
Yeast, an example of “Circular Green” in an established industry

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LALLEMAND

Development, production and marketing of YEAST & BACTERIA

Founded in Montréal by
Fred A. Lallemant at
the end of the
19th century



Yeast
production
started in
1923



**Over 4,700
employees**
globally



48 plants including
27 yeast and
9 bacteria plants



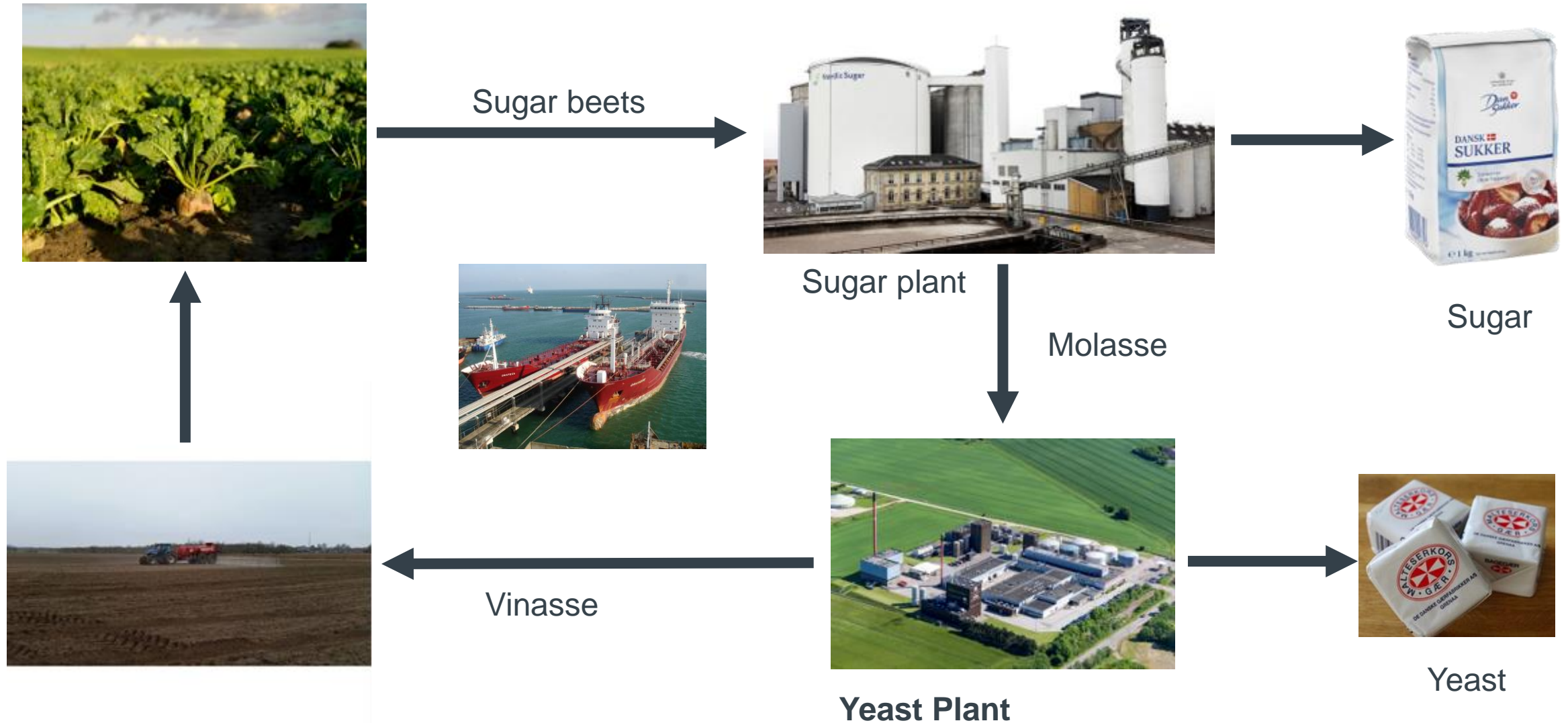
**A worldwide
presence**



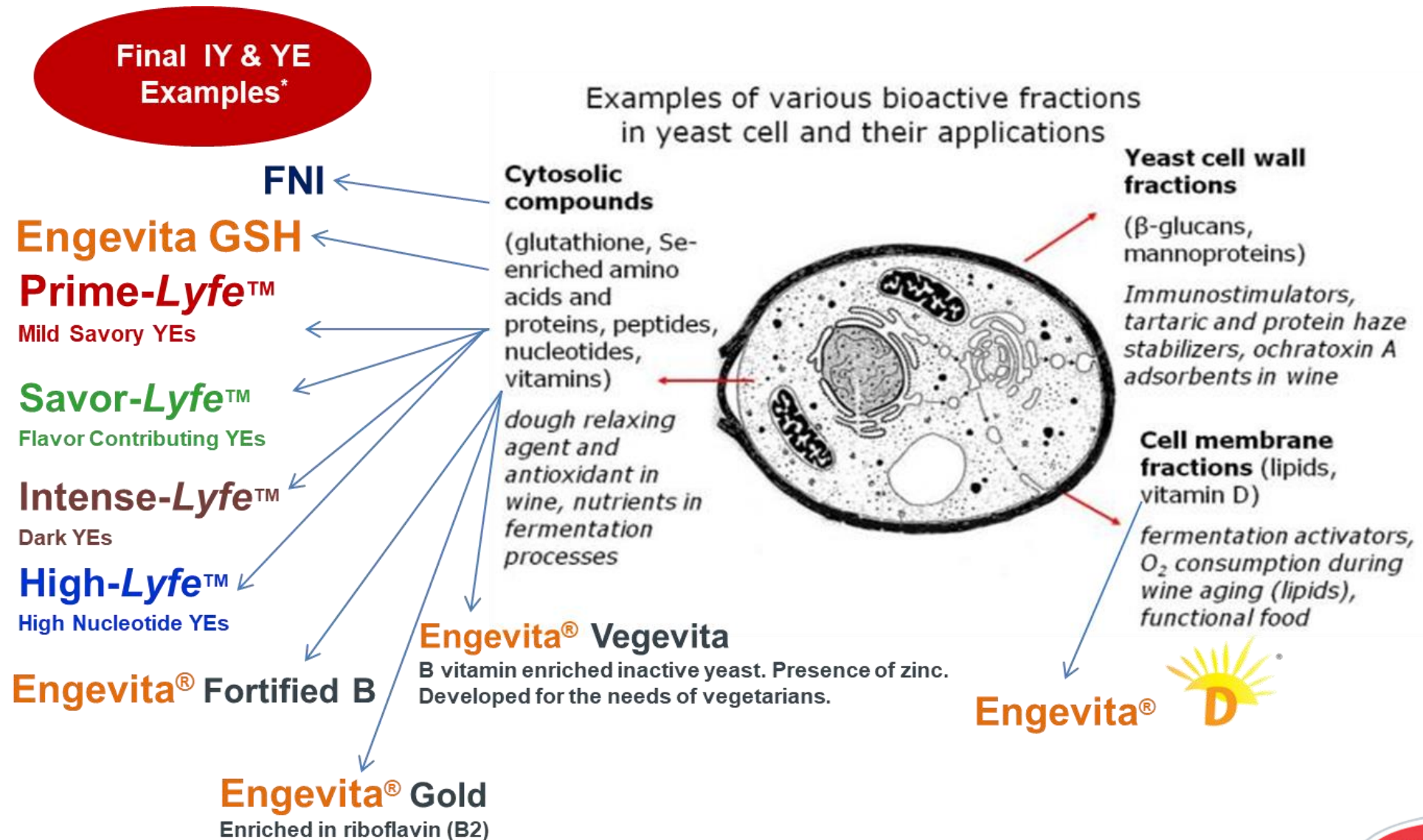
Owned by the Chagnon family since
1952



“Old” industries like yeast can be circular.....



