

2000-9



The  
Antigo  
Cheese  
Company

73825  
Rec'd in DMB  
2/2/01 H.K.H.  
907 9th Avenue  
P.O. Box 503  
Antigo, WI 54409-0503

Telephone  
(715) 623-2301  
1-800-356-5655  
FAX: (715) 623-4501

Web Site: [WWW.newnorth.net/antigo.cheese](http://WWW.newnorth.net/antigo.cheese)

Date: December 19, 2000  
To: Loretta Carey - FDA  
From: Dan Zastoupil - The Antigo Cheese Company  
Subject: Vitamin A Levels in Parmesan Cheese

Loretta, thank you for the time we spent on the phone recently. With this better understanding of the issue of Vitamin A content in Parmesan cheese and your specific needs for information I believe we can now clear this up and move forward.

The original issue in moving forward with the test market permit was a discrepancy between the amount of vitamin A listed in the nutritional information attachments of our current 10 month Parmesan cheese and the proposed 6 month Parmesan cheese (attachments 1 and 2). Upon review of that information with the Regulatory Division of the IDFA/ National Cheese Institute we believed that the 1782.8 IU value claimed for the 10 month product was probably in error and should not have been submitted. I have attached a memo from C. Gordon Brown Ph.D of IDFA/NCI Regulatory that served as the basis for that assumption and the decision we made to have our product, both 10 month and 6 month, retested by the same laboratory that performed the original tests back in April of this year. Our suspicions were confirmed by the attached sample results and the process we had to go through to get confirmed results which I will explain briefly. We took four random samples of current formula product and four random samples of test market product and had them tested for Vitamin A at the same lab using the same methodology. The four samples 10 month formula product results varied from 789.3 IU to 969.7 IU. Three of the four samples of 6 month formula product varied from 983.6 IU to 1077.3 IU with the fourth sample result showing a very different result of 2112.8 IU. We suspected that either sample error or testing error could be an issue on that sample and requested that the testing lab investigate. They indeed did discover that on that sample that there was an arithmetic error in their value calculation and agreed to retest the product. Upon recalculation of the original test data and two retests of left over quantities of the same original sample they report results of 948.8 IU, 989.04 IU, and 940.6 IU. We believe that these results support the claim that the original submission of 1782.8 IU on standard 10 month Parmesan was in error.

98P-1121

LET5

Separately, we asked for assistance from the technical division of Rhodia Inc., the supplier of the enzyme that is added to our product to produce the flavor profile in six months instead of ten. Incidentally, that enzyme is the only formula difference between the two products. Attached is a letter from Dr. Mark R. Smith of Rhodia that reinforces our opinion that there is no difference from sample to sample other than that caused by normal variation in fat content of the product and seasonal differences in milk. As an aid to your review we have added information onto the test result sheets to confirm the formula of each sample and the fat content of each.

Based on what we have submitted we believe that there is no difference in Vitamin A content between our test market product and our current product. We need to move forward in the test market approval process as quickly as possible to meet the needs of our customers. I will be contacting you in the next few days to confirm that we have in fact satisfied the balance of your needs to approve the test market request. Thank you in advance for your continued support.

Best Regards,

The Antigo Cheese Company

A handwritten signature in black ink, appearing to read 'Dan Zastoupil', written in a cursive style.

Dan Zastoupil - CEO



Dairy Business

23 May 2000

Matt Dochterman  
Quality Assurance Facilitator  
The Antigo Cheese Company  
907 9<sup>th</sup> Avenue  
P.O. Box 503  
Antigo, WI 54409-0503

Dear Matt,

RHODIA FOODS conducted a triangle test using 18 consumer panelists (site employees) on 18 May 2000 on the 3 grated Parmesan cheese samples that the Antigo Cheese Company supplied us. The samples were labeled A, B, and C. We were informed by Larry Steckbauer that samples B and C were the same.

The triangle test was run and the results are tabulated on the attachment.

