

关心粮食和蔬菜

刘光裕 2012.5.20

Current Biology

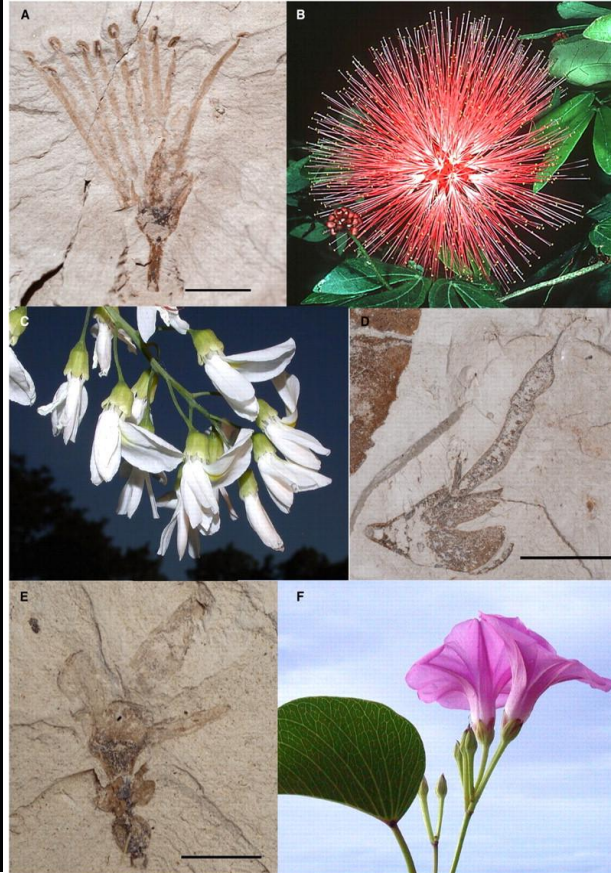
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Genetic Basis of Leaf-Shape Variation

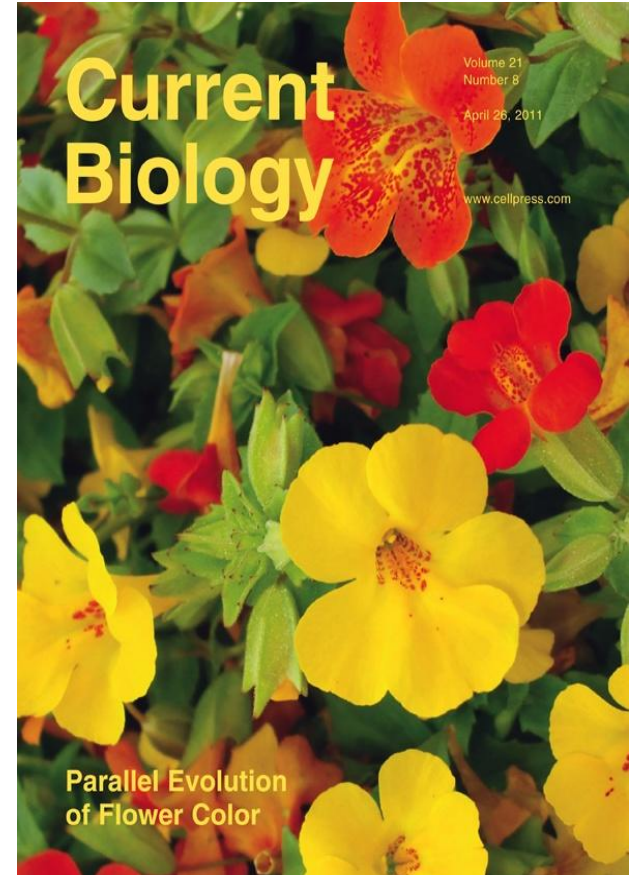


Current Biology

Volume 21
Number 8

April 26, 2011

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Parallel Evolution
of Flower Color



