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दूध के विभिन्न प्रकार

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Founder Chairman
Late Shri R.K. Prasad

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Dear Reader,

Welcome to the new edition. This is our seventh issue of **Ingredient Business**. This issue apart from covering the regular items focuses on the dairy products which is the basic necessity of life. We thank all our readers and advisors for the massive support and appreciation provided by them through their feedback. This has given us the extra push to work harder to effectively bridge the gap between the bakery practitioners and the Ingredient manufacturers to help the bakery business do better.



Today we see Amul has made a rapid growth in the dairy industry be it cheese, milk or other dairy products, secondly we also find the Goodness of Ghee for young and healthy India. Most interestingly you will know about China and India are emerging as major forces in dairy industry by 2020.

Apart from this there are also some interesting Hindi articles which our Hindi readers will enjoy. Which are about cheese, paneer, buttermilk etc which are the most important dairy products which will catch the attention of our readers.

I am sure you will enjoy reading this issue as much as the previous issues

Good Wishes and Happy Reading



Manjeet Bhawsar

manjeet@newmediacomm.com



छाछ और दही के बीच का अंतर

छाछ सर्वाधिक सरल स्वस्थ एकमात्र पेय पदार्थ है। यह दूध की तुलना में एक अम्लीय उपस्थिति है। यह सर्वविदित है दूध के भीतर लेक्टिक एसिड की उपस्थिति होती है। दूध में कैसिन प्रोटीन की उपस्थिति से छाछ का स्वाद मधुर हो जाता है। जब दूध को ८० डिग्री के ताप पर गर्म किया जाता है, तो दही के बैक्टीरिया के किण्वन प्रक्रिया से छाछ की उत्पत्ति होती है।

पोषण मुल्य के संदर्भ में छाछ और दही स्पष्ट रूप से पाँच पहलुओं में विशेष रूप से एक दुसरे से भिन्न होते हैं। एक १०० ग्राम सेवन के आधार पर छाछ कम दही की तुलना में उर्जा कम देता है, दही में भी अधिक वसा और ३.३ में प्रोटीन की है और ३.५ जी क्रमशः है, छाछ ०.९ ग्राम और ३.३ जी की तुलना फिर भी उनके कार्बोहाइड्रेट जैसी सामग्री है और लगभग वही सामग्री छास में भी है जैसे छाछ सेवारत में प्रति ४.८ ग्राम के बारे में है, जबकी अन्य ४.७ जी में कैल्शियम की मात्रा छाछ और दही में लगभग बराबर है जैसे १२१ मिलीग्राम के लिए ११६ मिलीग्राम पर एक जैसे ही है, इस के साथ दही मात्र कार्बोहाइड्रेट एक छोटे से

अंतराल में सार्थक है।

यह स्वस्थ पाचन के बनाम रखने में सहायक जीवाणु के रूप में पाया जाता है, *Streptococcus Lactis* और *Leuconostoc Citrovorum* जो एक तरह की *Sketones* और *Aldehydese* यह दोनों छाछ की खुशबू और स्वाद के लिए जिम्मेदार घटकों में लेक्टिक एसिड बदल देती है। छाछ के लिए दूध किण्वन बैक्टीरिया है जो लैक्टिक एसिड बनाने के द्वारा किया जाता है।

दही में दो प्रकार के बैक्टीरिया होते हैं जो जीवाणु दूध के कैसिन प्रोटीन से संबंधित है, दूध एक उत्पाद है जो जीवित बैक्टीरिया को कई विविधताओं से सफल सुपाच्य आहार के लिए लाभकारी है, इसमें किण्वन से दूध का शक्कर लैक्टिक एसिड में बदल जाता है इस प्रक्रिया द्वारा लैक्टिक एसिड बैक्टीरिया के कम तापमान पर अल्प समय में किण्वन द्वारा दही ही छाछ बन जाता है।

-By Dr. Tulsi Narayanan





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Proteins

Casein Protein Hydrolysate, Whey Protein Concentrate, Whey Protein Hydrolysate.

Polyols

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Sweeteners

Intense: Acesulfame - K, Sucralose.

Natural : Fructose, stevia



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चीज (पाश्चात्य पनीर)

दूध से निर्मित भोज्य पदार्थों के एक विविधतापूर्ण समूह का नाम चीज (Cheese) है। विश्व के लगभग सभी भागों में भिन्न-भिन्न रंग-रूप एवं स्वाद की चीज बनायी जाती है।

चीज मूलतः शाकाहारी है। इसमें उच्च गुणवत्ता के प्रोटीन व कैल्शियम के अलावा फास्फोरस, जिंक विटामिन ए, राइबोफ्लेविन व विटामिन बी२ जैसे पोषक तत्व भी पाये जाते हैं। यह दातों के इन्फेक्शन की भी रक्षा करता है और दातों को सड़न से बचाता है।

चीज से स्वास्थ्य को लाभ

चीज से अनिवार्य तत्वों का अच्छा मेल है। प्रयोग में लाए गये दूध व चीज बनाने की प्रक्रिया चीज के पोषक तत्वों पर प्रभाव पड़ता है। जो व्यक्ति अपने आहार में वसा को शामिल करना नहीं चाहते, उनके लिए कम वसा युक्त चीज भी उपलब्ध है।

चैडुर, स्विस्, ब्ल्यू, मोंटीर, जैक व प्रोसेस्ड चीज जैसे कई चीज सेवन के लिए बड़े फायदेमन्द हैं। इनसे दातों में किड़े लगने का खतरा कम होता है। लार का प्रवाह उत्तेजित होता है, जिससे प्रतिरोधक क्षमता बढ़ती है।

चीज में उपस्थित दुग्ध प्रोटीन अपनी प्रतिरोधक क्षमता द्वारा प्लेक बनानेवाले अम्लों को उदासीन कर देता है। इससे दातों के इन्फेक्शन की भी रक्षा होती है। दातों की सड़न भी कम होती है, तभी तो डॉक्टर भोजन या स्नैक खाने के तुरंत बाद चीज खाने की सलाह देते हैं।

चैडुर व स्विस् जैसे कई चीजों में लैक्टोस नहीं पाया जाता है किन्तु ये कैल्शियम व अनेक पौष्टिक पदार्थों का महत्वपूर्ण स्रोत हैं, जिन्हें लैक्टोस पचाने में कठिनाई हो वे इन चीजों को भरपूर मात्रा में इस्तेमाल कर सकते हैं।

कैल्शियम से भरपूर चीज को आहार में लेने से ऑस्टियोपोरोसिस को घटाया जा सकता है। उच्च रक्तचाप को घटाने के लिए हायपरटेंशन आहार में भी चीज की थोड़ी मात्रा शामिल कर सकते हैं।



। इस आहार में वसा युक्त

दूध, दही, कम वसा युक्त चीज व फलों

की तीन प्रकार शामिल होती है, जिनसे हृदय रोग,

एल डी एच कौलेस्ट्रॉल व होमोसिस्टीन का खतरा घटता है। कुल मिलाकर चीज की उच्च पौष्टिकता व स्वास्थ्य में इसकी लाभदायक भूमिका, इसे स्वस्थ आहार का एक अंग बनाती है।

चीज निर्माण प्रक्रिया व चीज के प्रकार:

चीज बनाने के लिए पाँच प्रकार के दूध का प्रयोग होता है।

१. गाय
२. बकरी
३. भेड़
४. भैंस
५. मिश्रित दुग्ध

चीज को उसकी गंध, स्वाद व उपयोग किए गए दूध की गुणवत्ता से पहचाना जा सकता है। ताजा चीज दही की तरह होता है, जिसे पकाने के तुरंत बाद खा सकते हैं। मुलायम चीज उच्च कैलोरी युक्त होता है व आसानी से फैलाया जा सकता है। कम सख्त चीज कम नमी वाला होता है, जिसे सख्त चीज की तुलना में आसानी से काटा जा सकता है। जिसे सख्त चीज में नमी की मात्रा अपेक्षाकृत कम व वसा की मात्रा अधिक होती है।

चीज की सख्ती उसके प्रकार पर निर्भर करती है। ये नरम मुलायम से लेकर काफी सख्त तक हो सकते हैं। आम तौर पर यह गाय के



दूध से बनता है पर इसे बकरी व भेड़ के दूध से भी बना सकते हैं। इसकी बनावट व रंग-रूप से अंतर पता चल जाता है क्योंकि बकरी के दूध का चीज गाय के दूध से बने चीज की तुलना में भुरभुरा होता है।

ताजा व मुलायम चीज :

१. पनीर
२. क्रीम चीज
३. कर्ड चीज
४. ब्री (फ्रेंच चीज)
५. कैममबर्ट चीज
६. अजरैला चीज
७. रिकोट्टा चीज
८. रॉयल फ्रेंच चीज

कम सख्त चीज

१. मांचेगो
२. कैटल
३. चैशायर
४. इमेंटल
५. डनलप
६. गेरूयेरे
७. चैडुर
८. एडम चीज

सख्त व धुआं दिया हुआ चीज



१. पारमेसन चीज (इटली का)
२. सपसागो (स्विस चीज)
३. स्मोक्ड इमेंटल (चेक चीज)
४. माईसैला (डेनिश चीज)