The panelists were not able to conclusively perceive a difference between the two grated Parmesan cheese samples because there were not sufficient correct answers to claim that there is a significant difference. There were 10 correct responses and 8 incorrect responses which results in a p value of 0.10 (Meilgaard, M., G. Civille, B. Carr. 1999. Sensory Evaluation Techniques. Table T8. Critical Number of Correct Responses in a Triangle Test, page 369). In order to claim a significant in perception between two samples, a p value of at least 0.05 is required. A p value of .05 means that we are 95% confident that there is a difference between the samples. The .05 p value or less is what statisticians normally use as a cutoff value in determining significance (or a true difference between samples in this case).

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Wright", is written over a horizontal line.

Steve Wright, Ph.D.  
Project Scientist

**Anggo Cheese Company Parmesan Samples Triangle Test Results**

Samples Three shredded samples were sent to us labelled A, B, C. Samples B,C were the same per Larry Steckbauer

Date of test: Thurs 18 May

Panelist	Samples*/Codes Received	Sample Perceived Different	Correct? Number Correct	p=?
1	A/404 B/611 B/763	yes	404	0.1
2	B/342 A/231 B/112	no	768	10
3	B/456 B/768 A/900	no	768	10
4	B/987 A/675 A/907	yes	987	0.1
5	A/564 B/786 A/364	yes	786	0.1
6	A/238 A/794 B/804	no	238	10
7	A/404 B/511 B/763	no	763	10
8	B/342 A/231 B/112	yes	231	0.1
9	B/456 B/768 A/900	no	456	10
10	B/987 A/675 A/907	no	907	10
11	A/564 B/786 A/364	no	564	10
12	A/238 A/794 B/804	yes	804	0.1
13	A/404 B/511 B/763	yes	404	0.1
14	B/342 A/231 B/112	yes	231	0.1
15	B/456 B/768 A/900	no	768	10
16	B/987 A/675 A/907	yes	987	0.1
17	A/564 B/786 A/364	yes	786	0.1
18	A/238 A/794 B/804	yes	804	0.1

\* Letters are the same letters on the grated Parmesan cheese samples received from Anggo Cheese.

**Conclusion:** The panelists were not able to conclusively tell a difference between the two samples.

Statistically there were not sufficient correct answers to claim that there is a significant difference in perception between the two cheese samples. There were 10 correct responses and 8 incorrect responses which results in a p value of 0.10. In order to claim a significant difference in perception between the two cheeses a p value of at least 0.05 is required. A p value of .05 means that we are 95% confident that there is a difference between the two cheese samples. The .05 p value or less is what statisticians normally use as a cutoff value in determining significance (or a true difference in this case).

With the information contained herein, we request the FDA to favorably consider our application to produce and test market six-month aged Parmesan Cheese. Again, if tests prove successful as we anticipate, we would eventually file a petition to amend the aging requirements found in the current Parmesan Standard 21CFR Section 133.165.

Please contact us if you have any questions at (715) 623-2301.

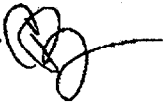
Sincerely,

A handwritten signature in cursive script that reads "Leo Malone". The signature is written in dark ink and is positioned above the printed name.

Leo Malone

**IDFA REGULATORY**

# Memo

To: Dan Zastoupil, The Antigo Cheese Company  
From: C. Gordon Brown, Ph.D.   
Date: 11/03/00  
Re: Vitamin A Levels in Parmesan Cheese

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Dan, the following information is offered in regard to the issue of Vitamin A in parmesan.

According to Cheese and Fermented Milk Foods, the standard text for basic information on cheesemaking and composition, the amounts of Vitamin A in parmesan are:

- Grated: 701 International Units per 100 grams
- Hard: 603 International Units per 100 grams
- Shredded: 639 International Units per 100 grams

Based on this information, it appears that your cheese meets and exceeds these averages irrespective of the age of the product.



