

## Lecture 26: From Donkeys to Zebras

*Microbial Fermentations are used to produce and preserve many foods.*

### I. Dairy Fermentations

A. Used to produce \_\_\_\_\_, buttermilk, sour cream and \_\_\_\_\_.



B. Performed by the \_\_\_\_\_ which include species in the genera *Lactobacillus*, *Lactococcus*, *Leuconostoc* and *Streptococcus*. These bacteria ferment the milk sugar, \_\_\_\_\_, to lactic acid. The lactic acid production lowers the pH and \_\_\_\_\_.

D. Provide a way to \_\_\_\_\_, while at the same time providing products with various \_\_\_\_\_.

E. History

1. As long as 1000 years ago, people began learning methods to \_\_\_\_\_.

2. These “sour” milks have varied from country to country and have used as their source animals from \_\_\_\_\_.<sup>1</sup>

a. The Russian *kumiss* is made from \_\_\_\_\_.

b. The Swedish *surmjÖlk* comes from \_\_\_\_\_.

c. \_\_\_\_\_ is made from cow, goat or sheep milk and originated in the Caucasus Mountains. Like kumiss, it may contain up to 2% alcohol. Originally kefir was produced in leather sacks and hung by the door. People passing by would massage the sack and stimulate fermentation<sup>2</sup>.

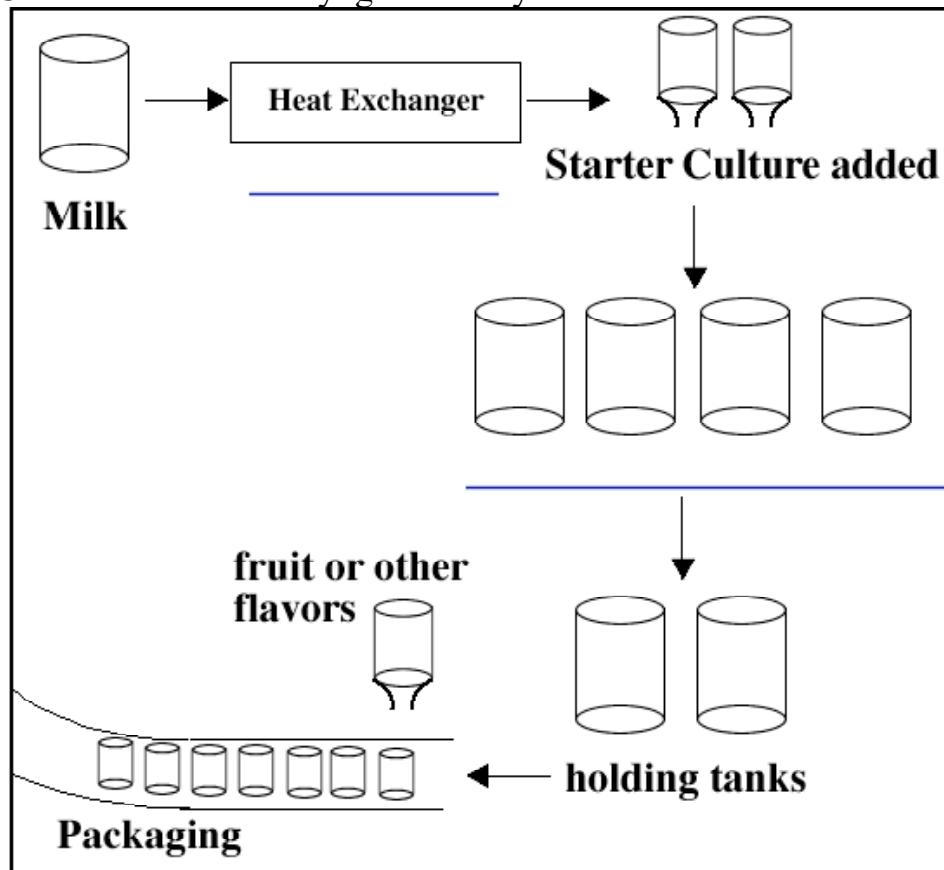
<sup>1</sup> The Microbiology of Fermented Foods by Brian J.B. Wood

<sup>2</sup> Prescott text (seventh edition) p. 1040

3. For many years, the \_\_\_\_\_ was unknown. The initial microbial inoculation came from \_\_\_\_\_ used to make the products. Successive batches were inoculated with \_\_\_\_\_.