ब्लू चीज

१. डेनिश ब्लू चीज
२. ब्लू चैशायर चीज
३. बैचेरियन ब्लू चीज

चीज का भंडारण

१. चीज घर लाने के बाद पैकेट में ही रहने दें व फ्रिज के सबसे ठंडे हिस्से में रखें। इससे हवा का प्रसार घटेगा व चीज पर किटाणु नहीं पनप पायेंगे।

२. पारमेसन व चेडुर जैसे सख्त चीज को फ्रिजर में भी रख सकते हैं। जरूरत पड़ने पर उसे गला लें। इस्तेमाल से दो घंटे पहले, फ्रिज से निकाल लें। यदि झटपट गलायेंगे तो उसकी नमी व नरमी घट सकती है।

३. बेहतर होगा कि ताजा चीज खरीद कर ही इस्तेमाल करें क्योंकि कमरे के तापमान पर चीज अनुकूल रहता है।

४. चीज को कितनी भी सावधानी से क्यों न रखा जाए वह लगातार खराब होता है। सख्त चीज एक महिने तक रखा जा सकता है लेकिन मुलायम चीज पैकेट के खोलने के १-२ सप्ताह के भीतर ही इस्तेमाल करना चाहिए। चीज को हवा बंद डिब्बों में रखें।

५. कटूकस चीज पर फफूंदी लगती है इसलिए इसे कुछ ही दिनों में इस्तेमाल कर लें।

चीज के लोकप्रिय प्रकार

१. कॉटेज चीज (पनीर) : यह गाय के दूध से बनता है पर घर में आप इसे भैंस के या टोंड दूध से भी बना सकते हैं। यह कई भारतीय शाकाहारी व्यंजनों, कांटीनेंटल व्यंजनों/सलाद व चीज केक में इस्तेमाल होता है। इस दानेदार व फैंटे चीज में क्रिम व बनावट होती है।

२. क्रिम चीज : यह नरम चीज भी पनीर की तरह बनता है पर गाय के फुल क्रिम दूध से बनता है। यह सफेद मुलायम व हल्की गंध वाला होता है। इससे चीज केक, सैंडविच स्प्रेड व क्रिम क्रेकर



बिस्कट बनाए जाते हैं।

३. पारमेसन चीज : इस इटैलियन सख्त चीज का स्वाद तीखा और फलों जैसा होता है। यह प्रायः सभी खाद्य पदार्थों के लिए अनुकूल तथा पिज्जा से लेकर पास्ता तक किसी भी चीज पर छिड़का जा सकता है। इसे सूप व चावल में भी मिला सकते हैं। गाय के दूध से बना चीज सख्त व दानेदार होता है जिसे भोजन के बाद भी परोस सकते हैं।

४. चेडुर चीज : यह ज्यादा लोकप्रिय व स्वादिष्ट चीज है। यह सफेद रंग का हल्का सख्त व तीखे स्वाद वाला चीज है। यह अंग्रेजी व अमरीकन चेडुर के रूप में मिलता है। इसे क्रेकर व शराब के साथ टेबल चीज के रूप में तथा पकाने के बर्तनों में बेक करके प्रयोग कर सकते हैं।

५. रिकोट्टा चीज : यह इटैलियन चीज भी गाय के दूध के मूठे से बनता है। इसका दूध जैसा स्वाद इसे कई इटैलियन मीठे व्यंजनों-चीज क्रेकर आदि के लायक बनाता है। यह लसागने व पिज्जा के काम भी आता है।

६. मौजरेला चीज: यह नरम बनावट का चीज हल्के क्रिमी स्वाद वाला होता है। यह पिज्जा, लसागने व ग्रिल्ड सैंडविच बनाने के काम आता है।

दूध एक अपारदर्शी सफेद द्रव है जो मादाओं के दुग्ध ग्रन्थियों द्वारा बन जाता है। नवजात शिशु तब तक दूध पर निर्भर रहता है जब तक अन्य पदार्थों का सेवन करने में अक्षम होता है। साधारणतया दूध में ८५ प्रतिशत जल होता है और शेष भाग में ठोस तत्व यानी खनिज व वसा होता है। गाय-भैंस के अलावा बाजार में विभिन्न कंपनियों का पैकड दूध भी उपलब्ध होता है। दूध प्रोटीन, कैल्शियम

और रायबोफ्लेविन (विटामिन बी-२) युक्त होता है, इनके अलावा इसमें विटामिन ए, डी, वे और ई सहित फौस्फोरस, मैग्नीशियम, आयोडीन व कई खनिज और वसा तथा उर्जा भी होती है। इसके अलावा इसमें कई एंजाइम और कुछ जीवित रक्त कोशिकाएं भी हो सकती हैं।

गाय का दूध

गाय के दूध में प्रति ग्राम ३.१४ मिली ग्राम कोलेस्ट्रॉल होता है। आयुर्वेद के अनुसार गाय के ताजा दूध को ही उत्तम माना जाता है। बत्रा हॉस्पिटल एवं मेडिकल रिसर्च सेंटर के आयुर्वेद के विभागाध्यक्ष डॉ. मेह सिंह के अनुसार गाय का दूध भैंस की तुलना में मस्तिष्क के लिए बेहतर होता है।

भैंस के दूध में प्रति ग्राम ०.६५ मिली ग्राम कोलेस्ट्रॉल होता है। भैंस के दूध में गाय के दूध की तुलना में ९२ प्रतिशत कैल्शियम, ३७ प्रतिशत लौह और ११८ प्रतिशत अधिक फॉस्फोरस होता है। इंडियन स्पाइनल इंजरी सेंटर के मेडिकल डायरेक्टर डॉ. एच.एस. छाबड़ा के अनुसार गाय के दूध से बेहतर भैंस का दूध होता है। उसमें कम कोलेस्ट्रॉल होता है और मिनरल अधिक होते हैं

पैकड दूध

इस तरह का दूध मदर डेअरी, अमूल, पराग जैसी कंपनियां सप्लाई करती है। इसमें विटामिन ए, लौह और कैल्शियम ऊपर से भी मिलाया जाता है। इसमें भी कई तरह के जैसे फुल क्रिम, टोंड, डबल टोंड और फ्लेवर्ड मिल्क मिलते हैं। फुल क्रिम में पूर्ण मलाई होती है, अतः वसा सबसे अधिक होता है। इन सभी की अपनी उपयोगिता है, पर चिकित्सकों की राय अनुसार बच्चों के लिए क्रिम दूध बेहतर है तो बड़ों के लिए कम फैट वाला दूध।

सोया दूध क्या है ?

सोय दूध (जो सोया दूध, सोया ज्यूस और सोयाबीन दूध के रूप में भी जाना जाता है) सोय दूध सोया बीन्स से बनाया जाता है, यह सोयाबीन और पानी से बना दूध का प्रकार है। इसे गाय के दूध की तरह भी इस्तेमाल किया जा सकता है। सोया दूध पारंपारिक रूप से पश्चिमी देशों में जहां गाय के दूध से एलर्जी हो, और उसके संबंधित स्वास्थ्य लाभ और लोकप्रियता की वजह से दुनिया में आ रहा है। इस अनुच्छेद में हम सोया दूध के लाभ का पता लगा सकते हैं। इसे सॉस, स्मूथिज, आईस्क्रीम, एक प्रकार की चटनी सॉस, कस्टर्ड और कई नुस्खों में हम गाय के दूध को इस्तेमाल कर सकते हैं



सोया दूध के गुण क्या है ?

यह आवश्यक अमीनो एसिड, वृद्धि और विकास के लिए आवश्यक का एक बहुत अच्छा स्रोत है, सोया दूध बच्चों और बुजुर्गों के लिए पौष्टिक आहार है।

सोया प्रोटीन भी कोलेस्ट्रॉल के ऑक्सीकरण ऑक्सीजन की दर, atherosclerosis की उत्पत्ति में बहुत ही महत्वपूर्ण कारक कम करता है, इसके अलावा isoflavone genistein प्लेट एकत्रीकरण घट जाती है।

ऑस्ट्रियोपोरोसिस के प्रभाव को रोकने में भी बहुत अनुकूल, पशु प्रोटीन और सल्फर अमीनो एसिड से भरपूर है, कैल्शियम के मूत्र उत्सर्जन उत्तेजक द्वारा decalcification बढ़ावा. सोया दूध से इन प्रोटीनों के प्रतिस्थापन इस प्रक्रिया को रोकता है और संरक्षण के लिए शरीर में कैल्शियम मदद करता है, इसके अलावा disoflavones हड्डी विनाश की प्रक्रिया को भी रोकता है।

पोलीअनसेचुरेटेड फैटी एसिड होता है Linoleic, Linolenic और arachidonic एसिड आवश्यक फैटी है और एसिड ओमेगा-३ विकास में मदद मदद करता है, त्वचा रोग और तंत्रिका संबंधी विकार उत्पादन असमर्थ है और इसमें कोलेस्ट्रॉल नहीं होता है।

सोया isoflavone जो प्लांट एस्ट्रोजन है जो वास्तविक शरीर एस्ट्रोजन की तुलना में एक एस्ट्रोजेनिक बहुत छोटी मात्रा में शामिल है, हालांकी, वे अपने सेल विशेष रिसेप्टर्स अवरुद्ध है, जिससे एस्ट्रोजेनिक को कम करने से एस्ट्रोजन का अच्छा प्रतियोगी है, यह माना जाता है कि इस तंत्र में महिलाओं में स्तन कैंसर के खिलाफ