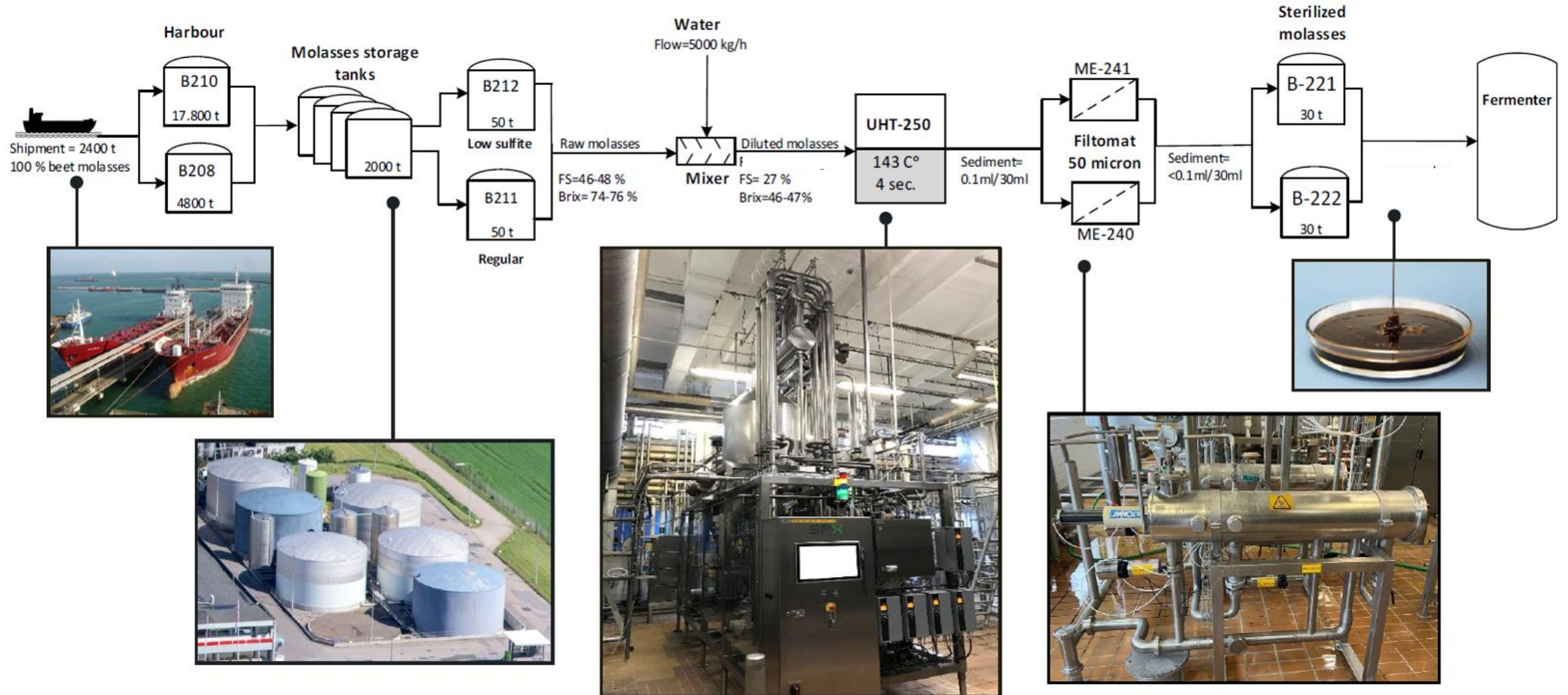
Yeast is much more than yeast for baking....



Molasses as a raw material

- Molasses is a side stream (waste?) from sugar production, so quality fluctuate a lot from plant to plant and there is a lot of impurities
- What we want
 - Fermentable sugars
 - Trace minerals & vitamins
- What we also get
 - **Sulfite (50 ppm – 500 ppm)**
 - Non-fermentable sugars
 - **Calcium** and other minerals (500 ppm – 15000 ppm)
 - Traces of pesticides etc.
 - Dextran etc.
- Production is seasonal and depends a lot on the quality of beets, varies from year to year
- Production of beet molasse is going down and availability can be an issue in the future

