

Key To Successful Molasses/ Molasses-B, Juice, Syrup/ Fermentation

Praj's Bioproducts Division specializes in the development of Innovative Solutions that add Economic Value to Biochemical processes. The expertise comes from

- Vast experience of design and operation of Continuous, Fed-batch and Batch type fermentation processes.
- Comprehensive knowledge of feedstocks composition and its effect on fermentation and yeast.

Globally molasses / Juice / Syrup based ethanol fermentation faces several limitations, such as:

- Seasonal variations in molasses composition
- Frequently disturbed process due to inhibitors
- Lack of yeast growth & performance
- Severe problems of contamination

Effymoll+ is the practical solution to achieve high yielding stable fermentation process. The product is a combination of specific micro-elements and bio-chemicals. The product is formulated after careful study of the parameters and requirements of process.

Key Actions of Effymoll+ in Fermentation:

Eliminates bacterial contamination

Converts non-fermentable carbohydrates into fermentable sugars

Provides vital elements and growth factors for yeast growth

Prevents bad effects of yeast inhibitors

The Challenge – LAB Contamination

Lactic Acid Bacteria (LAB) compete with yeast for sugars and produce lactic acid, leading to:

- ↓ Lower pH
- ↓ Reduced ethanol yield
- ↓ Decreased yeast viability
- ↓ Higher residual sugars
- ↓ Longer fermentation time
- ↓ Risk of fermentation failure



LAB contamination negatively impacts fermentation performance, productivity and profitability.



HOW EFFYMOLL+ WORKS

Effymoll+ (Customized) penetrates the LAB cell wall, disrupts cell membrane and vital functions, resulting in rapid cell death.

1. Penetration



Intact LAB cell

2. Disruption



Effymoll+ penetrates and attacks cell membrane and vital functions

3. Cell Death



Cell lysis and death

Advantages of Effymoll+ :

- Increases efficiency and ethanol yield by 5 to 10 Lit./MT of molasses
- Increased ethanol concentration in mash by 0.5 to 1.0%
- High rate of yeast growth and metabolism
- Low residual sugar loss
- Prevention of bacterial contamination and reduction in mash volatile acidity
- Low by-products in mash
- Improved neutral spirit quality
- Reduction in spent wash quantity
- Possibility of spent wash recycle in fermentation
- Reduction in fermentation hold up time
- Longer duration of continuous fermentation operations without reduction in performance

Method of Application:

The required quantity of Effymoll+ is calculated based on mash volume of fermentation and mixed with 5 to 6 parts of water. The uniform suspension is then added to the fermentation in single dose.

Shelf Life:

Store away from direct heat and sunlight. Preferably Below 30 Deg C. When stored under recommended conditions in original container, the product is stable for one year.

Dosage:

Effymoll+ is added @ of 3 to 5.0 ppm to the fermentation.

Packing:

Effymoll+ is supplied in laminated poly-pouches of sizes custom made to distillery production capacity.

Certificates:



Effymoll+ Typical Properties:

Appearance	White or off white coloured powder
Bulk density – Kg/M ³	300 to 500
pH	5 to 6
Moisture – % w/w	4 to 6

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WARRANTY OF MERCHANTABILITY OR FITNESS OF THE GOODS for purposes other than specified by the seller. No such warranties shall be implied by law and no agent of seller is authorized to alter this warranty in any way except in writing with a specific reference to this warranty. The exclusive and maximum possible remedy against the seller shall be a claim for damages not to exceed the purchase price of the product, without regard to whether such a claim is based upon breach of contract/ warranty. Any dispute, controversy or claim arising out of this contract or breach thereof, shall be settled by arbitration in accordance with the provision of Indian arbitration and reconciliation act 1996 and shall be governed by Indian laws and shall have exclusive jurisdiction of Pune Maharashtra Court.