**LABORATORIES, Inc.**

P.O. BOX 249, 1126 N. FRONT STREET  
NEW ULM, MN 56073-0249  
PHONE (507) 354-8517 WATS (800) 782-3557 FAX (507) 359-2890



Report Date:

LARRY STECKBAUER  
THE ANTIGO CHEESE COMPANY  
907 9TH AVE  
ANTIGO WI 54409-0503

Work Order #: 12929  
Account #: 001068

Date Received: 6 Nov 2000

LAB NUMBER	SAMPLE DESCRIPTION	RESULTS - AS RECEIVED		
OO-M35306	PARMESAN CHEESE WEDGE <u>4-27-00</u>			<i>Formula</i>
	Vitamin A <i>Fat - 28.0</i>	969.7	IU/100 g	<i>10 month</i>
OO-M35307	PARMESAN CHEESE WEDGE <u>4-28-00</u>			
	Vitamin A <i>Fat - 28.5</i>	983.6	IU/100 g	<i>6 month</i>
OO-M35308	PARMESAN CHEESE WEDGE <u>5-22-00</u>			
	Vitamin A <i>Fat - 27.0</i>	922.7	IU/100 g	<i>10 month</i>
OO-M35309	PARMESAN CHEESE WEDGE <u>5-23-00</u>			
	Vitamin A <i>Fat - 26.3</i>	789.3	IU/100 g	<i>10 month</i>

*facsimile*

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.



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Report Date:

LARRY STECKBAUER  
THE ANTIGO CHEESE COMPANY  
201 MORSE ST  
ANTIGO WI 54409-0503

Work Order #: 12929

Account #: 001068

Date Received: 6 Nov 2000

LAB NUMBER	SAMPLE DESCRIPTION	RESULTS - AS RECEIVED		
OO-M35310	PARMESAN CHEESE WEDGE <u>5-25-00</u>			<i>Formula</i>
	Vitamin A <i>Fat - 27.2</i>	1077.3	IU/100 g	<i>6 month</i>
OO-M35311	PARMESAN CHEESE WEDGE <u>5-26-00</u>			
	Vitamin A <i>Fat - 27.0</i>	<i>989.0</i> <i>re test</i> <del>2112.8</del>	IU/100 g	<i>6 month</i>
OO-M35312	PARMESAN CHEESE WEDGE <u>6-13-00</u>			
	Vitamin A <i>Fat - 26.8</i>	940.1	IU/100 g	<i>10 month</i>
OO-M35313	PARMESAN CHEESE WEDGE <u>6-16-00</u>			
	Vitamin A <i>Fat - 27.0</i>	1042.2	IU/100 g	<i>6 month</i>

*facsimile*

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# MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 N. Front St. - New Ulm, MN 56073 - 800-782-3557 - Fax 507-359-2890  
1411 S. 12th St. - Bismarck, ND 58502 - 800-279-6885 - Fax 701-258-9724  
710 S. 14th St. - Grand Forks, ND 58201 - 800-272-7645 - Fax 701-772-0028  
35 W. Lincoln Way - Nevada, IA 50201 - 800-362-0855 - Fax 515-382-3885



Report Date: 30 Nov 2000

LARRY STECKBAUER  
THE ANTIGO CHEESE COMPANY  
201 MORSE ST  
PO BOX 503  
ANTIGO WI 54409-0503

Work Order #: 12929  
Account #: 001068

Date Received: 6 Nov 2000

LAB NUMBER	SAMPLE DESCRIPTION	RESULTS - AS RECEIVED	
00-M35311	PARMESAN CHEESE WEDGE 5-26-00		
	Vitamin A	948.8	IU/100 g

Sample was rerun for Vitamin A  
The result of the recheck was 989.0 IU/100g  
The result of the duplicate was 940.6 IU/100g

Comments: AMENDED REPORT 29 Nov 00

Approved by:

Michael K. Grob, Laboratory Manager,  
New Ulm, MN



---

Food

**TO WHOM IT MAY CONCERN**

**Re: Rhodia Food Dairy Enzymes and vitamin levels in cheese**

Rhodia Food's enzymes for enhanced cheese ripening are blends of food grade, FDA approved enzymes which comply with the Joint FAO/WHO Expert Committee on Food Additives (JEFCA). All blends are based on mixtures of proteases and peptidases. Certain blends also contain microbial lipases. The enzymes accelerate the breakdown of milk proteins and fats to facilitate rapid ageing of cheese. The enzyme blends have been successfully used in a wide range of commercial applications for the last 15 years.

