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# Lactose Intolerance: The Irrelevance for the Chinese Dairy Market

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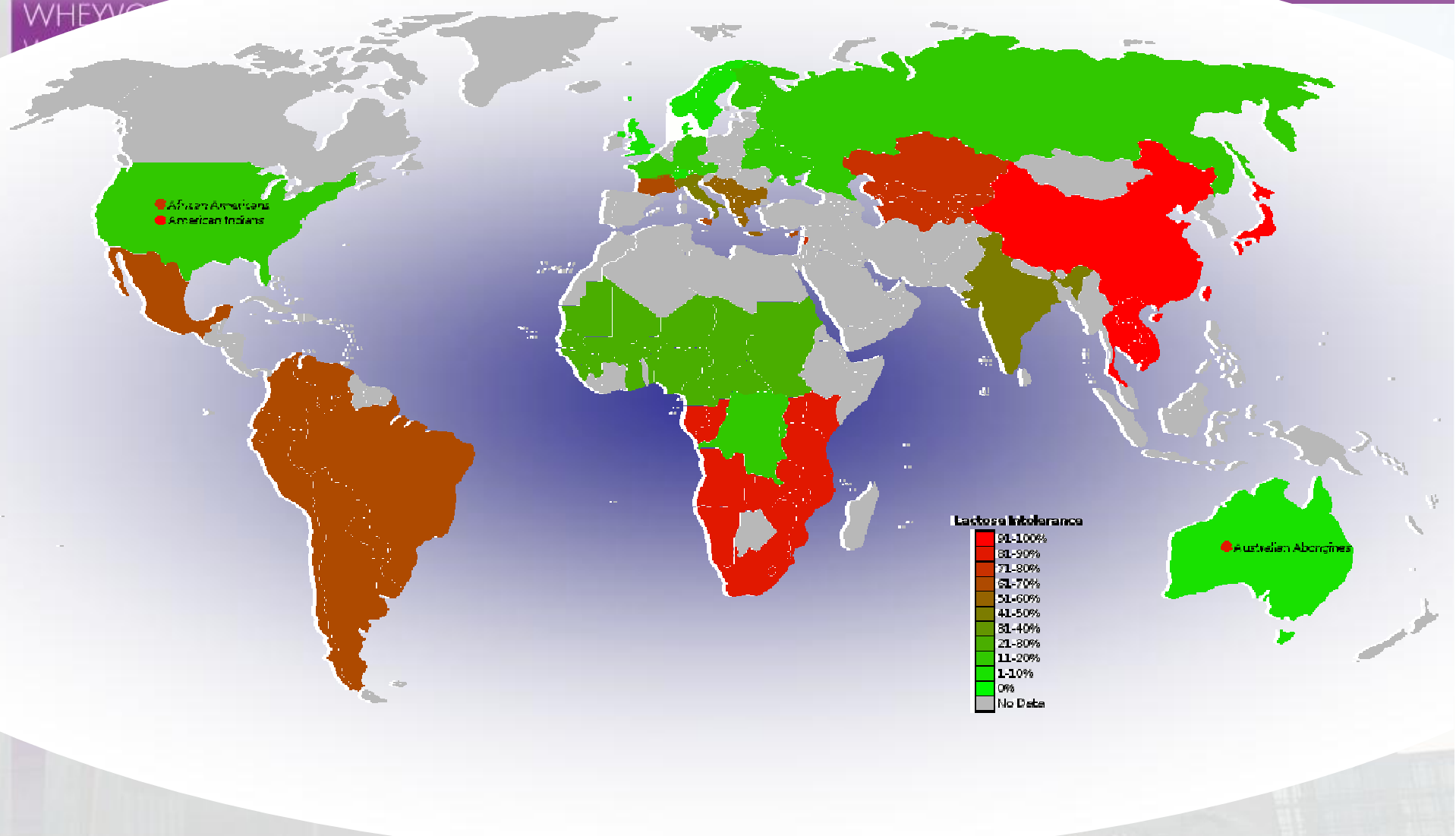
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# Prevalence of Lactose Intolerance (LI) in China

- ~ Academic circles and processing enterprises tend to consider lactose intolerance ( LI ) as one of the major factors that affect the consumption of dairy products in China
- ~ However, this is actually not the case



# How does this misunderstanding emerge?



Lactose intolerance by region

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- ~ China is a major emerging dairy market.
- ~ Contributes to more than 40% to world growth of raw milk production,
- ~ Hence, it is of importance to clarify if the high percentage of LI in Chinese impacts dairy consumption.



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# LI distribution in ethnic groups and ages in China

- ~ Percent LD (Lactase deficiency) in Chinese
  - è Han nationality (majority Chinese) is 75 to 95%
  - è Other (minority nationality) is 76 to 95.5%
  
- ~ LI in children:
  - è Children aged 3 – 5 yrs           è       22.1%
  - è Children aged 7 – 8 yrs       è       39.0%
  - è Children 11 – 13 yrs           è       36.8%



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- ~ Only 30% of populations that suffer from LI shows LI symptoms;
- ~ 50% show variations in biochemical index without any clinical symptoms.



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- ~ Chinese and Japanese typically lose 80 to 90% of their ability to digest lactose within 3 to 4 years of weaning.
- ~ Most Japanese can consume 200 ml of milk without severe symptoms of LI (Swagevty, et. al, 2002 ).
- ~ Most Chinese are not exceptional either.