सोया के सिद्ध सुरक्षात्मक प्रभाव से निहित है. Genistein जैसे सोया isoflavone, कैंसर सेल संस्कृतियों को बाधित कर सकते हैं। हालांकि अधिक अध्ययन की जरूरत है, वैज्ञानिकों का मानना है कि सोया दूध का एक गिलास दैनिक, काफी कुछ तरह के कैंसर के खतरे को कम कर सकता है।

इसमें लैक्टोज, शक्कर कोलेस्ट्रॉल नहीं होता है और लैक्टोज असहिष्णु लोगों के लिए एक आदर्श विकल्प है। मधुमेह रोगियों के लिए उपयुक्त उत्पादक है और अच्छा / कैल्शियम फास्फोरस है, सोया दूध विभिन्न आबादी समूहों के लिए और वृद्धि और किशोरावस्था के लिए के लिए एक आदर्श भोजन है जहां दोनों पोषक तत्वों के गठन में एक महत्वपूर्ण भूमिका निभाने के दौरान remodeling, गर्भवती महिलाओं का स्तनपान के दौरान और बुजुर्गों, जहां एक कैल्शियम से भरपूर आहार ऑस्ट्रियोपोरोसिस के विकास के खिलाफ रोकथाम का एक महत्वपूर्ण उपाय है। सोया दूध में मैग्नेशियम, कैल्शियम से भरपूर और खनिज में समृद्ध है और हृदय रोग, उच्च रक्तचाप, गठिया आदि में उपयोगी है। सोया दूध विटामिन बी, विटामिन बी-६ और फॉलिस एसिड का अच्छा स्रोत है।

सोया दूध के लाभ

सोया सेम भी फाइबर का एक महान स्रोत है। सोया दूध गाय दूध के मुकाबले हमारे सामान्य पाचन कार्यों में मदद करता है और अधिक से अधिक फाइबर युक्त होने से यह स्वास्थ्य में लाभ करता है।

सोया दूध में अच्छा वसा होता है और यह कोलेस्ट्रॉल मुक्त है जिसका अर्थ है जब गाय के दूध की जगह यह भरे हुए धमनियों और





हृदय रोग को रोकने में मदद करता है।

सोया दूध लैक्टोज मुक्त है। ग्लोबल जनसंख्या का ७५ प्रतिशत लैक्टोज असहिष्णुता है और यह विशेष रूप से आफ्रिकी और एशियाई मूल के उन लोगों का सच है। इसका मतलब यह है कि सोया दूध एक लैक्टोज असहिष्णुता के साथ उन लोगों के लिए डेयरी दूध के लिए भी एक अच्छा विकल्प है।

यदि आपको गाय के दूध से एलर्जी हो तो सोया दूध एक अच्छा विकल्प हो सकता है। बच्चों के २.५ प्रतिशत के बारे में गाय के दूध से एलर्जी हो सकती है। जबकि बच्चों का ५ प्रतिशत ही सोया दूध से एलर्जी है।

सोया दूध के अन्य प्रमुख विशेषता यह है कि इसमें यह isoflavones शामिल हैं, स्वास्थ्य लाभ में एक हृदय रोग, कुछ तरह के कैंसर और ऑस्टियोपोरोसिस की रोकथाम सहित संख्या के साथ जुड़ा हुआ माना जाता है। जिन देशों में सोया दूध गाय के दूध के बजाय आहार में मौजूद है उनमें रोगों की आवृत्ति काफी कम है। isoflavones antioxidants जो मुक्त radicals और ऑक्सिडेशन के खिलाफ हमारी कोशिकाओं की रक्षा करने में मदद करते हैं। isoflavones गाय के दूध में मौजूद नहीं है।

सोया दूध भी लेसिलिन का अच्छा स्रोत है, विटामिन बी और विटामिन ई स्वस्थ त्वचा को बनाए रखने में सहायक है।

दूध और डेयरी के उत्पाद

इस समूह खाद्य पदार्थों में प्रोटीन, विटामिन और खनिज के महत्वपूर्ण स्रोत हैं और विशेष रूप से कैल्शियम जो स्वस्थ हड्डियों और दांतों के लिए आवश्यक है।

क्या खाद्य पदार्थ इस श्रेणी में है ?

यह पनीर, दही और fromage frais -- मक्खन मार्गरीन, या क्रिम नहीं बल्कि दूध और दूध उत्पादों में भी शामिल है।

विभिन्न प्रकार के दूध :

दूध की कई अलग अलग किस्में हैं ब्रिटेन में गाय का दूध आज भी भैंस और बकरी का दूध साथ ही संयंत्र आधारित विकल्प के एक नंबर पर शामिल है - सोया, चावल, जई और बादाम का दूध सहित लैक्टोज असहिष्णुता के साथ उन लोगों के लिए है।

साबुत या पूर्ण वसा दूध में २.५ प्रतिशत वसा होता है।

अर्द्ध स्किमड के बारे में १.७ प्रतिशत वसा होता है।

स्किमड दूध ०.१ फीसदी वसा प्रति ०.३ होता है।

यहाँ तक की सारा दूध अपेक्षाकृत वसा को कम करता है और निश्चित रूप से अर्द्ध स्किमड दूध को कम वसा के रूप में लेबल किया जा सकता है। आम धारणा के विपरीत, दूध में वसा की मात्रा को कम कैल्शियम की मात्रा को प्रभावित नहीं करता इसलिए एक पर्याप्त कैल्शियम की मात्रा अभी भी कम वसा डेयरी उत्पादों से प्राप्त किया जा सकता है। बहरहाल कम वसा वाले दूध में कम उर्जा की कम मात्रा में होता है। कुछ सुपरमार्केट में आज भी १ फीसदी वसा सामग्री है जो लगभग आधी अर्द्ध स्किमड दूध की वसा की रहती है लेकिन एक और अधिक मलाईदार स्वाद बरकरार रखने के साथ दूध बेचना शुरू कर दिया है, यह उन लोगों को जो वसा की मात्रा का वे उपभोग कम करना चाहते हैं लेकिन स्किमड दूध का स्वाद पसंद नहीं करते हैं उनके लिए एक अच्छा विकल्प है।

दुग्ध उत्पाद :

पनीर दूध के रूप में ही लाभकारी पोषक तत्व हैं, सबसे अधिक संतृप्त वसा है जो की उच्च स्तर का होते हैं, इसलिए यह महत्वपूर्ण है, केवल पूर्ण वसा पनीर और कभी कभी छोटे भागों में पाये जाते हैं।



दही प्रोटीन और विटामिन बी २ में समृद्ध है : अनिवार्य रूप से दूध में एक ही पोषक तत्व है जो कुछ किस्मों में रहने वाले बैक्टेरिया है जो आपके पाचन तंत्र (प्रोबायोटिक्स) के लिए स्वस्थ होते हैं वही पुरे या कम वसा वाले दूध से बनाया जा सकता है, लेकिन सावधान रहना है क्योंकि अक्सर कहा जाता है कि शक्कर इसमें होती है। कम वसा में जरूरी नहीं है अधिक कैलरी नहीं है। यदि आप अपना वजन देख रहे हैं आहार के उपयोग के लिए क्या यह सही लग रहा है, यह प्राकृतिक कम वसा अनस्विटनेड दही के साथ मिश्रण फल द्वारा अपना खुद का बना पदार्थ बाहर विकरण के लिए महत्वपूर्ण बनाया जा सकता है।

कैल्शियम के महत्व

कैल्शियम एक खनिज है कि मजबूत हड्डियों और दातों के निर्माण में लिए मदद करता है, मांसपेशियों में संकुचन (दिल की धड़कन भी



शामिल है) को नियंत्रित करता है और रक्तचाप भी सामान्य रखता है दूध और डेयरी उत्पादों लंबे कैल्शियम का एक महत्वपूर्ण स्रोत के रूप में आयोजित किया गया है। हाल ही में डेयरी कैल्शियम सूत्रों की भूमिका सुरक्षा कुछ वैज्ञानिकों और अधिक अनुसंधान करने के लिए एक फर्म निष्कर्ष आकर्षित किया गया है।

कैल्शियम के अन्य स्रोतों में शामिल हैं :

मछली
सूखे फल मेवे
तिल के बीज
बादाम
सोया
पत्तेदार सब्जियाँ और दूध

शोध बताते हैं कि कैल्शियम के अलावा, विटामिन डी महत्वपूर्ण है क्योंकि यह मदद करता है शरीर को अवशोषित और हड्डियों में कैल्शियम को बनाए रखने, उन्हें मजबूत बनाने में इसी तरह पर्याप्त व्यायाम और स्वस्थ हड्डी संरचना और घनत्व को बनाए रखने में यह और महत्वपूर्ण कारक के रूप में भी देखा जाता है

कैल्शियम २० से २५ वर्ष की उम्र तक अपनी हड्डियों को मजबूत बनाता है। इस बिंदु के बाद, अपनी हड्डियों को बनाए रखने या उनके घनत्व कम कर सकते हैं और उम्र बढ़ाने की प्रक्रिया का एक स्वाभाविक हिस्सा के रूप में कमजोर हो जाना अपर्याप्त इस उम्र से पहले आहार में कैल्शियम का सेवन भंगुर हड्डी रोग और ओस्टियोपोरोसिस के खतरे को बढ़ा के रूप में कैल्शियम एक रिजर्व के रूप में हड्डियों से तैयार कर सकता है।

बच्चों को कैल्शियम की कितनी आवश्यकता है ?