Proteases, peptidases and lipases do not influence vitamin levels in cheese. Vitamins levels in milk (and hence cheese) are subject to daily and seasonal variations. They are also influenced by the fat content of the milk. As stated in Federal Register: November 20, 1996 (Volume 61, Number 225) [Rules and Regulations; Page 58991-59002], the FDA recognises seasonal variations in vitamin A levels in milk (page 58995-58996), from 500 to 1,000 IU per quart in winter milk and from 2,000 to 3,000 IU per quart in summer (pasture) milk.

In conclusion, variations in vitamin levels in cheese are most likely a result of seasonal variations and will not be influenced by cheese ripening enzymes.

**Dr. Mark R. Smith  
On Behalf of Rhodia Food UK Ltd.  
December 2000**



The  
**Antigo  
Cheese**  
Company

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October 13, 2000

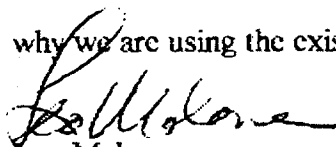
Ms. Geraldine June  
Food & Drug Administration  
Washington, DC  
Fax: 202 205 5295

Dear Ms. June,

Re: Antigo Cheese Co. Request for temporary permit to market a six-month aged  
Parmesan cheese.

As discussed, here are sketches of the actual size of a wedge of Parmesan cheese  
with and without the label we propose.

Please review and call with any questions or comments. I would be pleased to explain  
why we are using the existing label on the wedges.

  
Leo Malone  
715-623-2301



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Report Date: 24 Apr 2000

MATT DOCHTERMAN
THE ANTIGO CHEESE COMPANY
907 9TH AVE
ANTIGO WI 54409-0503

Lab Number: 00-M9999
Work Order #: 3782
Account Number: 001068

Date Sampled:
Time Sampled:
Date Received: 6 Apr 2000

Sample Description: 6 MONTH PARMESAN CHEESE ENZYME ADDED

NUTRITIONAL INFORMATION PER 100 grams

Table with 2 columns: Analyte and Result. Rows include Moisture, Ash, Calories, Total Fat, Protein, etc.

decrease in DV
07/12/00

Approved by: [Signature]
Michael K. Grob, Laboratory Manager

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL.



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Report Date: 24 Apr 2000

MATT DOCHTERMAN
THE ANTIGO CHEESE COMPANY
907 9TH AVE
ANTIGO WI 54409-0503

Lab Number: 00-M10000
Work Order #: 3782
Account Number: 001068

Date Sampled:
Time Sampled:
Date Received: 6 Apr 2000

Sample Description: 10 MONTH PARMESAN CHEESE

NUTRITIONAL INFORMATION PER 100 grams

Table with 2 columns: Analyte and Result. Rows include Moisture, Ash, Calories, Total Fat, Protein, Vitamin A, Calcium, Iron, etc.

Approved by: [Signature]
Michael K. Grob, Laboratory Manager

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL.

FATTY ACID PROFILE SUMMARY REPORT

DATE 20 APRIL 2000

REPORT TO: THE ANTIGO CHEESE COMPANY

LAB ID: 00M10000

CUSTOMER ID.: 10 MONTH PARMESAN CHEESE

ORDER # 20003782

FATTY ACID	C-LENGTH: DBL BONDS	PEAK AREA	FATTY ACID PERCENT
CAPROIC	(C6:0)	0	0.000%
CAPRYLIC	(C8:0)	18568	0.727%
CAPRIC	(10:0)	51136	2.002%
HENDECANOIC	(11:0)	993	0.039%
LAURIC	(12:0)	68126	2.667%
TRIDECANOIC	(13:0)	2049	0.080%
MYRISTIC	(14:0)	263771	10.326%
MYRISTOLEIC	(14:1)	19008	0.744%
PENTADECANOIC	(15:0)	27409	1.073%
PENTADECENOIC	(15:1)	0	0.000%
PALMITIC	(16:0)	795208	31.131%
PALMITOLEIC	(16:1)	45480	1.780%
MARGARIC	(17:0)	16507	0.646%
MARGAROLEIC	(17:1)	9947	0.389%
STEARIC	(18:0)	368752	14.436%
OLEIC	(18:1)	743963	29.125%
LINOLEIC	(18:2)	89432	3.501%
LINOLENIC	(18:3)	19113	0.748%
ARACHIDIC	(20:0)	4441	0.174%
GONDOIC	(20:1)	5167	0.202%
HENEICOSANOIC	(21:0)	4211	0.165%
BEHENIC	(22:0)	0	0.000%
ERUCIC	(22:1)	0	0.000%
LIGNOCERIC	(24:0)	1107	0.043%
TOTAL AREA		2554388	