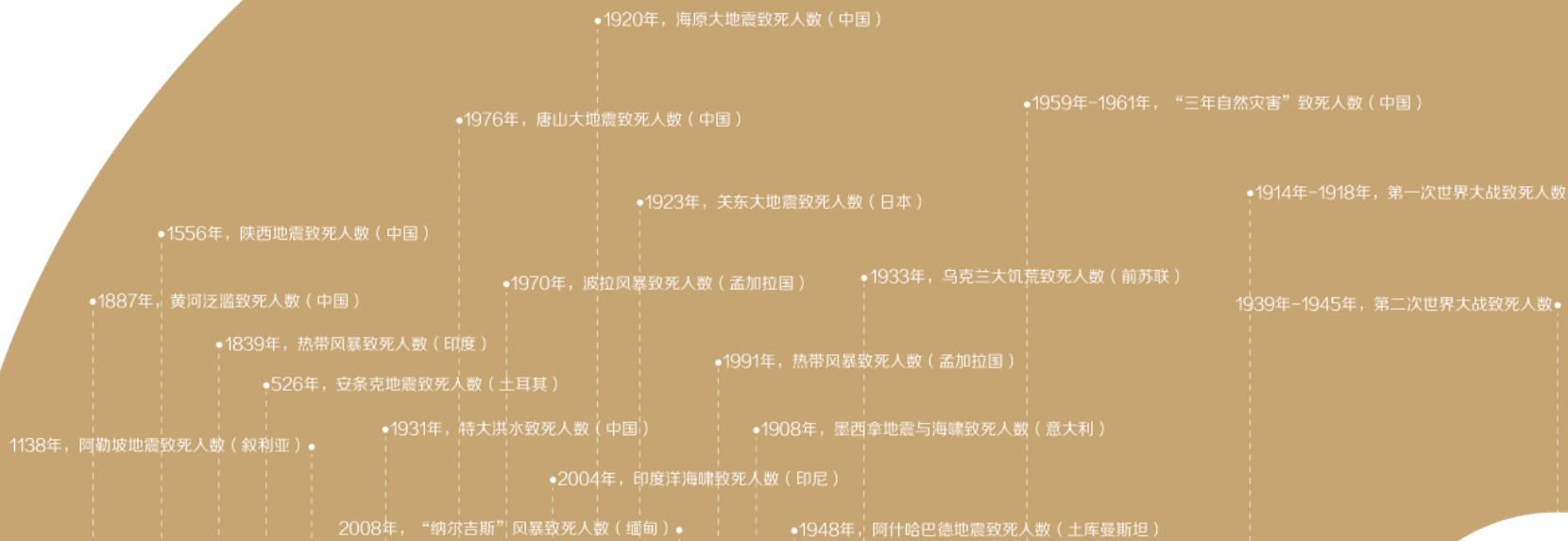


粮食

人类非正常死亡统计

战争饥荒最夺命

网易新闻 news.163.com DATA BLOG 数读



历史上有记录的十大致死自然灾害 20世纪以来十大致死自然灾害

*数据来源: wikipedia.org, U.S. Geological Survey, World Health Organization, Associated Press, disasterrelief.org, NOAA, Guinness World