११ से १८ वर्ष लड़कियाँ : प्रतिदिन ८०० मि.ग्रा. कैल्शियम
११ से १८ वर्ष लड़के : प्रतिदिन १००० मि.ग्रा. कैल्शियम

पनीर

पनीर (Indian Cottage Cheese) एक दुग्ध उत्पाद है। यह चीज का एक प्रकार है जो भारतीय उपमहाद्वीप में खूब उपयोग किया जाता है। इसी तरह छैना भी एक विशेष प्रकार का चीज है जे पनीर से मिलता-जुलता है और रसगुल्ला बनाने में प्रयुक्त होता है। भारत में पनीर का उपयोग सिमीत मात्रा में ही होता है। कश्मीर आदि जैसे ठंडे प्रदेशों में अपेक्षाकृत अधिक पनीर खाया जाता है।

उपयोगिता :



स्वास्थ्यवर्धक खाद्यपदार्थ के रूप में पनीर एक बड़ा महत्वपूर्ण एवं ठंडे देशों में बहुप्रचलित खाद्य है। जैसे रोगियों, बच्चों एवं बुढ़ों के लिए जिन्हें मांसयुक्त भोजन पचाने में कठिनाई होती है, पनीर श्रेष्ठ खाद्य है क्योंकि इसमें प्रोटीन, मांस के समान यथेष्ट मात्रा में होता है तथा अधिक पाचक दशा में रहता है। साथ ही साथ कैलोरियों की मात्रा मांस के बराबर ही होती है। ठंडे प्रदेशों में जहाँ पनीर को बिना किसी कठिनाई के काफी लंबे समय तक अच्छी हालत में रखा जा सकता है, पनीर का प्रयोग बड़े पैमाने पर होता है। अफगानिस्तान, मध्य एशिया, युरोप, अमरीका, आस्ट्रेलिया आदि देशों में पनीर की खपत बड़ी मात्रा में होती है। प्रोटीनयुक्त खाद्य पदार्थों में पनीर का स्थान मांस से पहले आता है। गरम प्रदेशों में पनीर को लंबे समय तक सुरक्षित रूप में रखना संभव नहीं होता, इसीलिए गरम प्रदेशों में पनीर का प्रयोग सीमित मात्रा में ही होता है। अच्छा पनीर बनाना भी एक कला है, जिसे प्रत्येक पनीर बनानेवाले संस्थान गुप्त रखते हैं।

निर्माण :

पूर्ण दूध में यदि कोई अम्ल मिला दिया जाए जो दूध जम जाता है। इस क्रिया में छेना (केसीन) किसी कपड़े से छानकर जल अलग करने पर छेनेवाले भाग को निकाल लिया जाता है। इस छेनेवाले भाग में केसीन के अतिरिक्त थोड़ी मात्रा में घी, दुग्धशर्करा तथा जल रहता है। दूध से भी घी रहित पनीर बनाया जाता है। दूध में पाए जानेवाले विटामिन विशेष ताप तथा नमी की दशा में किण्वन क्रिया करते हैं। इस क्रिया पर ही पनीर की विशेषता निर्भर करती है।

जितना ही अधिक समय तक यह पकाने की क्रिया की जाती है पनीर उतना ही उत्कृष्ट तथा सुपाच्य एवं स्वास्थ्यवर्धक होता है। पकाने की यह क्रिया बड़ी जटील तथा संकीर्ण होती है क्योंकि निर्मित पनीर की उपादेयता तथा उसके गुण इसी क्रिया पर निर्भर करते हैं। इस क्रिया के कारण पनीर में उपस्थित दुग्धशर्करा लैक्टिक अम्ल में परिणत हो जाती है, छैना अथवा केसीन अधिक सुपाच्य प्रोटीन यौगिकों में बदल जाता है तथा वसा भी सरल यौगिकों में परिणत हो जाती है। किण्वन क्रिया के पूर्व खानेवाला नमक भी थोड़ी मात्रा पनीर में मिला दिया जाता है। क्रिया के समय प्रयुक्त ताप तथा नमी की मात्रा के अनुसार ही पनीर में एक विशेष प्रकार की मादक गंध तथा तीखा स्वाद उत्पन्न हो जाता है, जो एक बार आ जाने पर कॉफी अथवा बियर के समान स्वादिष्ट लगने लगता है।

पनीर साधारणतः दो प्रकार का बनाया जाता है :

- १) नम तथा मुलायम, जिसमें जल की मात्रा अधिक रहती है।
- २) सूखा अथवा सख्त किस्म का, जिसमें जल की मात्रा बहुत कम होती है।

बाजार में चार प्रकार के पनीर बिकते हैं।

- १) पूरे दूध से बनाया गया पनीर जिसमें मक्खन विशेष रूप से अधिक मात्रा में मिलाया जाता है।
- २) केवल पूरे दूध से बनाया गया पनीर।
- ३) मक्खन निकाले हुए दूध से बना पनीर
- ४) मागैरीन युक्त पनीर।

सामग्री :

- १ लीटर दूध, १ नीबू, छोट मलमल का कपड़ा।

विधि :

दूध को मोटे तल वाले बर्तन में उबालें। दूध उबलने पर आँच धीमी कर दें।

दूध में नीबू निचोड़े। नीबू निचोड़ते ही दूध फट जाएगा।

इस दूध को तब तक उबालें जब तक की वो जम न जाए और पानी का रंग पीला हो जाए।

दूध को चम्मच से हिलाते रहें ताकी लो बर्तन के तले को ना चिपके।

दूध को अब आँच से उतार दें और मलमल के कपड़े से छान लें।

जमे हुए दूध को कपड़े में १ घंटे के लिए लटका कर रखें।

पानी पूरा निकले जाने पर जो गाढ़ा समूह बचा ले वो पनीर है।

छोटे चैकोर टुकड़ों में काट लें।



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Actualising 'Second white revolution' Actions for India's milk security



Rana Kapoor

Fifteen years ago, India scripted history by achieving the numero uno position in global milk production. This was made possible by one of the world's most successful rural development programmes "Operation Flood"- which ushered in the white revolution - transforming the nation from a milk deprived country to a milk self-sufficient one. The annual production, which stagnated between 17 million and 22 million tonnes during 1960s, increased six times to 112 mt significantly altering the socio-economic fabric of the country, providing sustainable livelihood options to millions of farmers. With the changing socio-economic profile of the country, demand for milk is increasing phenomenally. Empirical

evidence indicated that the demand for milk would grow to 180 mt/annum by 2021, warranting an incremental increase in production of six mtpa, henceforth. The National Dairy Development Board's (NDDB) efforts to address this gap through the ambitious National Dairy Plan (NDP) is commendable, however, the need of the hour is to chalk out innovative supply side strategies that are sustainable in the long-term, inclusive, scalable and profitable, thus maximising the output that is critical for milk security of the nation.

Need for another white revolution

The impact of Operation Flood was visible when dairy production started to grow significantly



faster in the last couple of decades. The organised dairy sector was put on to a new fast growth trajectory through the evolution of the Amul model of cooperative pattern of dairying involving 9.3 million farmer-members in 1996. The emphasis was on strengthening the processing and marketing infrastructures in rural and urban areas. Various programmes in the areas of veterinary services and improved animal nutrition were being introduced as measures to improve the milk production. The result was evident when the milk production increased at the rate of 7.8 per cent a year in 90s.

However, the momentum has slowed over the last decade with growth stagnating at about five per cent a year. Some of the key bottle-necks hindering growth in milk production are:

- Rapidly shrinking and degrading grazing areas resulting in shortage of green fodder.
- Increasing feed prices resulting into use of low-quality feed.
- Low technology-based system of production in rural areas.
- Rise in heat stress among cattle on account of global warming resulting in loss of close to two per cent of total milk production.

The widening demand supply gap of milk has placed us at a critical juncture where the need for the second White Revolution is greatly necessitated. Actualising the “Second white revolution” Action steps and Challenges to realise the dream of the Second white revolution, it is crucial that a framework needs to be designed to change the paradigm of dairying from “subsidiary” occupation to “mainstream” activity.

Greater emphasis needs to be on achieving economies of scale and continuous yield improvements. This would need conceptualisation and implementation of new production models that would inculcate the following requirements of high-tech dairying:

- Mechanisation and automation of dairy farms
- Sustainable measures to provide better quality feed and fodder through developing technologies that increase productivity of crops in rain-fed areas



- Provision of improved seed varieties for fodder cultivation
- Maximisation of environmental benefits through adoption of green energy measures such as re-utilisation and effective disposal of manure
- Encourage establishment of community-based high herd size farms which would ensure investment in scale-up thus improving dairy management systems.