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- ~ In Japan, where dairy consumption has been on the increase, there is reduced prevalence of lactose intolerance in spite of a genetic predisposition
- ~ Identical phenomenon could be observed in China as well.





- ~ Some studies indicate that environmental factors may “play a more important role than genetic factors in the etio-pathogenesis of milk intolerance
- ~ Other studies suggest lactase production does not seem to be induced by dairy/lactose consumption”.

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- ~ Lactose dosage of 50 g in standard lactose tolerance test is too high to demonstrate receiver's ability to digest lactose in daily life (especially for the ethnic groups consuming less than 100 kg milk per capital per year), even means lot to clinical practice



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- ~ Seems the lactose dosage of 50 g in standard lactose tolerance test is too high to demonstrate receiver's ability to digest lactose in daily life (especially for the ethnic groups consuming less than 100 kg milk per capital per year), even means lot to clinical practice



## Per capita consumption (kg) of dairy products in China (1998-2007) in China

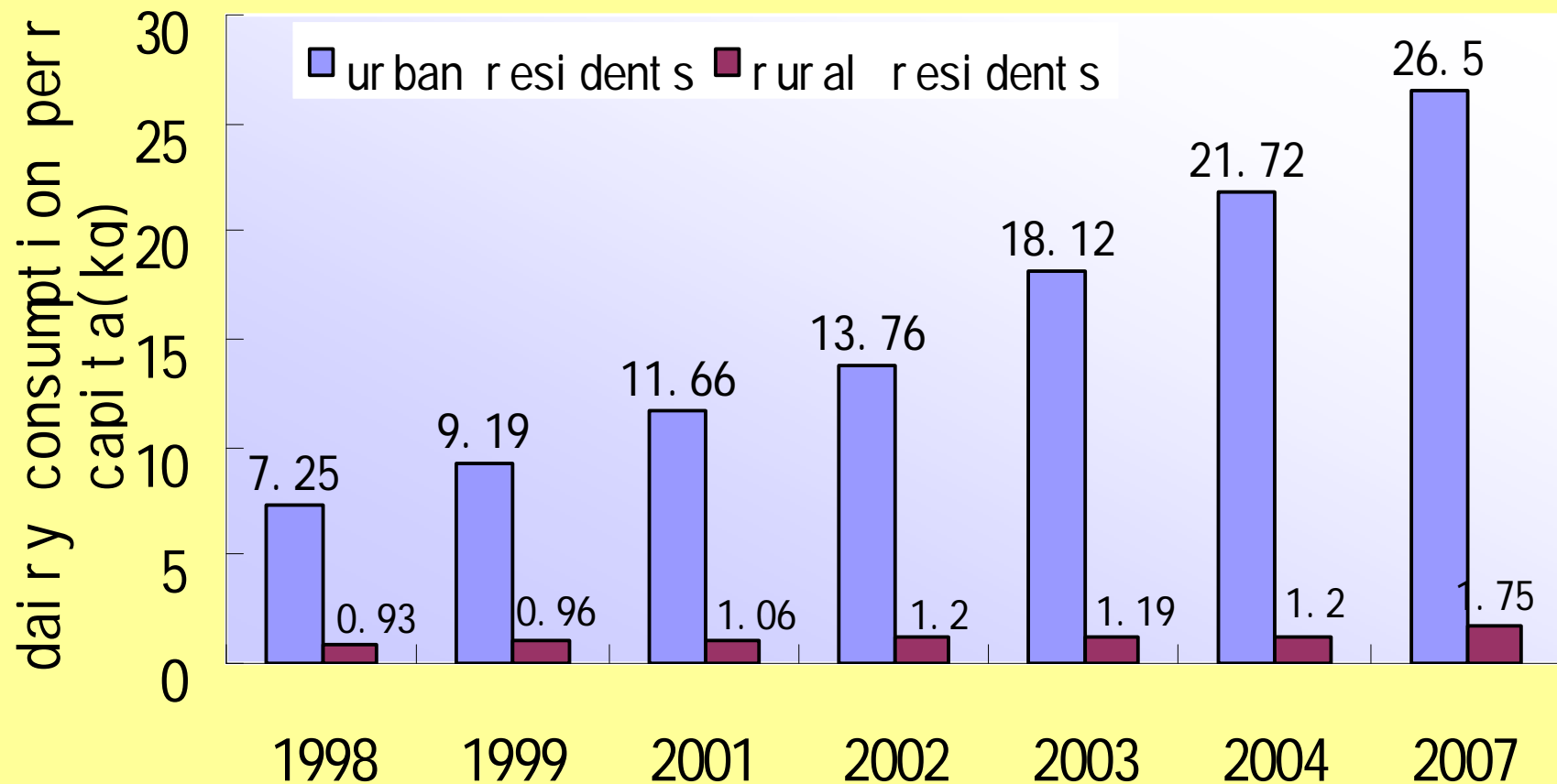
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We have not identified LI affects negatively dairy market growth in China yet, very unlikely before our annual consumption per capital reaches 100 kg.



- ~ Less than 40% urban residents in China consume milk and milk products in their daily lives.
- ~ China is one of the largest importers of whey products and lactose; its annual growth rate was more than 20% from 1995 to 2006. We need more lactose and milk.



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That's why low lactose milk market is not as good as some processors expected



~ 76.4% of Kazakhs from NW Xinjiang, China suffers from LI

~ However, they drink mare's milk and koumiss heavily in summer.

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# THANK YOU

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