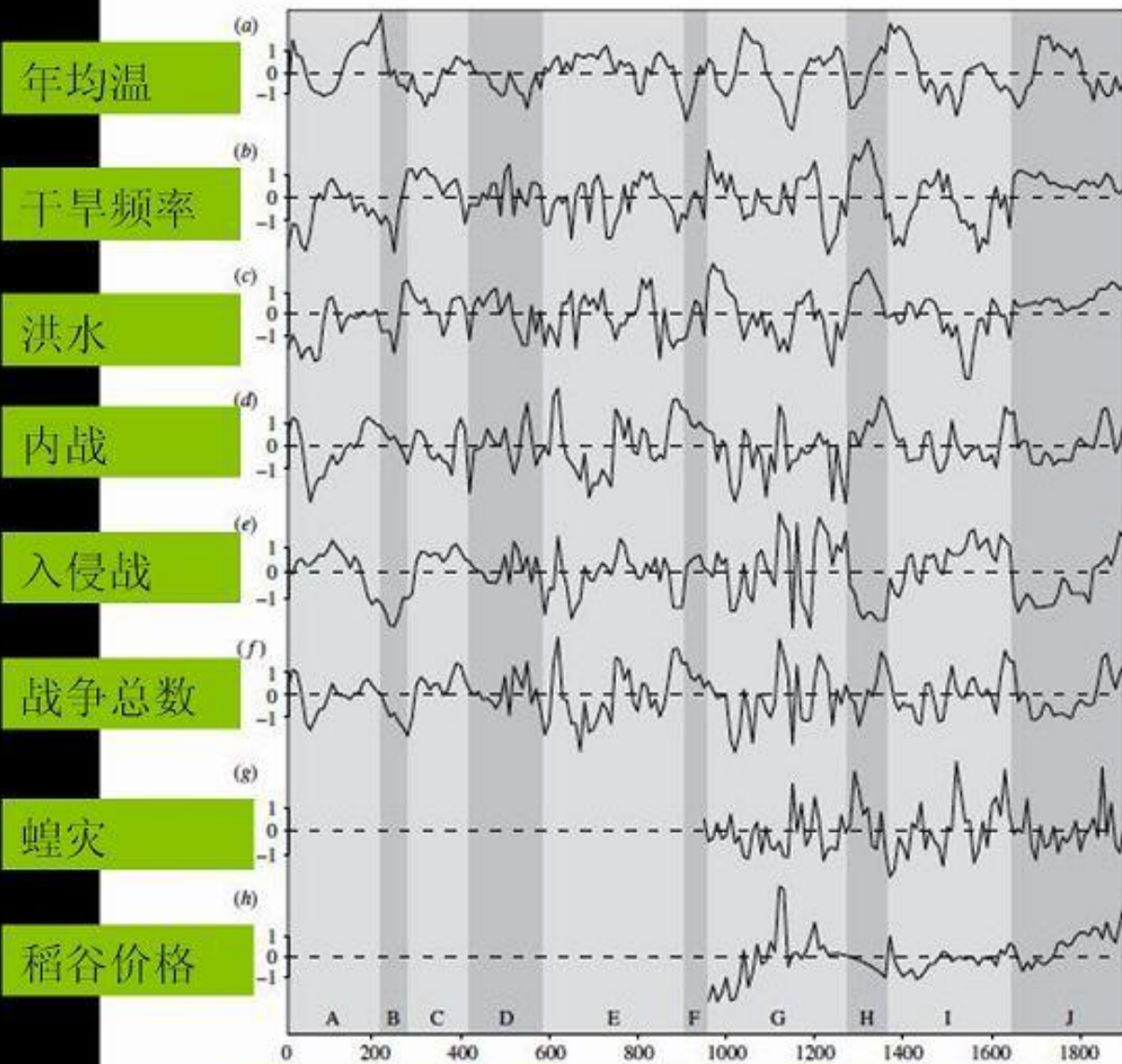


Figure 1. Deviations from the long-term mean of (a) annual temperature, (b) drought frequency, (c) floods, (d) internal wars, (e) external wars, (f) total wars, (g) locust plagues, and (h) rice prices. The shaded regions indicate periods of periodic cooling. The historical periods are defined by following Chen (1939) as: A, Han (206 BC–AD 220); B, Three Kingdoms (AD 220–280); C, Jin (AD 280–420); D, Southern and Northern Dynasties (AD 420–589); E, Sui & Tang (AD 589–906); F, Five Dynasties and Ten Kingdoms (AD 907–959); G, Song (AD 960–1279); H, Yuan (AD 1276–1367); I, Ming (AD 1368–1643); J, Qing (AD 1644–1911).