However, there are certain challenges which are impeding the foregoing approach:

- Low corporate participation in the production sector which could otherwise bring in the innovation and boost milk production
- Higher costs for provision of specialised input services such as vaccinations and medicines which overshoot the advantages offered by low-labour costs

Key Enablers of Change

With an ambitious outlay of around Rs 17,000 crore, which is ten times more than the outlay fixed for Operation Flood, the National Dairy Plan (NDP) could mark the beginning of the Second White Revolution. Though the focus would be on improving the bovine productivity and improving access to farmers to organised milk production units, some of the key action steps that can act as

enablers to bring in this revolution include:

• **Promotion of collective dairy farming :**

Collective Dairy Farming is based on the concept of building “hostels” for cows. It has been successfully implemented in countries such as China and has increased the productivity of cattle, and improved the quality of raw milk. Development of such models would help farmers achieve economies of scale in a collective manner. This would also result in better dairy management systems.

• **Implementation of PPP model :**

In India, the public sector has been instrumental for livestock development by creating a necessary and comprehensive infrastructure. The sector provides ample opportunities for enhancing production potential, employment, income and growth through public-private partnership model. Areas such milk procurement, logistics and infrastructure development, R&D, extension services, fodder banks and animal feeding units need to be explored by the private sector in conjunction with the Government. Integrated dairy farms (IDF) can be implemented on partnership models as a crucial component of dairy production and processing. IDFs aim at significant reduction of production costs, maximising environmental benefits, a dramatic improvement in product quality and productivity. The Government should devise incentive schemes to promote such models so as to promote build-up of backward linkages by the private sector.

Facilitation of knowledge and technology transfer :



The achievements of countries such as Israel and Europe in the field of modern and best dairy farming practices need to be emulated in India through facilitation of technology transfer and extension services. Advanced and computerised milking and feeding systems, cow-cooling systems as well as milk processing equipments are some of the areas where joint ventures and strategic alliances with the international technology providers can bring in the desired level of improvements.

Curtailing of climatic risk to reduce milk loss :

Research indicates that India loses close to Rs 2,660 crore on account of reduced milk production due to heat stress in bovines. There is thus, an urgent need to curtail the effects of global warming through development of focused policy on environment.

Effective utilisation of fodder resources :

With rapidly shrinking land and natural resources, sourcing of feed and fodder resources is challenging the very aim of doubling milk production in India. To counteract this, application of newer tools of technology to produce large scale feed blocks, feed enzymes, bypass nutrients and other innovative feed resources need to be enhanced. This coupled with the efficient cultivation and harvesting techniques including irrigation management can greatly improve the fodder production in the country.

CONCLUSION

A second white revolution is achievable through strengthening the supply-driven technologies which are sustainable, scalable and profitable. This would also require development of innovative and implementable production models that are futuristic, and have a long term vision of producing more milk per cow so as to ensure a milk secure India.

(The writer is the Founder / Managing Director & CEO of YES Bank)

Courtesy : The Hindu, Business Line ■



China and India to be major forces in dairy by 2020

China and India will emerge as forces in dairy over the next decade, accounting for more than one-third of world growth in output, and witnessing large growth in consumption too.

India will by 2020 challenge the European Union for top rank among world dairy producers, with growth of nearly 3% a year over this decade taking its output to some 150m tonnes, the United Nations food agency and the OECD said in a joint report.

Expansion in China will be even faster, at 3.3%, leaving it -

with India - responsible for nearly 60m tonnes of the 153m tonne increase in world output between 2010 and 2020.

China's expansion will secure its grip on top rank among producers of whole milk powder, responsible for more than one-quarter of world output.

Nonetheless, China's surge in

import demand, fuelled by scepticism over domestic milk fostered by 2008's melamine contamination scandal, is expected to "ease only slowly".

India, meanwhile, will fuel strong global demand for butter, which the FAO and OECD saw witnessing the strongest price rise of all dairy products by 2020, of 11%, compared with 2008-10 average.

Fonterra, the world's biggest dairy exporter, forecast that China's dairy market will more than triple in value, to \$70bn, by 2020.

Fonterra had signed a Memorandum of Understanding with the Indian Farmers Fertilizer Co-operative (IFFCO) and dairy farms promoter Global Dairy Health Pvt to jointly conduct a feasibility study into a pilot dairy farm in India.

Fonterra, the world's biggest dairy exporter, forecast that China's dairy market will more than triple in value, to \$70bn, by 2020 as the New Zealand-based group unveiled plans to raise cash through a yuan-denominated bond.

Fonterra will become the first Australasian company to raise money through a yuan-denominated bond, a so-called dim sum bond, which has also been used by companies including McDonald's and Unilever.



In November last year, Fonterra had signed a Memorandum of Understanding with the Indian Farmers Fertilizer Co-operative (IFFCO) and dairy farms promoter Global Dairy Health Pvt to jointly conduct a feasibility study into a pilot dairy farm in India.

If it were to proceed, in phase one the pilot farm could have a herd size of around 3,000-5,000 cows, Fonterra said at that time.

India and New Zealand are also currently negotiating a Free Trade Agreement (FTA) under which trade norms in various sectors including the dairy trade are under discussion. ■



Amul crosses 2 billion \$ mark

According to the results of the apex body of the dairy cooperatives in Gujarat, declared on June 21, 2011, GCMMF which markets the popular Amul brand of milk and dairy products crossed the 2 billion dollar mark.

During the financial year 2010-11, GCMMF registered impressive topline growth of 22.1%, achieving turnover of 9774 crores. While commenting on the results, Parthibhai G. Bhatol, Chairman, GCMMF informed that this performance is even more remarkable, that the organization was able to achieve 1 billion dollar turnover in the 33rd year of its formation while it took only just four more years to add another 1 billion dollar to its turnover.

This consistently high growth is also reflected in the performance of its various mega-brands as the organization further enhanced its market-share in different product categories. Sales of Amul Butter has also shown an impressive growth of 26% in 2010-11. Sales of Amul Milk in pouches have grown by 34%. Sales of Amul Processed Cheese have shown consistent and very impressive growth of 29%. Amul beverage range including Flavoured milk, Buttermilk and Lassi has shown an impressive growth of 28% over the last year. Sales of Amul

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Masti Dahi also grew by 39%. With enhanced focus on fresh and fermented products, GCMMF launched Amul Probiotic Lasee in ready to drink cups, Amul Probiotic Buttermilk in PET bottles and flavoured yoghurt under the brand name Amul Flaavyo.

In the Infant Milk Food category, their brand Amulspray registered growth of 20% and achieved the unique distinction of becoming a .1000 crore mega-brand.

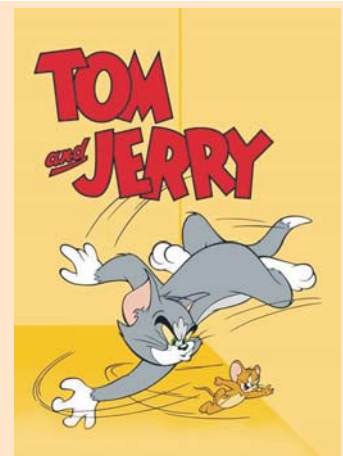
GCMMF recently initiated its largest distribution expansion exercise to extend its reach to smaller towns and semi-urban areas. During the past year, 1000 new Amul Parlours have been added, taking the total strength to 6000.

Tom & Jerry, now the brand ambassadors of Go Cheezoos

Popular cartoon stars Tom & Jerry will now feature on cheese products in India, with leading private dairy operator Parag Milk Foods Pvt Ltd signing a licencing agreement with Warner Bros Consumer Products.

As part of the deal, Pune-based Parag Milk Foods is introducing a range of cheese items featuring the

Warner Bros cartoon characters on packages under the 'Go Cheezoos' label for its flagship brand, 'Go', targeting school going kids.



'Goodness of ghee', for young and healthy India

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Amul at present enjoys a 20 per cent market share in the packaged ghee market, which is estimated to be around 100,000 tonnes per annum. Banking on the new 'avatar' of ghee, the company is eyeing a growth of 20-22 per cent in the segment this fiscal.

add another 1 billion dollar to its turnover.

This consistently high growth is also reflected in the performance of its



"We started work on identifying characters that would work best with the 'Go' brand. Of all the characters, Tom & Jerry were the best fit," Parag Milk Food Vice-President (Marketing) Rahul Akkara said.

Go Cheezoos will be available in the market for Rs 52 for a 100-gram squeeze tube in various flavours, including chocolate, peanut and tomato salsa. It will be sold at Nature's Basket and other modern retail outlets in India.

Pune-based Parag Milk Foods is introducing a range of cheese items featuring the Warner Bros cartoon characters on packages under the 'Go Cheezoos' label for its flagship brand, 'Go', targeting school going kids.

Parag Milk Foods' product portfolio includes skim milk powder, whole milk powder, ghee, processed cheese, butter, dahi, proprietary foods like Dairy Whitener and Gulab Jamun Mix powder under the brand names 'Gowardhan' and 'Go'. ■

Import of milk products, foodgrains up 9.3% in FY11



India's import of sensitive items, including foodgrains and milk products, has gone up by 9.3% to . 65,596 crore during April- February 2010-11, from . 60,011 crore in the year-ago period.

Foodgrains' import soared to . 250.17 crore during the 11 months of last fiscal from . 91.80 crore in the year-ago period, according to the latest official data. Items such as foodgrains, automobiles, milk and beverages fall in the sensitive category and the import of these are monitored

Milk and dairy products' import increased to 753.42 crore and that of automobiles rose to . 2,314.75 crore during the period under review from 286.24 crore and 1,035.04 crore, respectively in the year-ago period.

by the government to see if there is any adverse impact on the domestic industry.