TOTAL FATTY ACID PERCENT 100.00%

TOTAL SATURATED FATTY ACIDS 63.51%

TOTAL UNSATURATED FATTY ACIDS 36.49%

The result for each analyte meets MVTL quality control specifications.

QC Approved by: 

FATTY ACID PROFILE SUMMARY REPORT

DATE 20 APRIL 2000

REPORT TO: THE ANTIGO CHEESE COMPANY

LAB ID: 00m9999

CUSTOMER ID.: 6 MONTH PARMESAN CHEESE ENZIM

ORDER # 20003782


FATTY ACID	C-LENGTH: DBL BONDS	PEAK AREA	FATTY ACID PERCENT
CAPROIC	(C6:0)	13244	0.834%
CAPRYLIC	(C8:0)	10424	0.656%
CAPRIC	(10:0)	28657	1.804%
HENDECANOIC	(11:0)	0	0.000%
LAURIC	(12:0)	40878	2.574%
TRIDECANOIC	(13:0)	1478	0.093%
MYRISTIC	(14:0)	168275	10.594%
MYRISTOLEIC	(14:1)	12305	0.775%
PENTADECANOIC	(15:0)	19824	1.248%
PENTADECENOIC	(15:1)	0	0.000%
PALMITIC	(16:0)	510498	32.139%
PALMITOLEIC	(16:1)	28773	1.811%
MARGARIC	(17:0)	11084	0.698%
MARGAROLEIC	(17:1)	6484	0.408%
STEARIC	(18:0)	208725	13.141%
OLEIC	(18:1)	455608	28.683%
LINOLEIC	(18:2)	53010	3.337%
LINOLENIC	(18:3)	10534	0.663%
ARACHIDIC	(20:0)	3624	0.228%
GONDOIC	(20:1)	2545	0.160%
HENEICOSANOIC	(21:0)	1904	0.120%
BEHENIC	(22:0)	0	0.000%
ERUCIC	(22:1)	0	0.000%
LIGNOCERIC	(24:0)	527	0.033%
TOTAL AREA		1588401	

