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APPENDICES

APPENDIX A: Fermented Vessels

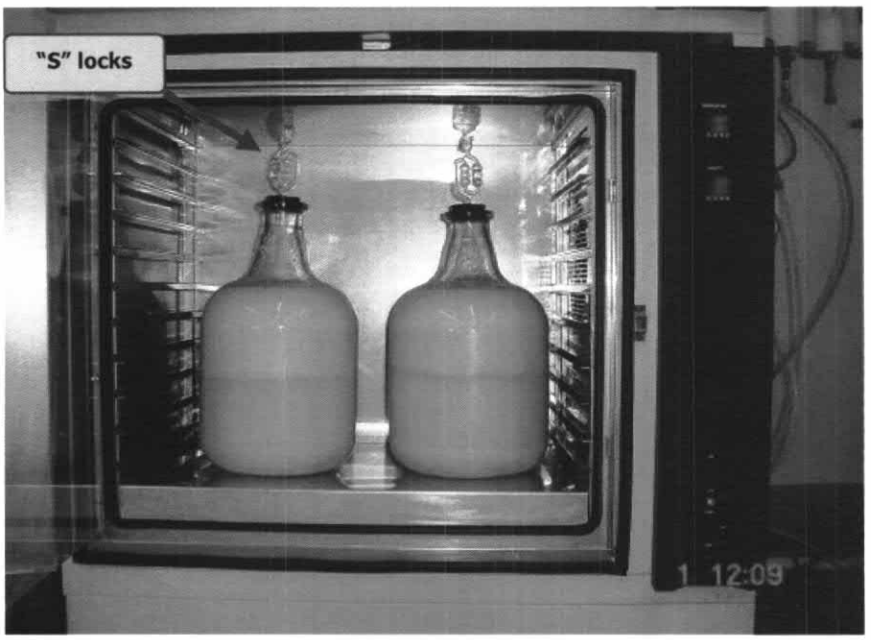

Figure A1 Fermented vessels (20 L/vessel) which fitted with "S" locks to allow CO_2 to escape using for experiments 3.2.1 and 3.2.2.

APPENDIX B: Microfiltration System

Figure B1 Microfiltration system using for experiments 3.2.1 and 3.2.2.

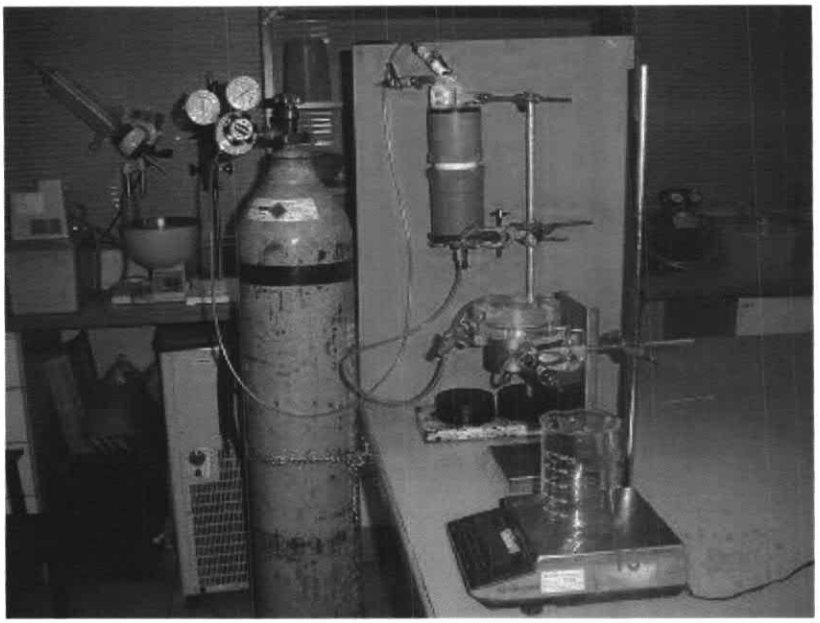

Figure B2 Microfiltration system using for experiment 3.2.3.

APPENDIX C: Yeast Count using the Wallerstein Nutrient Agar

The Wallerstein Nutrient Agar Composition

The Wallerstein nutrient agar composition is listed as following:

Formula per liter	
Bacto Yeast extract	4 g
Bacto Casitone	5 g
Bacto Dextrose	50 g
Monopotassium Phosphate	0.55 g
Potassium Chloride	0.425 g
Calcium Chloride	0.125 g
Magnesium Sulphate	0.125 g
Ferric Chloride	0.0025 g
Manganese Sulphate	0.0025 g
Bacto Agar	20 g
Brom Cresol Green	0.022 g
Final pH	5.5 ± 0.2 at 25 $^{\circ}$C

Yeast extract is a source of trace elements, vitamins and amino acids. Casitone provides nitrogen, amino acids, and carbon. Dextrose is the source of carbohydrate. Monopotassium Phosphate buffers the media. Potassium choride, calcium chloride and ferric chloride are essential ions and help to maintain osmotic balance. Magnesium sulfate and manganese sulfate are sources of divalent cations. brom cresol green is a pH indicator. Agar is the solidifying agent in the WL Nutrient Agar.