Milk and dairy products' import increased to 753.42 crore and that of automobiles rose to . 2,314.75 crore during the period under review from . 286.24 crore and 1,035.04 crore, respectively in the year-ago period. During April-February 2010-11, import of items such as alcoholic beverages and rubber also increased by 47.1% and 95.9%. ■

Food inflation at 6-month high

Wholesale price-based food inflation shot up to 9.13 per cent for the week ended June 11 – the highest level this financial year – prompting economists to call for an alternative mechanism to RBI's tight monetary stance for taming price rise. A week ago, food inflation stood at 8.96 per cent.

Food inflation rose despite most food items witnessing a fall in the rates against the previous week's prices. The rise was due to increasing prices of dairy products and non- vegetarian items. While most food items saw a fall in inflation rate, milk prices have surged by 15.30 per cent during the period against 10.59 a week ago. Similarly, egg, meat and fish inflation rate rose to 10.56 per cent from 7.31 per cent.

The inflation rose despite a high base of 22.93 per cent a year ago. This translates into a rise of over 30 per cent in two years. "... We are in a region of high inflationary regime, which is not acceptable. It will have to be brought down," said Finance Minister Pranab Mukherjee.

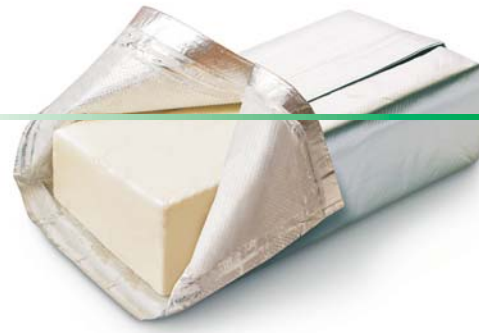
Although the data released today pertains to the week ended June 11, it has come at a time when the Meteorological Department has predicted a below normal level monsoon this year.

"If monsoon rains are not normal, food grain production could plummet. However, even in the case of a good monsoon it is necessary to have adequate infrastructure and supply chain in place to ensure that provisions reach the markets on time," said Deloitte, Haskin & Sells director Anis Chakravarty.

Ashok Gulati, chairman of the Commission for Agricultural Costs and Prices (CACP) attributed the rise in inflation to increase in cost of labour in agriculture by around 20 per cent this year.



The issue of food inflation may cast doubts over RBI's monetary policy — raising policy rates for the tenth time in the last 15 months in its monetary review earlier this month. ■



US to continue exporting cheese to Korea

The U.S. Dairy Export Council (USDEC), National Milk Producers Federation (NMPF) and the International Dairy Foods Association (IDFA) welcome the release by the U.S. Trade Representative's Office (USTR) today of letters between USTR and the South Korean government, which contain important clarifications regarding the ability of U.S. cheese manufacturers to continuing shipping to Korea a wide variety of cheeses of importance to the U.S. Dairy industry. Korea is currently the No. 2 export market for U.S. cheese.

The text of the Free Trade Agreement (FTA) that Korea negotiated with the EU in 2009 included unprecedented language on geographical indications (GIs) for several cheeses, as well as other food products. This language called into

question whether or not the U.S. would be able to continue to sell many important varieties of cheese to Korea such as brie, camembert, emmental, grana, mozzarella, parmesan, romano and provolone.

For the past year and a half, USDEC, NMPF and IDFA have worked with the U.S. government to seek assurances that these cheeses would still be permitted for sale by all suppliers, including those from the United States, in the fast-growing Korean market. In addition, the Congressional Dairy Farmer Caucus also expressed concerns about this issue. USDEC, NMPF and IDFA view the letters released today by USTR as providing these important assurances for the cheese names listed above.

हर समय उचित दाम में उपलब्ध

- ✱ एसपार्टेम
- ✱ ब्यूटीलेटेड हाईड्रॉक्सी एनीसोल (बी.एच.ए.)
- ✱ कैल्शियम प्रोपीयोनेट
- ✱ कैराजिनन गम
- ✱ साइट्रीक एसिड
- ✱ एनजाईम्स
- ✱ फ्लेवरस
- ✱ फुड कलर
- ✱ ग्लाइसिरिल मोनो सिटरेट (जी.एम.एस.)
- ✱ लेक्टिक एसिड ८० प्रतिशत ८८ प्रतिशत
- ✱ मोनो सोडीयम ग्लुटामेट
- ✱ पेक्टिन
- ✱ पोटेशियम सॉरबेट
- ✱ प्रोपिलेन ग्लाइकोल
- ✱ सोडीयम बेनझोनेट
- ✱ सोडीयम साइटरेट
- ✱ सोडीयम लेक्टेट ६० प्रतिशत
- ✱ सॉरबिक एसिड (जर्मनी)
- ✱ टर्सरी ब्यूटाइल हाइड्रो क्युनोन (टी.बी.एच.क्यू.)
- ✱ विटामिन - सी (एस्कॉरबिक एसिड)
- ✱ झेनथन गम

कृपया संपर्क करें:

जय केम मार्केटींग
असोशिएट्स : अलायंस

१०१, लाभ सरिता, ओप. मानेक नगर,
एम.जी. रोड, कांदिवली (प.),
मुंबई-४०० ०६७, भारत
फोन: ०२२-२८०९३८५५ / २८०७२६८०
फैक्स: ०२२-२८०६९३३७
मोब: ९८२९९५३७५४, ९३२२२३९९६८
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- ✱ SODIUM CITRATE
- ✱ SODIUM LACTATE 60%
- ✱ SORBIC ACID (Germany)
- ✱ TERTIARY BUTYL HYDRO
- ✱ QUINONE (TBHQ)
- ✱ VITAMIN 'C' (ASCORBIC ACID)
- ✱ XANTHAN GUM

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Approaching Street Food Safety

By: Prabodh Halde & Ms. Chetana Bhandari:
Regulatory, Marico Ltd.

Introduction

FAO defines street vended foods as ready to eat foods or beverages prepared and/or sold in the street or other public places. Street foods may be sold in places such as a market or fair, by a hawker or vendor, often from a portable stall. This sector has experienced tremendous growth during the past few decades owing to the socioeconomic changes in many countries. This growth is expected to increase significantly with the increasing urbanization and population growth, especially in developing countries.

Street foods reflect the traditional local culture and is one of the best ways to experience the real cuisine of any community. While some street foods are regional, many others spread beyond their region of origin. Street vended foods can be found in clusters around public places, places of work, schools and colleges, railway stations, hospitals and bus terminals and may be vended from roadside makeshift stalls, carts or small establishments.

In India, street food today can be purchased for a few rupees from the makeshift stalls found in towns and cities. Indian street foods vary from region to region. The 'Chaat' fare in North India consists of many tangy and spicy delicacies. In the Eastern parts, a typical street food is Chop which is like potato patties dipped in flour batter and deep fried. Jhalmuri, a delicacy made from puffed rice is a famous Kolkata street food. Vada-pav and pav-bhaji from Maharashtra are the concoctions famous from the West. In the Southern region, there are thattu dosas, omelettes, spicy pork fry etc. Ices such as the gola sherbet, all kinds of ice cream and the indigenous kulfi in multiple colors and flavors are there to relish. A plethora of beverages like lassi, all variants of tea like masala tea, milk

tea and normal tea can also be enjoyed. In India, street food eating habit is increasing

day by day. Considering food safety issues, it is important that street food be under strict control for food safety.

Benefits of street vended foods

Street foods play an important socio-economic role in terms of employment potential and in serving the food and nutritional requirements of consumers at affordable prices. Street vended foods serve as a source of inexpensive, convenient and often nutritious food for millions of low and middle income consumers, in urban areas, on a daily basis. Street foods are an attractive experience of varied food for tourists. In developing countries, making and vending street food provides a regular source of income for vast number of men and particularly women, who lack education or skills. It requires a low capital investment, offers a chance for self employment and provides business opportunities for developing entrepreneurs. It also contributes to local and national economic growth by supporting local agricultural producers and food processors. Thus the socio economic significance of street foods is immense.

Street foods are inexpensive compared to a restaurant meal and less costly as compared to home cooked food. For many low income groups, street food acts as the most accessible means of obtaining a nutritionally balanced meal outside the home, provided the consumer is informed and able to choose proper combination of foods. Thus street foods also are nutritionally significant.



Need for safety of street foods

Street food vending forms a very important segment of the unorganized sector of the food industry. The street foods have a significant contribution in the daily food consumption in the urban areas of both developing and urbanized countries. With the increasing pace of globalization and tourism, the safety of street food has become one of the major concerns of public health. Food borne pathogens are recognized as a major health hazard associated with street foods. There are other concerns like poor hygiene, inadequate access to potable water supply and waste disposal means. Further, unsanitary environmental conditions like proximity of the establishment to sewers or garbage dumps, pollution from traffic add to the public health risks associated with street foods. Additional hazards may also be in the form of use of improper food additives (often unauthorized colouring agents), mycotoxins, heavy metals and other contaminants (such as pesticide residues) in street foods. Street food vendors are often poor and uneducated and

lack appreciation for safe food handling.