TOTAL FATTY ACID PERCENT 100.00%

TOTAL SATURATED FATTY ACIDS 64.16%

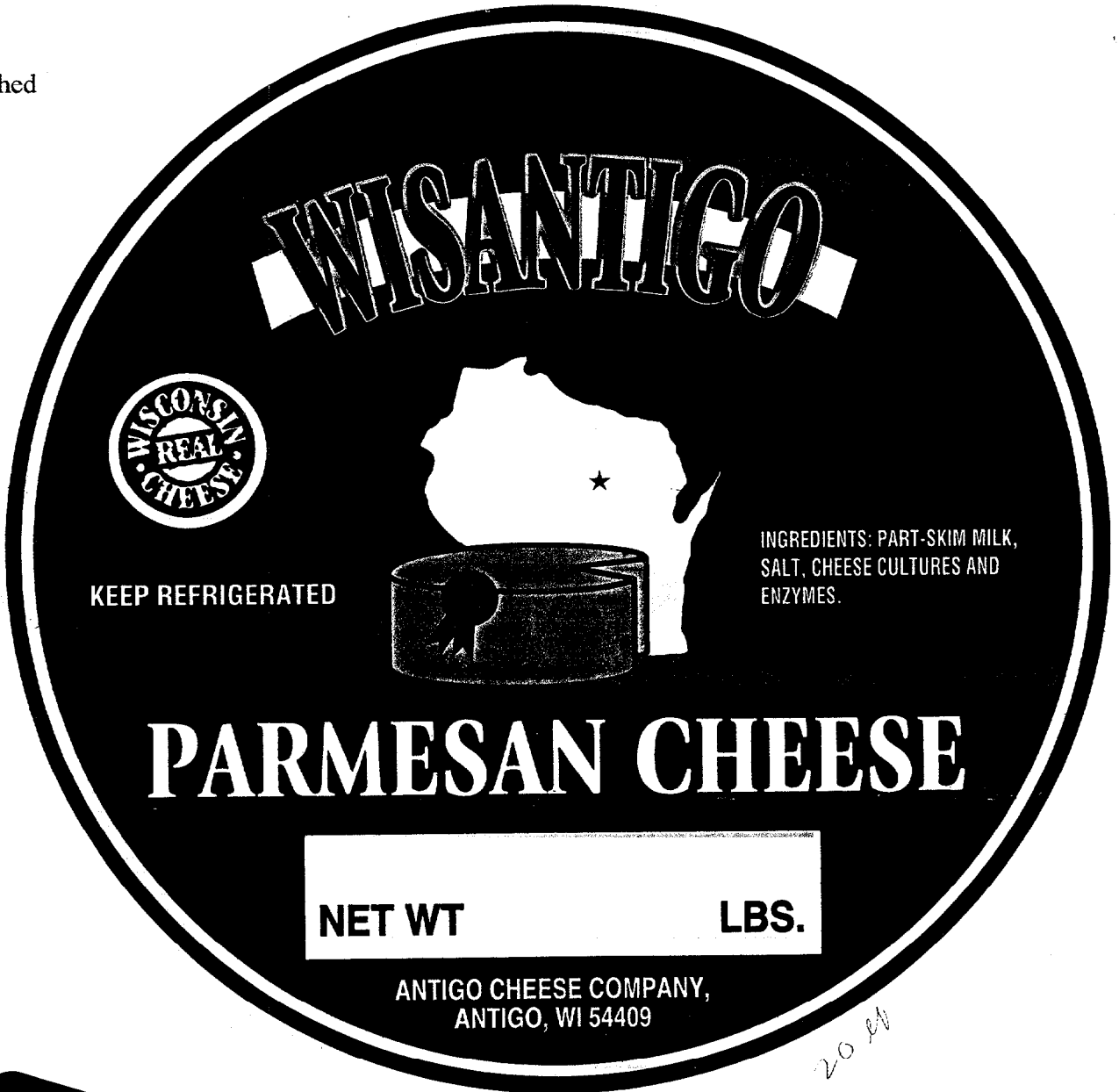
TOTAL UNSATURATED FATTY ACIDS 35.84%

The result for each analyte meets MVTL quality control specifications.

QC Approved by: 

