BUTTERMILK POWDER

LPT-610
UNIT- 1

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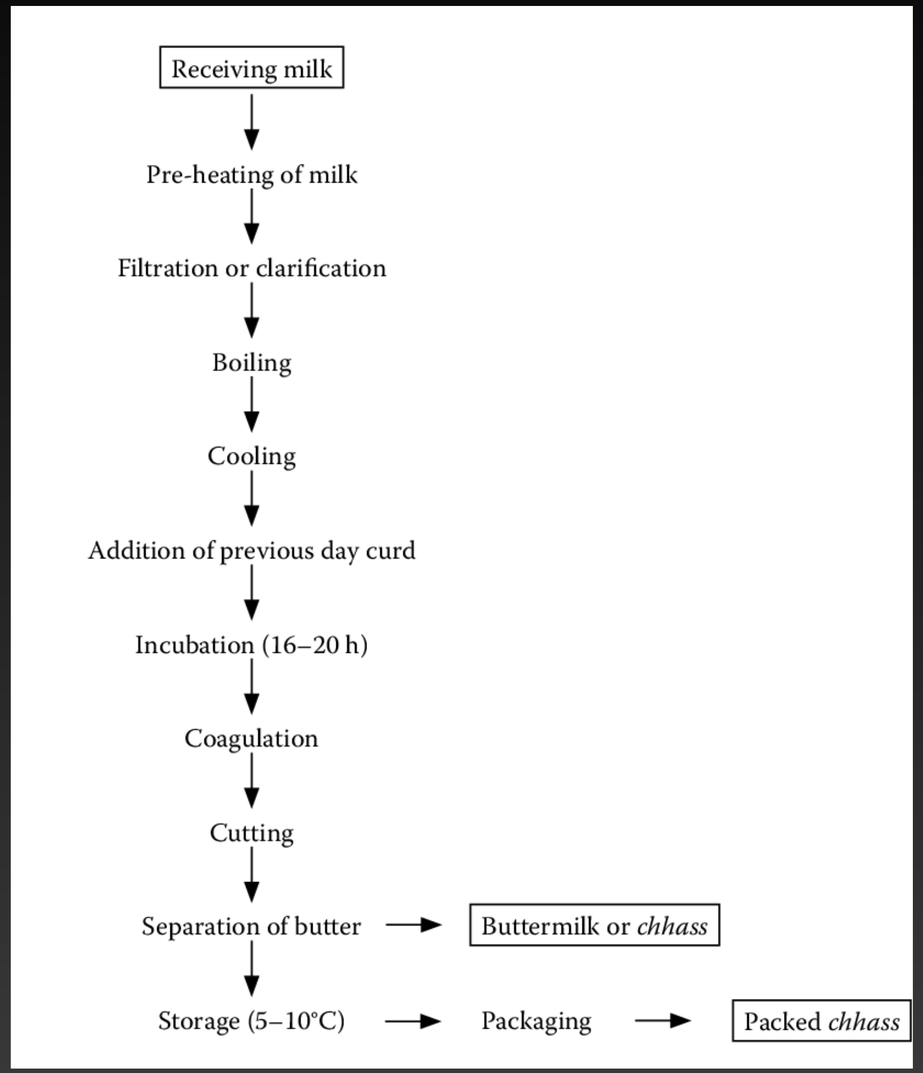
Methodology



Conversion of Buttermilk
to
Dried Buttermilk Powder

Based upon the type of buttermilk used

TYPES

* Sweet Buttermilk

* Sour Buttermilk

* High Acid Buttermilk

From Sweet Buttermilk

Pre-heat the buttermilk to 32-49 ^{0}C

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Increase temperature to 85 ^{0}C and heat for 15 minutes

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Condense/Concentrate the buttermilk to
16% TS for drum drying method/ 40-45% TS for spray drying method

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Concentrated buttermilk is maintained at a temperature of 71-79 ^{0}C

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Product dried to a moisture content of 3-4 %

From Sour Buttermilk

- Similar to the sweet buttermilk powder production process.
- Atmospheric drum drying technique is most commonly used in its preparation.
- Mostly used in dry form for the composition of dried animal and poultry feed.

Difficulties Faced in its Production

- High product acidity causes unmanageable smear on the drying drum.
- Concentrated buttermilk curdles very frequently on the bottom go the container.
- Powder becomes sticky and readily cakes due to high lactose content.

From High-Acid Buttermilk

Sweet Buttermilk pasteurised at 82 ^{0}C for 16 secs

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BM is then concentrated to 30% of Total Solid content

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Temperature of the BM is brought down to 46^{0}C and inoculated with 1.5% *Lactobacillus bulgaricus*, agitated to produce a smooth curd.

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The acidity of the product rises , equivalent to 10-12% of the dry product

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The product is spray dried to 3.5-4.0% moisture

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Product is removed from drying chamber, cooled immediately and sifted

COMPOSITION

	Sweet BMP	Sour BMP
• Moisture:	2.8%.	4.8%
• Fat:	5.3%	5.7%
• Protein:	34.3%	37.6%
• Lactose:	50.0%	38.8%
• Ash:	7.6%	7.4%
• Lactic Acid:	0.1%	5.7%

Packaging: Air-Tight and Inert Packet

Storage: At Room Temperature ($24^{o}C$)

Keeping Quality: variable, based on composition.
1 month- 3months-12months

Due to high lactose, protein and fat content storage life of buttermilk powder is short

Uses

1. Sweet cream buttermilk powder used for enriching nutritive value of prepared foods viz. bread, ice-cream etc.
2. Sour cream buttermilk powder used to nutritionally enrich animal and poultry feed.
3. High Acid buttermilk powder used to reconstitute acidic beverages like chanch and lassi.

Thank You

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