

LALLEMAND SOUR SOLUTIONS STRAIN COMPARISON



Strain selection for sour beer production is a growing challenge as brewers are faced with a greater variety of strains than ever before.

Lactic acid bacteria can be used for kettle and fermenter souring practices to provide depth of flavor along with mild to high levels of acidity depending on the strain. Both **WildBrew Sour Pitch™** and **WildBrew Helveticus Pitch™** offer consistent and reliable bacteria options for brewers looking to produce citrusy sour beers. **WildBrew Sour Pitch™** (*Lactobacillus plantarum*) ferments at mildly warm temperatures and produces a medium level of lactic acid with hints of grapefruit. By comparison, **WildBrew Helveticus Pitch™** (*Lactobacillus helveticus*) ferments at higher temperatures and produces higher levels of lactic acid with a lemony/sour candy flavor.

Lactic acid producing yeast is relatively uncommon for brewing applications; however, in recent years they have started to gain more attention. The yeast of the genus *Lachancea* produce lactic acid as well as ethanol and CO₂ in fermentation. The **WildBrew Philly Sour™** strain is a unique *Lachancea* species that was selected from nature by the University of the Sciences in Philadelphia, USA. It produces a mild level of lactic acid and ethanol in one simple fermentation step with flavors of apricot and stone fruit.

Mascoma Sourvisiae™ is a genetically engineered strain of *Saccharomyces* that produces a large amount of lactic acid and ethanol in beers up to 12% ABV. It is a highly neutral strain and provides an excellent base for fruit, hops, or other additions. This strain is currently only available in the U.S.

BEST PRACTICES LALLEMAND SOUR SOLUTIONS STRAIN COMPARISON

Sour beer styles range in seemingly unlimited flavors from fruity and neutrally acidic, to bitter or sweet. The brewer should choose bacteria and yeast strains carefully in order to achieve the desired flavor profile. This chart serves as a guide to illustrate selected bacteria and yeast combinations for sour beers styles, including common combinations that have been validated extensively in commercial trials, as well as some more unique strain combinations. This is not a comprehensive list, many other combinations are possible for the creative and adventurous brewer.