Improving the safety of street vended foods

The cheap cost and instant availability of street foods has made them very popular. However, the cleanliness and the hygiene content of these foods is questionable. The standards of street food safety can be upgraded by the vendors through implementation of some basic good practices with respect to hygiene and food handling. Appropriate location and condition of vending stalls, observation of personal hygiene by vendors, employing washed and clean utensils, using potable water and proper drainage and waste disposal are some steps to be taken which can lead to hygienic and safe food.

Regulatory requirements

Under FSSAI rules, schedule 4 has described various provisions required for street food vendors. Once the FSSAI act get enacted (August 2011) these requirements will come in force.





The requirements are as follows.

- **Location & environment of vending stall:** The vending stall should be located in a sanitary place away from unhygienic conditions and should be far from any source of contamination (rubbish, waste water, open drains, toilet facilities and animals).
- **Vending cart:** The vending carts shall be built of solid, rust/ corrosion resistant materials and kept in clean and good condition. Vending cart shall be protected from sun, wind and dust and when not in use, food vending vans shall be kept in clean place and properly protected. The working surfaces of vending carts shall be hygienic, impermeable, easy to clean, 60 to 70cm from ground. Sale points, tables, awnings, benches, boxes, cupboards, glass cases etc. shall be clean and tidy.
- **Water supply:** Transported drinking water (treated water like bottled water, boiled/filtered water through water purifier etc.) shall be in protected containers of at least 20 litres.
- **Handling of street foods:** Fresh/raw foods like vegetables, fruits must be thoroughly washed with potable water before preparation or selling.
- **Cooking and serving utensils:** cooking utensils and crockery should be clean and in good condition. It should not be broken or chipped. All containers shall be kept clean, washed & dried at the close of day's business to ensure freedom from mold/fungi growth and infestation. Cooking, serving and storage shall not be done in utensils of copper, cadmium, lead, non food grade plastic & other toxic materials. Utensils shall be cleaned of debris, rinsed, scrubbed with detergent and

washed under running tap water after every operation. Wiping utensils shall be done with clean cloth. Removing dust or crumb shall not be by blowing on plates/utensils.

- **Storage of cooked food:** Adequate number of racks shall be provided for storage of articles of food, with clear identity of each commodity. Proper compartment for each class shall also be provided wherever possible. All articles that are stored or intended for sale shall have a proper cover to avoid contamination.

- **Personal hygiene of vendors:** person suffering from infectious diseases shall not be permitted to work. Unhygienic habits like eating, chewing, smoking, sniffing, spitting and nose blowing should be avoided. Washing hands with soap and detergent every time after using the toilet and before handling food, keeping finger nails trimmed and such other personal hygiene practices should be followed. All food handlers should avoid wearing jewellery, false nails or other items that might fall into food and also avoid touching their face or hairs

- **Drainage and waste disposal:** Adequate drainage and waste disposal systems and facilities should be provided to prevent contamination of foods and potable water. Rubbish bin with cover shall be provided.

Conclusion

Implementing these basic good practices can help street food vending to shed its disorganized image and become an important segment of the food industry. Since large population in India is consuming food through street food sources, food safety is a big concern to consumer safety. The improved food quality and assured safety topped by variety will attract consumers from even the high income groups thus broadening the consumer base and increasing business potential and this will also increase consumer safety.

(Author can reach on prabodh@maricoindia.net /9820278746) ■

Superior Quality of Naik Ovens

Naik Oven Manufacturing Co. is a partnership firm formed on 7th July 1999, by Prakash V. Naik & Ashish R. Sirsat on equal sharing basis. Both the partners have more than a decade long experience in the field of Rotary Rack Ovens. The Company is based out of Suchita Industrial Estate, Talwar Compound in an area of over 1600 sq. ft. Till date the Company has installed more than 100 ovens and has many satisfied clients, out of which most of them have given repeat orders. The company also has an ISO-9001-2008 Certification.

After a great deal of R&D, the Company came up with a well designed & hassle free operational Rotary Rack Oven. Demand for this oven is huge in this growing market. The Rotary Rack Ovens, being very fast in production, are sought after by many big and growing Bakeries & Hotels for quality productions. We can now state that we manufacture one of the best Ovens in India. The Ovens are also exported to Nigeria.

Some of our Clients are :

Nafees Bakery Indore; Vijaya Bakery Malvan; Kwaliti Bakers Chiplun; Kalory Ahmedabad & Surat; Alankar Bakery Miraj; Rajlaxmi Bakers



Jamnagar; J.K.Bakers Thane, Thane & Yerewada Central Jail; Bemisal Bakery Ujjain; Jahagirdar Bakers - Nashik; Milkmaid Bread Pune; Chetak Biscuits Ulhasnagar; Hydary Bakery- Ujjain; Meghraj Bakery Nashik & many more. Most of these bakeries have more than one oven. ■





Dairy Products

One can write volumes & volumes on dairy products it is a vast line.

With basic ingredient milk you can prepare different end products. The end product prepared from milk are known as Dairy Product.

IT is said

**RAM RAJ MEIN DOODH MILA THA
KRISHNA RAJ MA DAHI
PYARE AAJ KE IS RAAJ ME CHAI MILI HAI
PHOOK PHOOK Ke Pi**

This means from ages there was abundant milk in our country the people at that time would

Consume Milk, Butter, Curd, Butter - Milk. Sweets prepared from Milk they utilized milk products

In their receipes.

The product prepared from milk as main ingredient are known as DAIRY Products.

They are Milk in different form, Butter, Cheese, Curd, Butter-Milk, Lassi, Pure ghee(clarified butter), last but not the least Ice Cream & Frozen Dessert

Some 8 to 9 years back Mr. Curieen ex Chairmen

of NDDDB formed a co-operative movement forming a type of small scale industries procuring milk from small villages at better price. His movement was so success full that he declared (OPERATION FLOOD) with abundant Milk in hand

he came up with other dairy products viz. Cheese Butter, Flavoured Milk, he entered in the market of Ice Cream. All under Umbrella brand AMUL.

Looking at its success other States followed the steps of NDDDB & formed co-operative societies in milk segment... such was the situation that Milk was cheaper than Mineral water bottle better known as Bislery... The Milk was available at Rs. 13.00 a litre. where as Mineral Water bottle was available for Rs. 15.00 a litre. At this moment we felt we are really in Ram Rajya.(Abundance of Milk.)



During Operation Flood a new COLD WAR started.

A war between two giants.

A war between Ice cream & Frozen Desserts

Kwality Walls entered into Indian Market with Frozen desserts concept & were economically priced. Hence to compete with Kwality walls Amul Ice cream slashed the prices or offered incentive to dealers & consumers. This made difficult situation for small scale ice cream manufacturers as they could not reduce the prices as they had to procure milk from open market. Small scale manufacturers were in lurch. They had either to divert their business or come up with new concepts to maintain the market share.

We spoke about Frozen Dessert. Now let us understand what is (FROZEN DESSERT.)

As per Govt. Norms the ice cream should contain a minimum of 12% fat. (Fresh Cream)

We are aware that Buffalo's milk contain 7% to 8% fat & Cow's milk has around 5 to 6% fat.

So to prepare Ice cream with buffalos milk one has to add approx 5% fresh cream & around 7% in Cow's milk. If one prepares Ice cream from skimmed milk powder he has to use 12% of fresh cream.

Frozen dessert is similar to ice cream in appearance, taste, etc but minus additional fresh cream.

Here vegetable fat is used in lieu of fresh cream..

So now you can differentiate between Ice cream & Frozen desserts..

Going Back again to year 1999 when the cold war began the small scale industries were looking for substitute for fresh cream to compete with big giants...

During that time our company received bulk order of Refined palm kernel oil from one of Frozen Dessert industry...we were thinking on that terms that what will be the use of palm kernel oil in frozen dessert industry. Our R & D were looking at one angle that Pko could be substitute for refined coconut oil for making choco bar. As Pko was



economically priced. Though I am from marketing department. I was looking from other angle that the quantity purchased was too high for choco bar production. taking keen interest on this project I started experimenting at home. I added Pko in milk

I made ice cream at home with trial & errors I was successful in the experiment. I spoke with my Boss about the thing then we conducted trials in market we visited few small scale industries we were successful in the area.. though the result was good but I thought the other way. again in discussion at office I suggested that if Palm kernel Oil is Hydrogenated with low melting point. it will appear like fresh cream. every body agreed to it & made a small batch size. Conducted trials again thus we got the success in year 2000. we use to promote this product as Dairy fat replacer.

Looking at success in our product today many companies have joined the band wagon with different names & brands. The market is growing swiftly for Dairy Fat replacer.

For other queries you can contact me.
vojha1953@gmail.com

Workshop on Regulations for Importers of Food Products, Ingredients & Additives under FSSAI

Organized by AFST (I)



The first “One Day Workshop on Regulations for Importers of Food Products, Ingredients & Additives under FSSAI” organized by AFST(I) Mumbai Chapter attracted large participation apart from achieving the intent of the event. It took place on Monday, 2nd May 2011 at Tip Top Plaza, Thane. The intent of the programme was to provide a platform for interaction to all the stakeholders involved with respect to new import regulations which included FSSAI, the importers, NISG, port authorities and the laboratories.