Agar preparation

The WL nutrient agar (23.5 gram) was suspended in 1 liter of distilled or demonized water, and then the suspension was boiled to dissolve completely. The solution was sterile in autoclave at 121 ^{O}C for 15 minutes, and then was poured into plate.

Procedure

The filtered membrane was placed on the surface of the Wallerstein nutrient agar. The plate was incubated at 30 ^{O}C for 2 days in aerobic atmosphere. The number of greenish blue colonies were enumerated.

APPENDIX D: Lactic Acid Bacteria Count using the MRS Agar

The deMan, Rogosa, and Sharpe Agar (MRS agar) Composition

The MRS agar composition is listed as following:

Formula per liter		
Bacto Proteose Peptone No.3	10	g
Bacto Beef Extract	10	g
Bacto Yeast Extract	5	g
Dextrose	20	g
Sorbitan Monooleate Complex	1	g
Ammonium citrate	2	g
Sodium Acetate	5	g
Magnesium Sulfate	0.1	g
Manganese Sulfate	0.05	g
Potassium Phosphate, Dibasic	2	g
Bacto Agar	15	g
Final pH	6.5 ± 0.2 at 25 ^{O}C	

The MRS agar contains peptone and dextrose. These ingredients supply nitrogen, carbon and other element necessary for growth. Polysorbate 80, acetate, magnesium and manganese provide growth factors for culturing a variety of lactobacilli. The above ingredients may inhibit the growth of some organism other than lactobacilli.

Agar preparation

The MRS agar (70 gram) was suspended in 1 liter of distilled or demonized water, and then the suspension was boiled to dissolve completely. The solution was sterile in autoclave at 121 ^{O}C for 15 minutes, and then was poured into plate.

Procedure

The filtered membrane was placed on the surface of the MRS agar. The plate was incubated at 35 ^{O}C for 3-5 days in anaerobic atmosphere supplemented with carbon dioxide. The number of dark brown colonies were enumerated.

APPENDIX E: Scoresheet for Duo-Trio Test

Test No._____

Duo-Trio Test

Tester No. _____ Name_____ Date_____

Type of Sample Microfiltered Rice Wine

Instructions Taste samples from left to right. The left hand sample is a reference. Determine which of the other two samples matches the reference and indicate by placing an "**X**".

If no difference is apparent between the two unknown samples, you must guess.

Reference	**Code____**	**Code____**
☐	☐	☐

Comments:

_____

_____

_____

Table E1 Statistical Table for Duo-Trio Test using Difference Test-Critical number (minimum) of correct answers

Entries are the minimum number of correct responses required for significance at the stated significance level (i.e., column) for the corresponding number of respondents "n" (i.e., row). Reject the assumption of "no difference" if the number of correct responses is greater than or equal the tabled value.

Significance level (%)				
n	**10**	**5**	**1**	**0.1**
4	4	-	-	-
5	5	5	-	-
6	6	6		
7	6	7	7	
8	7	7	8	
9	7	8	9	
10	8	9	10	10
11	9	9	10	11
12	9	10	11	12
13	10	10	12	13
14	10	11	12	13
15	11	12	13	14
16	12	12	14	15
17	12	13	14	16
18	13	13	15	16
19	13	14	15	17
20	14	15	16	18
21	14	15	17	18
22	15	16	17	19
23	16	16	18	20
24	16	17	19	20
25	17	18	19	21
26	17	18	20	22
27	18	19	20	22
28	18	19	21	23
29	19	20	22	24
30	20	20	22	24

(Meilgaard, 1987)

VITA

Miss Jintana Sripui was born on May 11, 1964 in Bureerum, Thailand. She obtained a B.Sc. (Chemistry) from Faculty of Science, Khon Kaen University in 1985, and M. Eng. (Food Engineering) from King Mongkut's Institue of Technology Thonburi in 1995. She had worked at Department of Food Technology, Faculty of Technology, Khon Kaen University since 1987. In 2002, she received a scholarship from Royal Thai Government under the Agro-Industry Ph.D. Consortium Program to future her Ph.D. at Department of Food Technology, Faculty of Science, Chulalongkorn University. After being finished her Ph.D. degree, she will work at Department of Food Technology, Faculty of Technology, Khon Kaen University, Khon Kaen, Thailand.

Permanent address:

115 Ban MaPheang, Tambol MaPheang

Amphur Putthaisong,

Bureerum, 31120.

THAILAND.