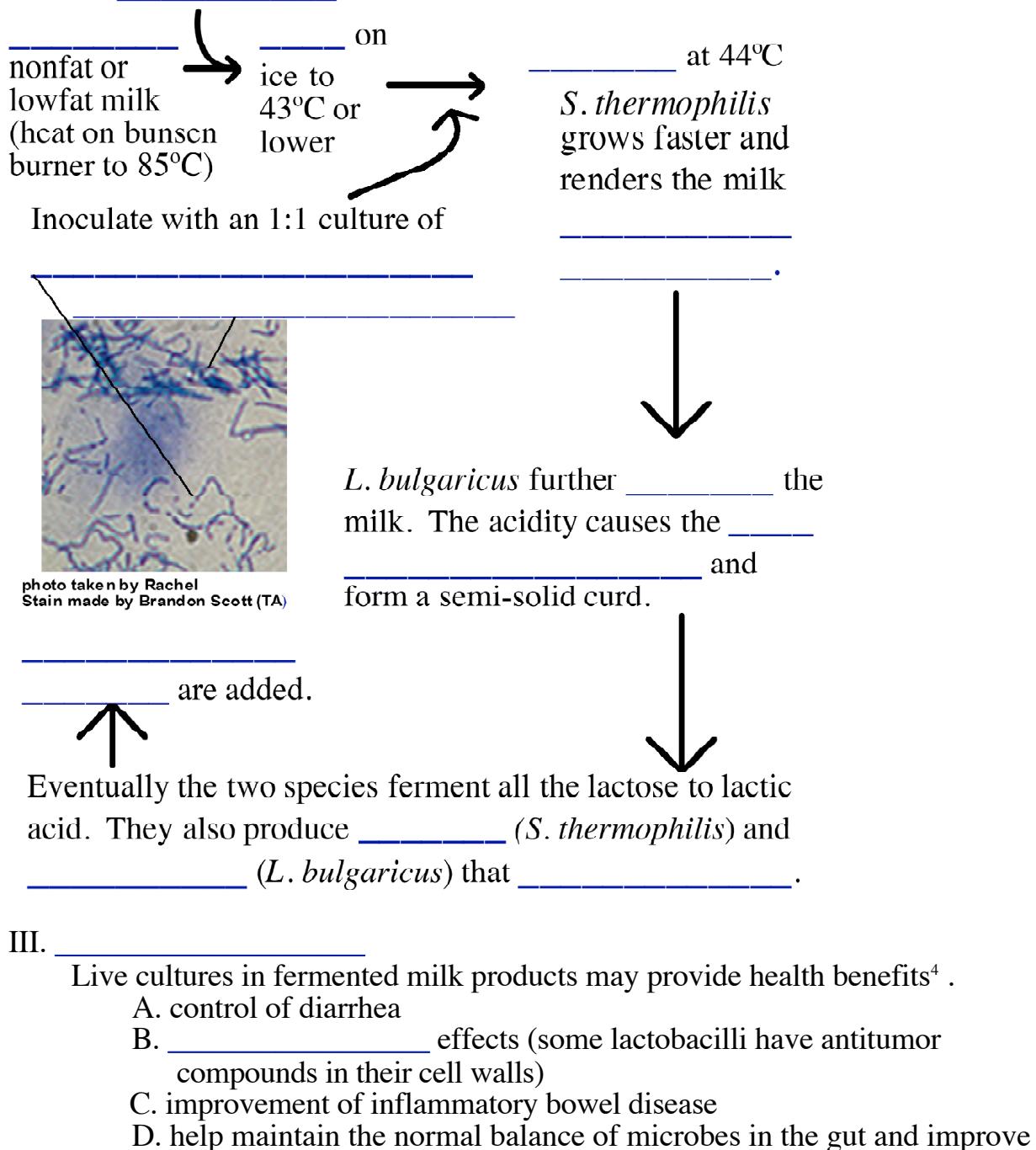
## II. Yogurt

- A. One of the \_\_\_\_\_ fermented milk product in the U.S.<sup>3</sup>
- B. Produced both commercially and by individuals (yogurt-making kits).
- C. A virtual tour of a yogurt factory



<sup>3</sup> Prescott text (seventh edition) p. 1038

Procedure:



<sup>4</sup> Prescott (seventh edition) p. 1039