Proposed Labels

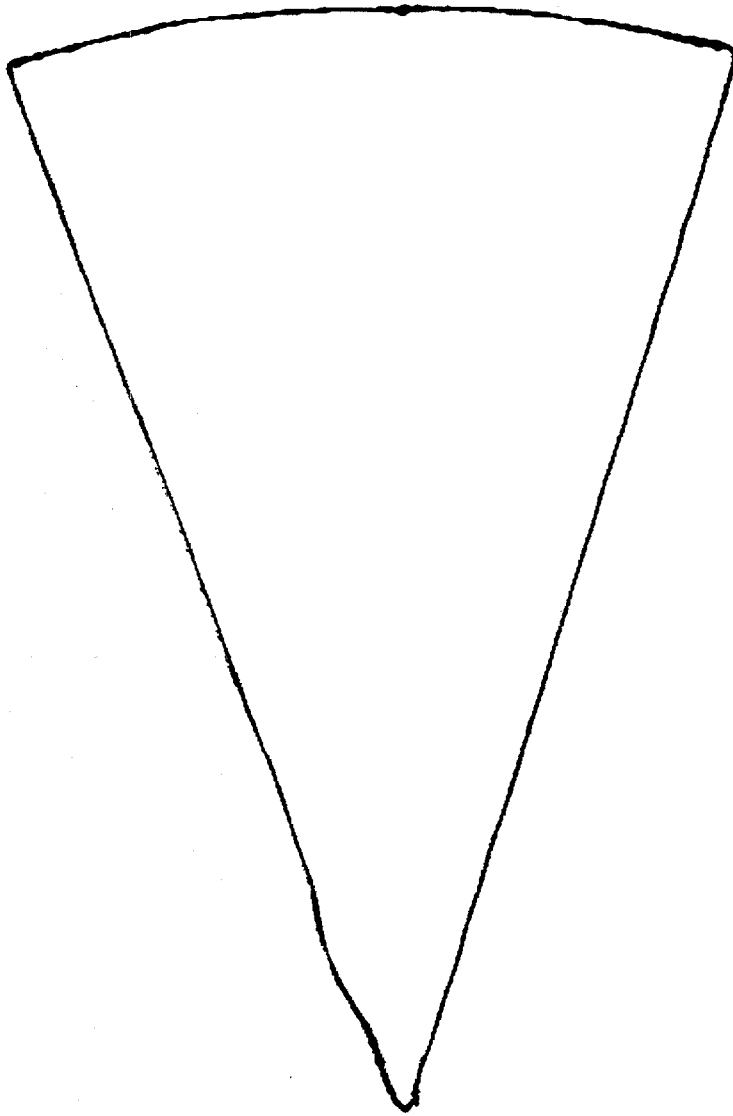
Attached



803









The  
**Antigo**  
**Cheese**  
Company


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January 11, 2001

Ms. Felicia Satchell  
Chief, Foods Standard Branch  
Food & Drug Administration  
Office of Food and Labeling (HSS-158)  
Center for Food Safety and Applied Nutrition  
200 C Street SW  
Washington, DC 20204

*May 25, 2000* 

Addendum to our request of ~~March 29, 2000~~ regarding notification pursuant to 21 FR 130.17, participation in extended market test of Parmesan Cheese deviating from standard of identify, 21 FR 133.165.

Dear Ms. Satchel,

In accordance to the provisions of 21 FR 130.17i and the notice appearing in Federal Register 65 251 (Dec. 29, 2000), (docket 98p-1121), pertaining to extension of the market test of Parmesan cheese, The Antigo Cheese Company hereby notifies the FDA that we accept the invitation of the FDA to participate in the market test of Parmesan Cheese.

Sincerely,

  
Leo Malone



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Report Date: 24 Apr 2000

MATT DOCHTERMAN  
THE ANTIGO CHEESE COMPANY  
907 9TH AVE  
ANTIGO WI 54409-0503

Lab Number: 00-M9999  
Work Order #: 3782  
Account Number: 001068

Date Sampled:  
Time Sampled:  
Date Received: 6 Apr 2000

Sample Description: 6 MONTH PARMESAN CHEESE ENZYME ADDED

## NUTRITIONAL INFORMATION PER 100 grams

Analyte	Result
=====	=====
Moisture	30.65 g
Ash	5.53 g
Calories	396.98 Kcal
Calories from Fat	255.1 Kcal
Total Fat	28.34 g
Fat, Saturated	18.18 g
Cholesterol	76.3 mg
Sodium	915.0 mg
Total Carbohydrate Content	1.33 g
Sugars	< 0.2 g
Protein - Kjeld N x 6.38	34.15 g
Vitamin A	1184.4 IU
Vitamin C	4.1 mg
Calcium	972.0 mg
Iron	< 0.247 mg

Approved by:

Michael K. Grob, Laboratory Manager



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Report Date: 24 Apr 2000

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THE ANTIGO CHEESE COMPANY  
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ANTIGO WI 54409-0503

Lab Number: 00-M10000  
Work Order #: 3782  
Account Number: 001068


Date Sampled:  
Time Sampled:  
Date Received: 6 Apr 2000

Sample Description: 10 MONTH PARMESAN CHEESE

## NUTRITIONAL INFORMATION PER 100 grams

Analyte	Result
Moisture	30.53 g
Ash	5.81 g
Calories	403.61 Kcal
Calories from Fat	261.1 Kcal
Total Fat	29.01 g
Fat, Saturated	18.42 g
Cholesterol	77.0 mg
Sodium	1016 mg
Total Carbohydrate Content	< 0.01 g
Sugars	< 0.2 g
Protein - Kjehl N x 6.38	35.63 g
Vitamin A	1782.8 IU
Vitamin C	5.1 mg
Calcium	1046 mg
Iron	0.268 mg