STYLE	SOURING	+ SECONDARY	NOTES	STYLE	SOURING	+ SECONDARY	NOTES	STYLE	SOURING	+ SECONDARY	NOTES	STYLE	SOURING	+ SECONDARY	NOTES
GOSE	WILDBREW SOUR PITCH	PREMIUM NOTTINGHAM HIGH PERFORMANCE ALE YEAST	Clean palate with some citrus notes.		WILDBREW SOUR PITCH	PREMIUM BRY-97 AMERICAN WEST COAST ALE YEAST	Clean IPA profile with moderate fruit	NORDIC SOUR	WILDBREW SOUR PITCH	PREMIUM VOSS KVEIK ALE YEAST	Tropical, grapefruit and orange aroma		WILDBREW SOUR PITCH	PREMIUM NOTTINGHAM HIGH PERFORMANCE ALE YEAST	Clean palate with some citrus notes
	WILDBREW HELVETICUS PITCH	PREMIUM BRY-97 AMERICAN WEST COAST ALE YEAST	Notes of sour candy and lemon			PREMIUM NEW ENGLAND AMERICAN EAST COAST ALE YEAST	Tropical and citrus fruit notes		WILDBREW HELVETICUS PITCH	PREMIUM VOSS KVEIK ALE YEAST	Green apple, lemon and sour candy			PREMIUM MUNICH CLASSIC WHEAT ALE YEAST	Banana and tropical flavors (pineapple, citrus)
	WILDBREW PHILLY SOUR	No co-pitch	Apricot, lemon pith, lightly grassy, apple			PREMIUM VERDANT IPA ALE YEAST	Prominent stone fruit aromas		WILDBREW PHILLY SOUR	PREMIUM VOSS KVEIK ALE YEAST	Soft acidity with stone fruit and orange			PREMIUM LONDON ENGLISH-STYLE ALE YEAST	Medium bodied with red apple and a maple-like character
	WILDBREW SOURVISIAE	No co-pitch	Clean, neutral, extremely sour				Moderate fruit and lemon pith		WILDBREW SOURVISIAE	PREMIUM VOSS KVEIK ALE YEAST	Neutral with slight orange notes				Notes of sour candy and lemon
BERLINER WEISSE		PREMIUM WIT BELGIAN WIT-STYLE ALE YEAST	Slight banana and clove	SOUR IPA	WILDBREW HELVETICUS PITCH	PREMIUM BRY-97 AMERICAN WEST COAST ALE YEAST	Lemon candy notes with some fruit and body	SOUR SAISON	WILDBREW SOUR PITCH	PREMIUM BELLE SAISON SAISON-STYLE ALE YEAST	Dry with notes of clove, pepper and grapefruit	FRUITED SOUR*	WILDBREW HELVETICUS PITCH	PREMIUM WIT BELGIAN WIT-STYLE ALE YEAST	Slight banana with lemon verbana flavor
	WILDBREW SOUR PITCH	PREMIUM BELLE SAISON SAISON-STYLE ALE YEAST	Fruit and spice aromas with a dry finish			PREMIUM VERDANT IPA ALE YEAST	Lemon candy notes with some fruit and body		PREMIUM FARMHOUSE HYBRID SAISON-STYLE YEAST	Moderate clove and pepper, citrus flavors	PREMIUM WINDSOR BRITISH-STYLE ALE YEAST			Medium body with tropical fruit, papaya and guava	
		PREMIUM VERDANT IPA ALE YEAST	Prominent stone fruit aromas		No co-pitch	Apricot, lemon pith, lightly grassy, apple	WILDBREW HELVETICUS PITCH		PREMIUM BELLE SAISON SAISON-STYLE ALE YEAST	Dry with notes of clove, spice, and grapefruit	WILDBREW PHILLY SOUR		No co-pitch	Apricot, lemon pith, lightly grassy, apple	
		PREMIUM KÖLN KÖLSCH STYLE ALE YEAST	Slight apple and tropical notes		Slightly more citrus notes than a pure Philly Sour fermentation	Slightly more citrus notes than a pure Philly Sour fermentation	PREMIUM FARMHOUSE HYBRID SAISON-STYLE YEAST		Notes of clove, pepper, anise, lemon	Notes of clove, pepper, anise, lemon	PREMIUM KÖLN KÖLSCH STYLE ALE YEAST		Hay, apricot, apple blossom flavors		
	WILDBREW HELVETICUS PITCH	PREMIUM FARMHOUSE HYBRID SAISON-STYLE YEAST	Slight clove and pepper		Prominent stone fruit aromas	Prominent stone fruit aromas	WILDBREW PHILLY SOUR		No co-pitch	Apricot, lemon pith, lightly grassy, apple			No co-pitch	Clean, neutral, extremely sour	
		PREMIUM BRY-97 AMERICAN WEST COAST ALE YEAST	Clean palate with some citrus notes		Clean, neutral, extremely sour	Clean, neutral, extremely sour	WILDBREW SOURVISIAE		PREMIUM WIT BELGIAN WIT-STYLE ALE YEAST	Stone fruit flavors with limited spice and notes of hay	WILDBREW SOURVISIAE		PREMIUM BRY-97 AMERICAN WEST COAST ALE YEAST	Neutral base to showcase fruit additions	
	WILDBREW PHILLY SOUR	No co-pitch	Apricot, lemon pith, lightly grassy, apple	Slight tropical fruit and apricot	PREMIUM VERDANT IPA ALE YEAST	Spice, moderate stone fruit flavors and a dry finish	Spice, moderate stone fruit flavors and a dry finish	PREMIUM FARMHOUSE HYBRID SAISON-STYLE YEAST	Pepper and clove with tropical and stone fruit aromas	High acidity with clove and banana					
	WILDBREW SOURVISIAE	No co-pitch	Clean, neutral, extremely sour			Clove, pepper and hay with a dry finish	Clove, pepper and hay with a dry finish	WILDBREW SOURVISIAE	PREMIUM BELLE SAISON SAISON-STYLE ALE YEAST	Clove, pepper and tropical fruits					

* Fruited sours are broadly dependant on the type and quantity of fruit used. The flavor notes are for the base beer prior to fruit additions.

