	L	L-M	Good aroma but cider not complex, sour with a lingering tang, fruit should be fully ripe. Short aftertaste, refreshing character, easy to drink, sweetening would enhance balance.
Harrison	Old American moderately sharp cider apple	Gold	Fresh & bittersweet apple, floral,	L	LM	M	LM	M	Well balanced with delicate flavors & aromas. Soft, rounded mouth feel and good fruit character with a peachy, smoky, mildly astringent

			confectionary, cidery, woody & spirituous						finish. This cider tends to not ferment to complete dryness. A wonderful single varietal or blender.
Harry Masters' Jersey	Mildly bitter, bittersweet varietal, fruity aroma	Amber	Woody, apple, winelike, resinous, floral, pineapple, perfume	M	M	L	M	M	Good body and balance, stand-alone varietal, fruity aroma. Melon, berries, butterscotch, pine needles, tart, nutty.
Hewes Virginia Crab	Mild to moderately bitter bittersharp	Gold	Citrus, floral, grassy, tropical fruits, butterscotch & green apple	H	LM	L	MH	MH	Lemony bright apple flavor with banana, pear & butterscotch notes. Full bodied with white wine intensity and a nice soft astringent finish. Possible varietal or acid addition to a blend.
Jonagold	Sharp; dessert and culinary apple	Straw	Apple	M	L	L	L	L	Adds fruit both in aroma and flavor – best used to bring fruitiness to a cider apple with strong tannins, body. Citrus, apple.
Kermerrien	Moderately bitter, bittersweet	Straw to gold	Cidery, spicy, bubblegum, estery, nutmeg, banana, bandaaid, woody, honey	L-M	M-H	L	M-H	M	Cidery, creamy, bitter aftertaste lingers, but not harsh, good blender Fruity, banana, bubblegum.
Kingston Black	Mildly bitter, bittersharp	Gold to amber	Apple, spicy, nutty	M	M	L	M	M	Stand-alone varietal cider, tannins are soft, good balance, wonderful apple flavor. Citrus, apple, butterscotch
Major	Aromatic bittersweet	Amber copper	Bittersweet apple, caramel, cidery, dill, wood & blackberry leaves	L	M	L	MH	LM	Highly aromatic with some fruit, earthy wood & bitterness. Long, tannic finish. Good addition to a bittersweet blend or can add body, complexity to a dessert apple blend.
Mettais	Moderately bitter French bittersweet	Deep amber	Bittersweet apple, caramel, Band-Aid (phenolic), cidery, tropical fruit, strawberry jam & earthy wood	M	M	L	M	M	Strongly aromatic – more aroma than taste. Apple character with notes of figs, dates & earthy wood. Medium bodied with astringent finish of good length. Wonderful deep rich color. Bittersweet blender.
Michelin	Moderately bitter, bittersweet	Amber golden	Apple, banana, nutty, berry, gooseberry, floral esters, caramelized apple	M	M	L	M	M	This cider can stand alone but benefits from blending. Strong apple/berry aroma, tastes like cooked apple, bland. Fruity, apple, estery, berry, baked apple
Muscadet de Dieppe	Mildly bitter, bittersweet	Dark amber	Apple, banana nutty, tropical grassy	M	M	L-M	M	H	Good body and balance. Single-varietal cider, even when fermented to dryness still gives a slightly sweet taste, mix of fruit and grass flavors. Fruity, apple, spice, nutty, honey, syrup, fresh cut grass

Muscat de Bernay	Medium bitter, bittersweet	Gold	Floral, Band-Aid, phenolic, spicy, cidery, woody, cooked apple, honey, tropical fruit	ML	M	L	MH	M	Robust bitter and astringent cider, good fruit character, long, dry smoky phenolic finish. Bitter aftertaste. Adds structure and body in blending.
Reine des Pommes	Moderately to highly bitter, bittersweet	Amber golden	Apple skins, rosin, spice, citrus, lychee fruit, honey, tropical candied fruit, Jolly Rancher	L-M	M-H	L	M-H	M	Good balance, fruity with high tannins, good single varietal stout type. Builds complexity, boosts tannins when blended. Full body, bitterness lingers and builds (astringency). Apple skins, spice, citrus.
Tom Putt	Sharp	Straw	Apple skins, bruised apple, lemon, grassy	L	L	M	L	L-M	Mildly sharp cider, creamy mouth feel, balanced. Slightly sweet, lightly creamy, thin aftertaste tapers off quickly.
Vilberie	Highly bitter, bittersweet	Amber	Apple, spicy, floral	M	H	L	H	M	Very bitter with high astringency. Bitterness harsh; best used in blending. A very stout cider. Bitterness dominated, estery, metallic taste, tea bags, aftertaste of copper penny, woody bark
Zabergau Reinette	Moderately sharp; russet dessert apple	Light gold	Sweet caramel & honey with hints of citrus, grass & herbs	M	LM	L	M	L	Light bodied & wine like with an even mouth feel. Short, slightly bitter finish, somewhat more complex than most dessert apple ciders. Good blending apple.

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