Approved by:

  
Michael K. Grob, Laboratory Manager

FATTY ACID PROFILE SUMMARY REPORT

DATE 20 APRIL 2000

REPORT TO: THE ANTIGO CHEESE COMPANY LAB ID: 00M10000

CUSTOMER ID.: 10 MONTH PARMESAN CHEESE ORDER # 20003782

FATTY ACID	C-LENGTH: DBL BONDS	PEAK AREA	FATTY ACID PERCENT
CAPROIC	(C6:0)	0	0.000%
CAPRYLIC	(C8:0)	18568	0.727%
CAPRIC	(10:0)	51136	2.002%
HENDECANOIC	(11:0)	993	0.039%
LAURIC	(12:0)	68126	2.667%
TRIDECANOIC	(13:0)	2049	0.080%
MYRISTIC	(14:0)	263771	10.326%
MYRISTOLEIC	(14:1)	19008	0.744%
PENTADECANOIC	(15:0)	27409	1.073%
PENTADECENOIC	(15:1)	0	0.000%
PALMITIC	(16:0)	795208	31.131%
PALMITOLEIC	(16:1)	45480	1.780%
MARGARIC	(17:0)	16507	0.646%
MARGAROLEIC	(17:1)	9947	0.389%
STEARIC	(18:0)	368752	14.436%
OLEIC	(18:1)	743963	29.125%
LINOLEIC	(18:2)	89432	3.501%
LINOLENIC	(18:3)	19113	0.748%
ARACHIDIC	(20:0)	4441	0.174%
GONDOIC	(20:1)	5167	0.202%
HENEICOSANOIC	(21:0)	4211	0.165%
BEHENIC	(22:0)	0	0.000%
ERUCIC	(22:1)	0	0.000%
LIGNOCERIC	(24:0)	1107	0.043%
TOTAL AREA		2554388	

TOTAL FATTY ACID PERCENT 100.00%

TOTAL SATURATED FATTY ACIDS 63.51%

TOTAL UNSATURATED FATTY ACIDS 36.49%

The result for each analyte meets MVTL quality control specifications.

QC Approved by: 

FATTY ACID PROFILE SUMMARY REPORT

DATE 20 APRIL 2000

REPORT TO: THE ANTIGO CHEESE COMPANY LAB ID: 00m9999

CUSTOMER ID.: 6 MONTH PARMESAN CHEESE ENZIM ORDER # 20003782

FATTY ACID	C-LENGTH: DBL BONDS	PEAK AREA	FATTY ACID PERCENT
CAPROIC	(C6:0)	13244	0.834%
CAPRYLIC	(C8:0)	10424	0.656%
CAPRIC	(10:0)	28657	1.804%
HENDECANOIC	(11:0)	0	0.000%
LAURIC	(12:0)	40878	2.574%
TRIDECANOIC	(13:0)	1478	0.093%
MYRISTIC	(14:0)	168275	10.594%
MYRISTOLEIC	(14:1)	12305	0.775%
PENTADECANOIC	(15:0)	19824	1.248%
PENTADECENOIC	(15:1)	0	0.000%
PALMITIC	(16:0)	510498	32.139%
PALMITOLEIC	(16:1)	28773	1.811%
MARGARIC	(17:0)	11084	0.698%
MARGAROLEIC	(17:1)	6484	0.408%
STEARIC	(18:0)	208725	13.141%
OLEIC	(18:1)	455608	28.683%
LINOLEIC	(18:2)	53010	3.337%
LINOLENIC	(18:3)	10534	0.663%
ARACHIDIC	(20:0)	3624	0.228%
GONDOIC	(20:1)	2545	0.160%
HENEICOSANOIC	(21:0)	1904	0.120%
BEHENIC	(22:0)	0	0.000%
ERUCIC	(22:1)	0	0.000%
LIGNOCERIC	(24:0)	527	0.033%
TOTAL AREA		1588401	

TOTAL FATTY ACID PERCENT 100.00%

TOTAL SATURATED FATTY ACIDS 64.16%

TOTAL UNSATURATED FATTY ACIDS 35.84%

The result for each analyte meets MVTL quality control specifications.

QC Approved by: 