Many dignitaries attended the event namely Mr. V. N. Gaur, CEO FSSAI, Dr. Dhir Singh, ADG (PFA) FSSAI, Mr. Adhesh Mohan, FSSAI, Mr. A. I. S. Kumar, AO JNPT FSSAI, Dr. S. K. Halder, AO BPT FSSAI, Shri Raghu Guda, NISG. Dr. K. D. Yadav, President, AFST (I) Mumbai Chapter welcomed the guests. Dr. Dhir Singh, FSSAI presided over the function and spoke on updates for the import regulations and laboratory up gradation in his address. Mr. V. N. Gaur, CEO FSSAI, in his opening remarks spoke on various issues like implementation challenges that may arise due to food diversity, preparation of state governments for implementation, status of operationalized import regulations and more. Q&A session with Mr. Gaur was coordinated by Mr. Prabodh Halde, Secretary AFSTI Mumbai chapter.

There were two technical sessions by FDA Maharashtra in the first half of the programme. Mr. Mohan Patankar, Ex- Jt. Commissioner, FDA presented on “Regulations for food imports”.

Dr. K. U. Methekar, FDA HQ, spoke elaborately on “Packaging and Labelling of Imported Foods”. Post the networking lunch, Mr. Raghu Guda, NISG conducted the session on “Conceptualization, Design & Implementation of Integrated Imported Food Safety System for FSSAI” where he discussed at length about the food import clearance process from an international perspective and the way forward for Indian food import clearance procedures. He laid out the roadmap of the process consisting of revisiting of standards by FSSAI, MIS for web based appointments and status tracking system, specific regulations for food import, FSSAI helpline and lab accreditations. The panel discussion after the session was coordinated by Mr. M.M.Chitale and was a fruitful one with excellent participation from the audience and queries being answered satisfactorily.

The seminar concluded with Vote of thanks given by Mr. Prabodh Halde congratulating FSSAI on their commendable efforts in stabilizing the initial phase of import clearance process in India in short time span. The event was a huge success not only having achieved good participation in form of importers, laboratories, Government officials, Customs but also creating one of a kind platform for enabling dialogue between all the stakeholders. The program was attended by more than 70 importers.

Mr.M.M.Chitale and Dr.Nilesh Amrutkar’s Enviro care team coordinated the over all program and ensured the success. ■



Probiotics may not be useful in children with Constipation

A study was recently published that evaluated the use of a fermented milk product in children with constipation from Netherlands and Poland.

Chronic constipation affects nearly 3% children in the Western world. Studies also indicate that a number of these children continue to have this problem beyond puberty.

Probiotics are live microorganisms that provide health benefits in a number of conditions like diarrhea and irritable bowel syndrome. They are often consumed in fermented foods like yogurt and include bacteria like lactic acid bacteria and bifidobacteria.

Earlier studies conducted in adults have demonstrated that a fermented dairy products containing the bacterium *Bifidobacterium lactis* DN-173 010 improved constipation without any side effects. Probiotics could possibly act in constipation by two mechanisms one, by correcting the altered gut microflora and two, by altering the pH in the intestines.

A study was recently published that evaluated the use of a fermented milk product containing the same bacterium *Bifidobacterium lactis* DN-173 010 as well as two other bacteria *Streptococcus thermophilus* and *Lactobacillus bulgaricus* in children with constipation. The study was



conducted in 159 children between February and November 2008. Children in the age-group between 3 and 16 from Netherlands and Poland were included in the study. Some children received the probiotic formulation whereas others were administered an inert substance or placebo for comparison of the effects. The placebo was similar in appearance to the probiotic formulation; thus the patients were unaware whether they were receiving the probiotic or placebo. The probiotic or placebo was administered twice a day for three weeks.

The researchers found that though the stool frequency improved in the probiotic treated group, it also improved in the placebo group. The difference in stool frequency was not statistically different between the two groups at the end of 3 weeks. There was only a significant decrease in flatulence in the probiotic-treated group.

The researchers found that though the stool frequency improved in the probiotic treated group, it also improved in the placebo group. The difference in stool frequency was not statistically different between the two groups at the end of 3 weeks. There was only a significant decrease in flatulence in the probiotic-treated group. No serious adverse effects were noted in any of the groups.

The researchers thus conclude that based on this study, probiotics cannot be currently recommended to treat constipation in children. They do admit however, that the study had some limitations based on its design. Further studies may be required to establish the role of probiotics in constipation in children. ■



'Flavour' A critical ingredient in food industry

A term flavour is being used in various foods industries which indicates taste enhancement of the finished products.

We cannot imagine any food product without the use of flavour. As we know in bakeries, biscuits, confectioneries, ice-creams & various fast foods, flavours are used to increase the taste, acceptance & palatability of the products.

In most of the food processing units flavours are used in minute quantity (0.2 to 0.8%) This critical minute quantity decides the value addition of the product. Thereby creates importance of the brand and image.

Flavours & Essence are two terms, when there is no use of essential oil or extract and blend is made from aromatic chemicals it is called Flavours.

When essential oils & extract are used in the blend it is called Essence.

In both the cases synthetic, aromatic chemicals are used.

Flavours are of four types;

- A) Liquid Flavours
- B) Powder Flavours
- C) Flavour Emulsion
- D) Flavour Seasoning

A) Liquid Flavours :- Generally Liquid Flavours are used in various food products:

a) Biscuits:- Maximum quantity of flavours are



used in biscuit industry suggested dosages: 0.5 to 1.5%

In biscuits maximum quantity of vanilla flavour is used. Alongwith vanilla flavour, Butter flavour, Butterscotch flavour, Milk Flavour, Orange flavour, Rose flavour, Pineapple flavour etc are used in biscuits industry.

b) Bakeries:- In bakeries generally vanilla powder, vanilla liquid flavour, Butter, Butterscotch, Orange, Rose, Pineapple etc are used suggested dosages :0.5 to 1.5%

c) Confectioneries & Chocolates :- Most of the cases Orange oil, Lemon oil, Strawberry, Lichi, Tuity Fruity, Peppermint, Melon, Chocolates etc are used suggested dosages:0.5to1%.

In above cases heat is involved in the process thereby flavour should heat stable.

B) Powder Flavours:- Powder flavours are generally used in pharmaceuticals & nutraceuticals. There are various types of powder flavours for e.g.

- 1) Vanilla Dry Powder
- 2) Chocolate Dry Powder
- 3) Orange Dry Powder
- 4) Lemon Dry Powder
- 5) Strawberry Dry Powder etc.

Suggested dosages : 0.2 to 1% depending upon the final end product.

C) Flavour Emulsion:- These are emulsified flavouring substances used in soft drink industry. i.e. Soft Drink Carbonates & Soft Drink Non-carbonates. e.g. of flavour Emulsion

- 1) Orange Emulsion
- 2) Lemon Emulsion
- 3) Mango Emulsion
- 4) Pineapple Emulsion

Suggested Dosages 1 to 1.5 gm per litre.\

D) Flavour Seasoning:- These are the flavours used in savory products like Potato Wafers, Bhujia,



INGREDIENTS

Cheese balls etc.

Flavour is blended with spices, salt and Sugar in such a manner that it should give final taste to the product.

As fast food industry is growing the demand for seasoning is also growing.

Thus flavour industry is growing in India as food industry is growing by the rate 40 to 70%.

Thereby flavours have become important critical ingredient in the food industry. ■



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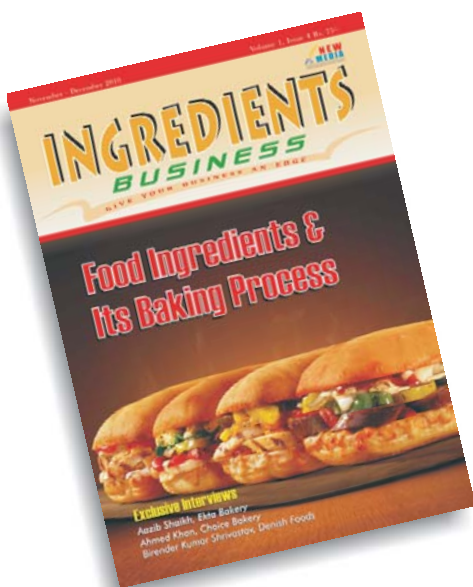
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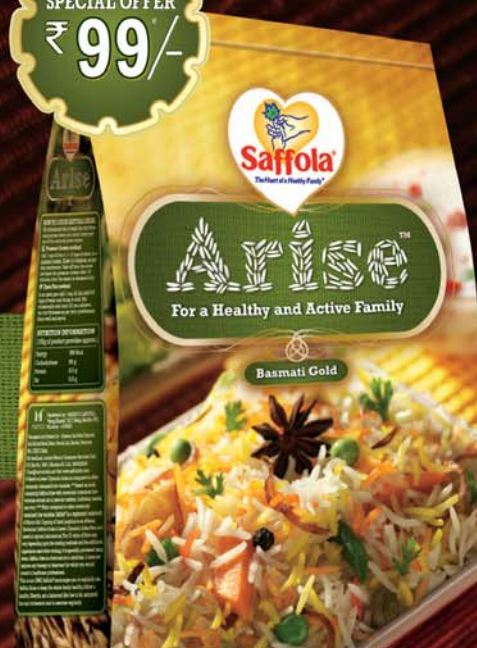
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