CHOOSE YOUR SOURING STRAIN	WILDBREW SOUR PITCH LACTIC ACID BACTERIA		WILDBREW HELVETICUS PITCH LACTIC ACID BACTERIA		WILDBREW PHILLY SOUR LACTIC ACID PRODUCING YEAST	MASCOMA SOURVISIAE LACTIC ACID PRODUCING YEAST
	KETTLE SOUR	FERMENTER SOUR /CO-PITCH	KETTLE SOUR	FERMENTER SOUR /CO-PITCH	FERMENTATION (NO PRE-SOURING REQUIRED)	FERMENTATION (NO PRE-SOURING REQUIRED)
CLASSIFICATION	Facultative Heterofermentative Bacteria (Produces lactic acid and may produce small amounts of ethanol, CO2 and other organic compounds)		Obligate Homofermentative Bacteria (Produces only lactic acid)		Non-Saccharomyces lactic acid producing yeast	Genetically Engineered Yeast
SPECIES	<i>Lactiplantibacillus plantarum</i>		<i>Lactobacillus helveticus</i>		<i>Lachancea spp.</i>	<i>Saccharomyces cerevisiae</i>
FERMENTATION TYPE	KETTLE SOUR / FERMENTER SOUR /CO-PITCH		KETTLE SOUR / FERMENTER SOUR /CO-PITCH		FERMENTATION (NO PRE-SOURING REQUIRED)	FERMENTATION (NO PRE-SOURING REQUIRED)
CROSS CONTAMINATION RISK	<ul style="list-style-type: none"> - Bacteria killed during boil - Live bacteria in fermenter - Separate packaging line and soft parts recommended 		<ul style="list-style-type: none"> - Bacteria killed during boil - Live bacteria in fermenter - Separate packaging line and soft parts recommended 		<ul style="list-style-type: none"> - Slow growing, outcompeted by other brewing strains - Low viability in acidic environment - Killer negative - Sensitive to normal brewery CIP 	<ul style="list-style-type: none"> - Slow growth compared to bacteria - Low viability in acidic environment - Killer negative - Sensitive to normal brewery CIP
TEMPERATURE RANGE	30-40°C (86-104°F)		38-45°C (100-113°F)		20-30°C (68-86°F)	15-22°C (59-72°F)
FERMENTATION TIME	24-48 hrs for acid production		24-48 hrs for acid production		10 days	4 days
PH RANGE	3.2-3.5		3.0-3.5		3.2-3.5	3.0-3.4
LACTIC ACID RANGE	0.5-0.8%		0.6-1.2%		0.1-0.4%	0.8-1.5%
HOP TOLERANCE	Alpha acid: 4 ppm (IBU) Beta acid: 8 ppm		Alpha acid: 4 ppm (IBU) Beta acid: 4 ppm		hop tolerant	hop tolerant
FLAVOR & AROMA	<p>Citrus, tangy, sour</p>		<p>Strong Citrus, lemon, sour candy</p>		<p>Apricot, lemon pith, lightly grassy, apple</p>	<p>Clean, neutral, extremely sour</p>

Whether performing a kettle sour with bacteria or souring in the fermenter using lactic acid producing yeast, the choice of souring strain has important implications for fermentation performance and the flavor and character of the beer. Bacteria fermentations require a secondary yeast strain to complete the alcoholic fermentation, whereas lactic acid producing yeast perform both functions (but can be co-pitched with other yeast to achieve desired results).

A few tips from our team: Choose **WildBrew Sour Pitch™** and **WildBrew Philly Sour™** for sessionable sours, or **WildBrew Helveticus Pitch™** and **Mascoma Sourvisiae™** for a more prominent lactic acid flavor. Hop tolerant lactic acid yeast are resistant to kettle hop additions and high IBUs, whereas the bacteria strains are highly sensitive to kettle hops as well as dry hopping. Whatever sour beer style you are brewing, there is a sour bacteria or yeast strain for you!

CONTACT US

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