## CIDER Canned Cider – Low SO<sub>2</sub>

VARIETY	TYPE OF CIDER
Heirloom and Modern Apples	Low SO <sub>2</sub> Cider
PROBLEM(S)	OBJECTIVE
Can Degradation Off Aromas Oxidation Microbial Spoilage	Many cider producers want the ability to produce a cider with little to no SO <sub>2</sub> , while not sacrificing oxidative or microbial stability through production and packaging. Ensuring proper nutrition allows for healthy yeast and a clean fermentation, limiting the need to use copper. If copper is used to remediate reductive off aromas, it is necessary to remove any residual complexes with sulfur compounds, as they can reappear after packaging. Canned ciders shelf-life stability is key for success in the marketplace and preventing microbial spoilage, premature oxidation and/or resurgence of sulfur off aromas ensures a stable product, that will be appreciated by the consumer.

STAGE	OBJECTIVE	ENARTIS RECOMMENDATIONS	DOSAGE
Milling Transfer to Press	Juice Extraction	<b>EnartisZym Arom MP</b> : Pectolytic enzyme for increased juice extraction at pressing and beneficial clarification.	20-40 g/ton
Juice Transfer to Fermenter	Microbial Protection	<b>EnartisStab Micro M</b> : Pre-activated chitosan and purified yeast hulls. Reduce spoilage microbes like <i>Brettanomyces</i> , Acetobacter, Lactobacillus and Pediococcus.	10 g/hL
	Clarification	<b>EnartisZym RS</b> : Enzyme for clarification and to aid filtration. Pectinase, polygalacturonase, cellulase and hemicellulase side activities.	5 mL/hL
	Oxidation Protection	<b>EnartisPro FT</b> : Removes catalysts for oxidation such as Fe, Cu, and AI, inhibiting negative oxidative interactions throughout the life of the cider.	10 g/hL
		<b>EnartisTan Blanc:</b> Gallic tannin for protection from oxygen and enhanced aromatics during fermentation.	10 g/hL

The above is achieved to the best of our knowledge and experience.	Revision: January 2021
The industrial application of the advice provided does not imply any responsibility on the part of our company.	Revision. Julioury 2021

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Inoculation	Complex Nutrient	<b>Nutriferm Arom Plus</b> : Increased aromatics t produced during primary fermentation. Supplements yeast to minimize off aromas and enhance aroma production.	20 g/hL
	Yeast	<b>EnartisFerm WS</b> : Clean fermentation across cider styles, increased cultivated apple variety aroma.	25 g/hL
1/3 Sugar Depletion	Fermentation Nutrient	<b>Nutriferm Advance</b> : Nutrient providing complete nitrogen balance to reduce $H_2S$ production, provide survival factors and ensure complete fermentation.	20 g/hL
If Copper Added	Remove Copper Bound Sulfides	<b>Claril HM:</b> Removes copper bound sulfides, which are responsible for off aromas in canned packaging.	20 g/hL
Post Fermentation	Antioxidant	<b>EnartisTan SLI</b> : Ellagic tannins from oak, scavenges oxygen and contributes to increased shelf life.	1-5 g/hL
	Microbial Protection	<b>EnartisStab Micro M</b> : Removes spoilage microbes such as Brettanomyces, Acetobacter, Lactobacillus and Pediococcus. Helps protect and maintain aromatic cleanliness and cider quality.	5-20 g/hL Maximum addition 20 g/hL

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