



DistilaEdge™ TC

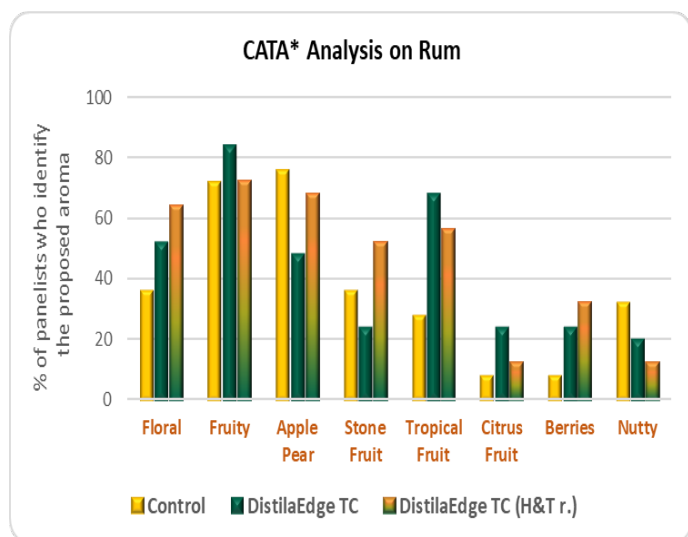
The bioengineered yeast strain
to explore uncharted aromatic journeys

APPLICATIONS

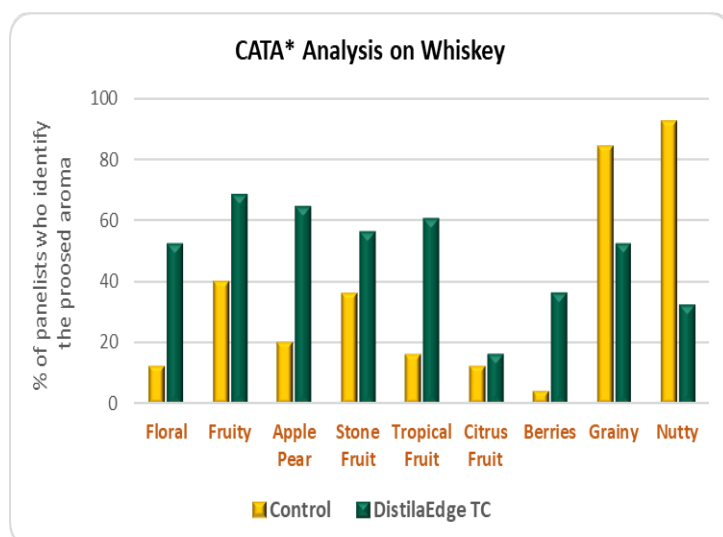
- DistilaEdge™ TC is a bioengineered strain of *Saccharomyces cerevisiae* developed by Lallemand's Mascoma R&D facility.
- DistilaEdge TC contains a single genetic modification which enables the yeast to produce outstanding levels of acetate esters. These esters confer intense and diverse fruity and tropical aromas to the spirits.
- DistilaEdge TC can be used both in rum and whiskey production.
- During the spirit production process with DistilaEdge TC, the fermentation is conducted without any modification; DistilaEdge TC is pitched and ferments just like conventional yeast and doesn't impact the fermentation kinetics.

RESULTS WITH DISTILAEDGE TC

- Rum and Whiskey that have been fermented using DistilaEdge TC, compared to yeast commonly used in rum or whiskey production, display a more complex aromatic profile with high levels of floral and tropical notes.
- These notes are due to the high production of acetate esters: ethyl acetate (apple, pear aromas-like) isoamyl acetate (banana aroma-like), isobutyl acetate (tropical aroma-like) and phenethyl acetate (flower, rose aroma-like).
- The two graphs (Graph 1 and Graph 2) below built on CATA* data of 25 panelists, display the perception of various aromas and the impact of DistilaEdge TC in rum and whiskey production (distilleries located in the USA).
- In both cases, with or without heads and tails recycling (H&T r.) DistilaEdge TC significantly impacts the perception of floral, apple, pear, berries and tropical fruits notes.



Graph 1: CATA analysis on Rum



Graph 2: CATA analysis on Whiskey

*CATA data: Check-All—That-Applies; method used to gather sensory data by asking participants to select all the attributes that apply to a product from a provided list.



DistilaEdge TC

The bioengineered yeast strain
to explore uncharted aromatic journeys

CHARACTERISTICS

- Solids (dry weight): 95.5 +/-2.5 %
- Viable cells (CFU/g): $> 1 \times 10^{10}$
- Wild yeast (CFU/g): < 1000
- Recommended temperature range 20°C (68°F) - 33°C (92°F); recommended pH range: 3.8 – 5.8
- DistilaEdge TC is safe, non-hazardous and Generally Recognized as Safe (GRAS) by the US Food and Drug Administration.

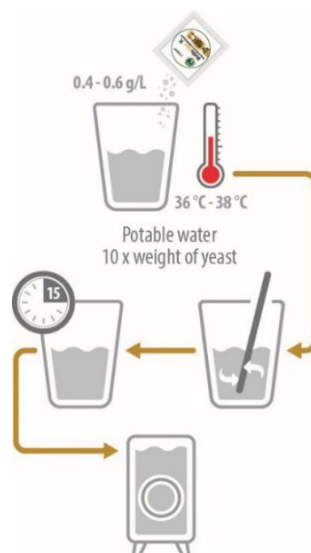
DOSAGE

- The optimal yeast dosage is variable according to individual distillery production processes.
- Fermentation of grain mashes for whiskey production: 0.40 - 0.60 grams per litre of mash (dosage: 400 - 600 ppm).
- Fermentation of molasses and fresh cane juice for rum production: 0.40 - 0.60 grams per litre of mash (dosage: 400 - 600 ppm).

INSTRUCTIONS OF USE

Lallemand Biofuels & Distilled Spirits recommends the rehydration of DistilaEdge TC.

1. For rehydration, use a clean container. Do not use demineralized water.
2. Rehydrate the yeast in clean water (the water should be 10 times the weight of the yeast and at a temperature of 36 °C – 38 °C).
3. Suspend contents carefully by gently stirring and then wait for 15 - 20 minutes maximum (minimum 10 minutes) before moving onto the next step.
4. Add this preparation to the wash. If there is a temperature difference of more than 8 °C between the wash to be inoculated and the rehydration solution, add some wash slowly into the rehydration solution to reduce the temperature difference.
5. Once the vacuum-sealed bag is open or broken, use yeast promptly.



STORAGE, HANDLING AND PACKAGING

- DistilaEdge TC should be stored in a cool and dry area away from heat and direct sunlight for maximum stability.
- Shelf life: 3 years from date of production if vacuum-seal is not broken.
- Packaging: DistilaEdge TC is available in vacuum-sealed foil bags in bricks of 500 g or boxes of 20 x 500 g.

AVAILABLE IN THE USA ONLY

DistilaEdge TC is patent pending.

To the best of our knowledge, the information contained here is true and accurate. However, any recommendations or suggestions are made without any warranty or guarantee since conditions and methods of use are beyond our control. This information should not be considered as a recommendation that our products be used in violation of any patents.



Milwaukee, USA | Montreal, Canada | Fredericia, Denmark | Bangkok, Thailand
distilledspirits@lallemand.com | www.lallemanddistilling.com