朱橐（su）《救荒草本》400多种植物



Norman.Borlaug



穆

カウ(餐) 穆牛場, 在山東省。

十二画以上

穗

ムク(碎) ①(-ル) 穀類植物聚生在一起的花

穡

ムゴ(澀) 收割庄稼。

穢

フク(惠) 汚穢, 穢: ~土, 穢: 穢的。

~行。



高粱



小麦



大麦



水稻



蕎麥



穀子



燕麥



玉蜀黍



稷

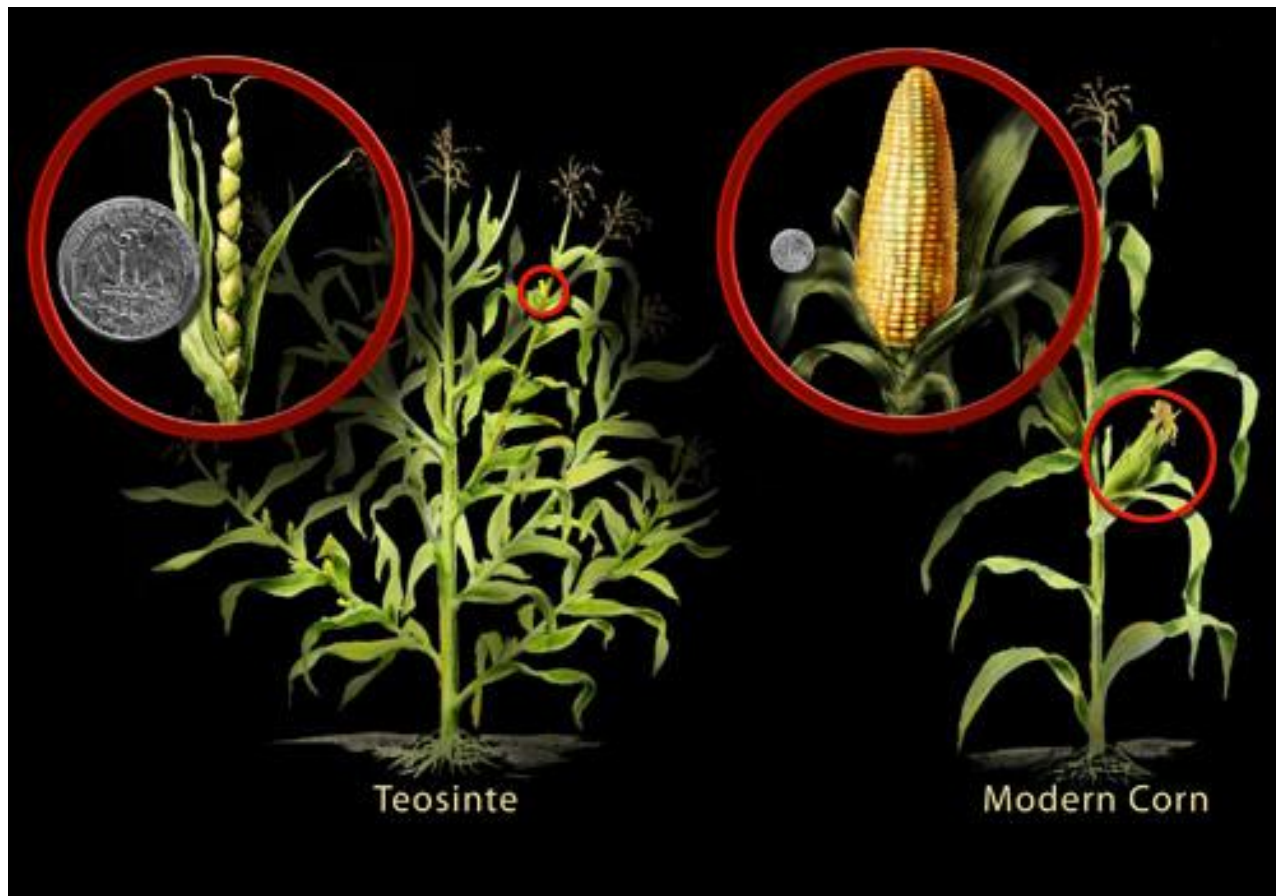
2. 田地裏的... 的成果: 三反運動

用 ①使 使物體的 公~電話. 改~ 小~. ~力甚勤. ~途. ~處. ② 費用, 花 ~. 零~. 國~ 的效果(③功、效 之材. 發揮機器 很大. 起帶頭作 前, 介紹後面動 或工具: ~筆寫字 耕田. ~鋼鐵造 (多爲否定): 不~ 心嗎? ④因: ~ 函差.