Raw Materials - Molasses Treatment Process

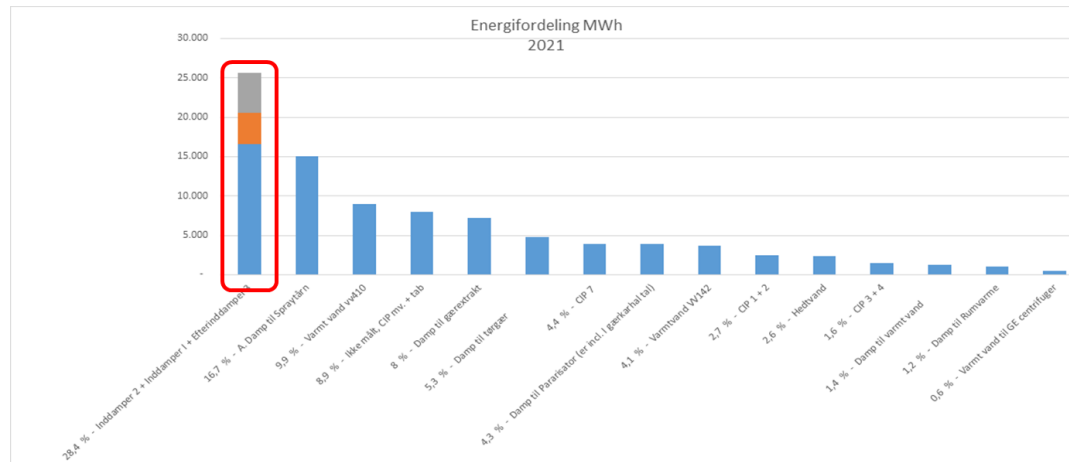
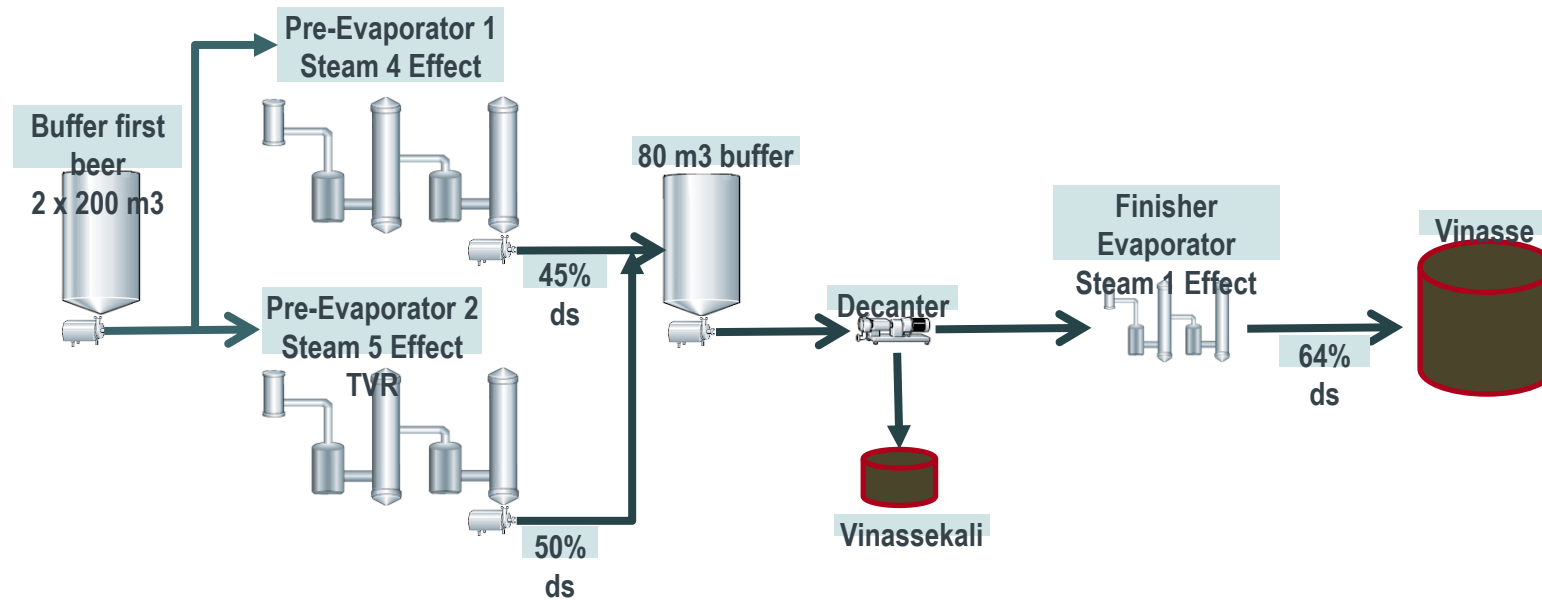


Vinasse as a product.....

- Vinasse is a concentrated version of the “first beer”, so the liquid part of the fermentation broth.
- It is used mainly as fertilizer
- It is approved as fertilizer for organic agriculture
- Concentration is required in order to reduce transport cost and make it possible to handle for the farmer
- During the concentration step we get precipitation of crystals which are sold separately as “Vinasse-Kali”

	DM %	Nitrogen	Potassium	Sulfur
Vinasse	64	3,50%	6%	
Vinasse - Kali		1,50%	18%	7%

DDGF vinasse evaporator installation



Steam for vinasse concentration is 28,4% of the total steam consumption

Learnings

- Being “circular” can be a good business.
- Using a side stream from an agricultural production does add complexity to your own production.
- Converting your waste to a value adding product also add complexity and cost.
- COLLABORATION between the various parties in the loop is absolutely critical for success

Co-operation spells success

To the Baking Trade In Canada ~

NEW THOUGHTS and new ideas create new deeds. When they are for the betterment of mankind, may they succeed. We take this opportunity, through the medium of a new periodical, of thanking the Baking Trade of Canada for the generous support given our firm in years gone by. Co-operation spells Success. The future of your business is what you make it; the future of our business is what we make it. As in the past, it will be in the future, our earnest endeavour to give you quality goods, service and co-operation.



FRED. A. LALLEMAND REFINING COMPANY
OF CANADA LIMITED

Fred A. Lallemand
President

Lallemand ad in first issue of Bakers Journal
Fred A. Lallemand, 1938



**Thank you for your
time and attention**

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