

Technical Brief

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Curd strip that can set customized and consistent quality curd anytime anywhere!

Technology Summary

CSIR-CSMCRI has developed a curd strip that can be used to set curd of uniform quality and consistency, and allows for easy customization in the flavour profile and nutritional value of the curd.

Background

Curd is an integral part of the Indian diet and has maintained its popularity despite changing lifestyles and food habits. However, the quality of the curd varies depending on the quality of the inoculum. Moreover, in recent years, changing consumer needs have seen a shift in the nutraceutical market from a one-size fits all approach to personalized nutrition tailored to meet personal nutritional requirements based on genetic profile and personal wellness goals. However, there exists no easy way to set curd that is consistent in quality, flavourful, and caters to personal nutrition requirements.

Technology description

CSIR-CSMCRI has developed a curd strip that can be used to set curd of same quality and consistency, and allows for easy customization in the flavour profile and nutritional value of the curd. The curd strip uses a modified PVDF membrane as a substrate to attach bacteria. The developed technique allows for attachment of any type of bacteria (depending on the nutritional requirement/desired quality of curd) in viable condition to the PVDF membrane. For example, one can attach probiotic bacteria to make probiotic curd. To prepare curd, one curd strip (5×5 cm) can be dipped in 500 mL of warm milk (45°C), and set aside for 6-8 hours to set, depending on the ambient environmental temperature. When not in use, the curd strip with lyophilized bacteria can be stored in the refrigerator at 4°C, and shelf life studies have shown that the strip remains active for up to 6 months.

Market Potential*

Increasing demand for healthy lifestyles, conscious food choices, and preventive health measures coupled with customization in the food and medicine sectors is leading to the overall growth of personalized nutrition, with a global market increasing at 9.5% CAGR and projected to reach USD 2.76 billion by 2025.

Value Proposition

- The composition on the strip can be easily adjusted as per need, such as calcium-supplemented curd.
- Set consistent quality curd everytime even without the inoculum.
- Easily set vegan curd even at home from non diary milk.
- The nutritive value of the curd can be customized to meet personal nutrition requirements, for example, calcium requirements for pregnant or lactating mothers.
- The curd strip can also be used to form curd on the go from milk powder and hot water.

Applications

The curd strip can be used to set curd with consistent quality and consistency and can be used to make curd supplemented with various additives for personalized health. The strip should find application in both industry and domestic households.

Technology status

Prototype ready. Seeking licensee. Patent application number 0117NF2017/IN, submission date 13 July, 2017

* <https://www.prescouter.com/2020/03/how-will-personalized-nutrition-be-shaping-the-food-and-health-industry/>