甩

フク(帥) 動: ~袖

享受美食，更要享受粮食知识



玉米



谷子：小米



稻谷



明朝



民国

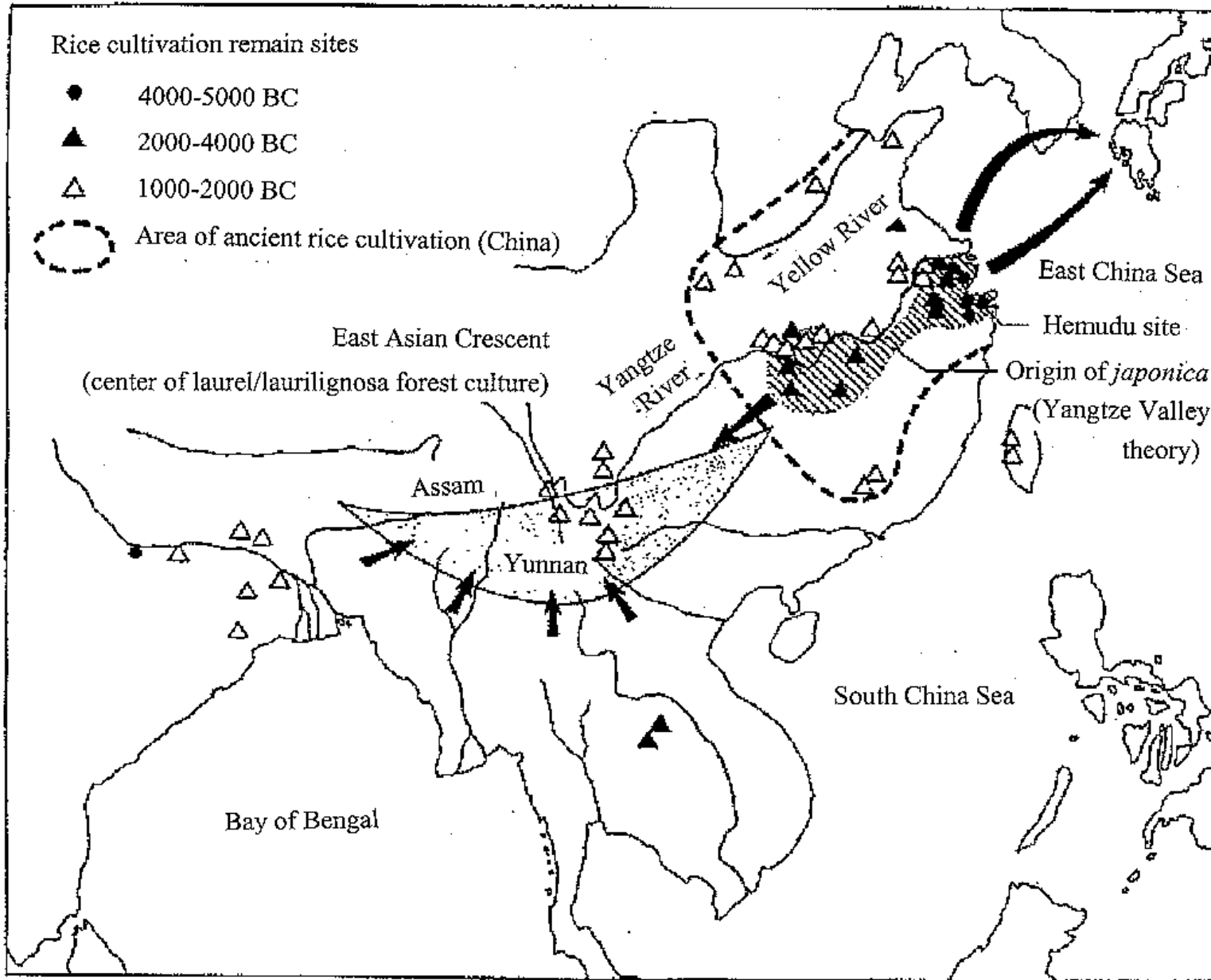
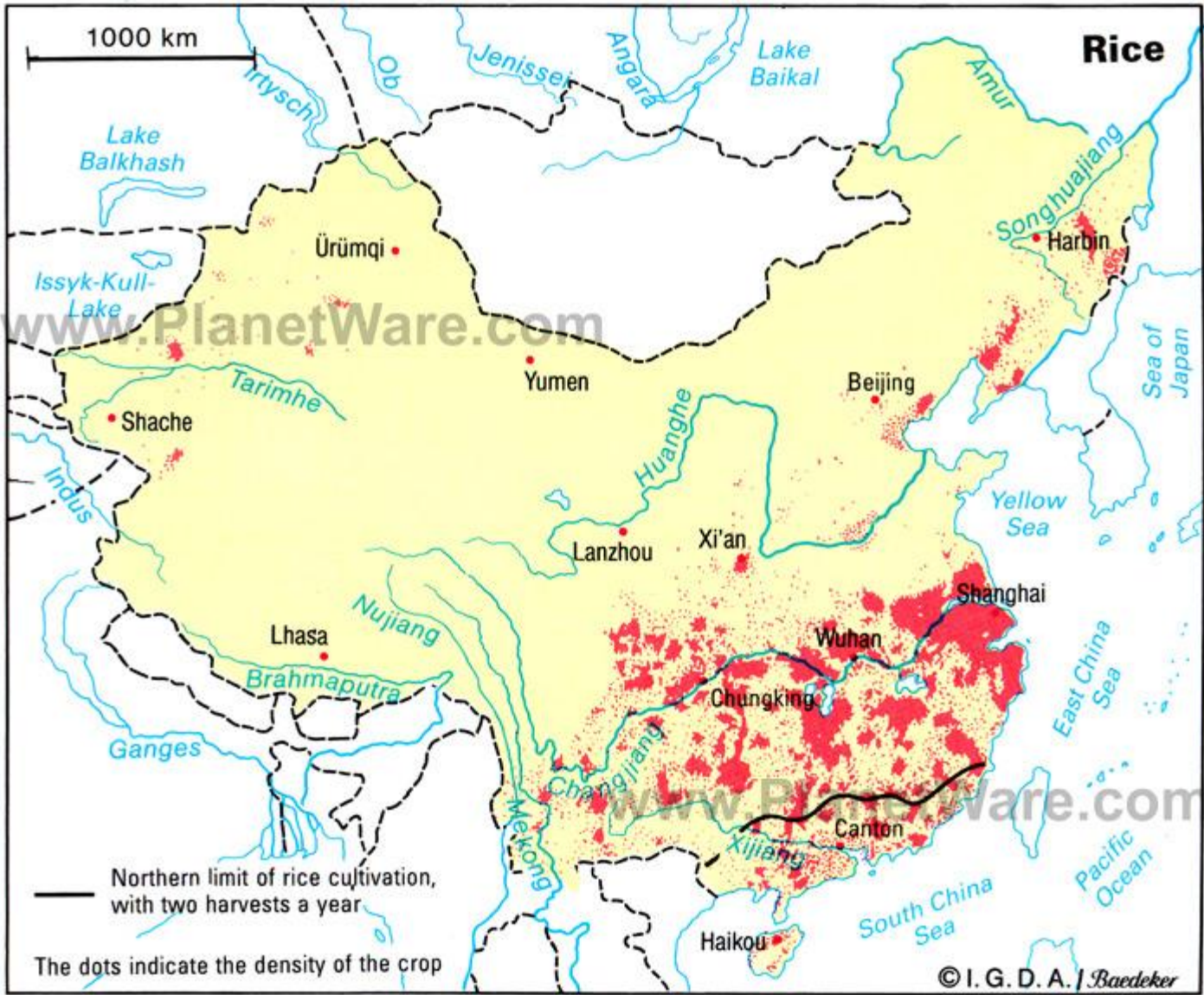
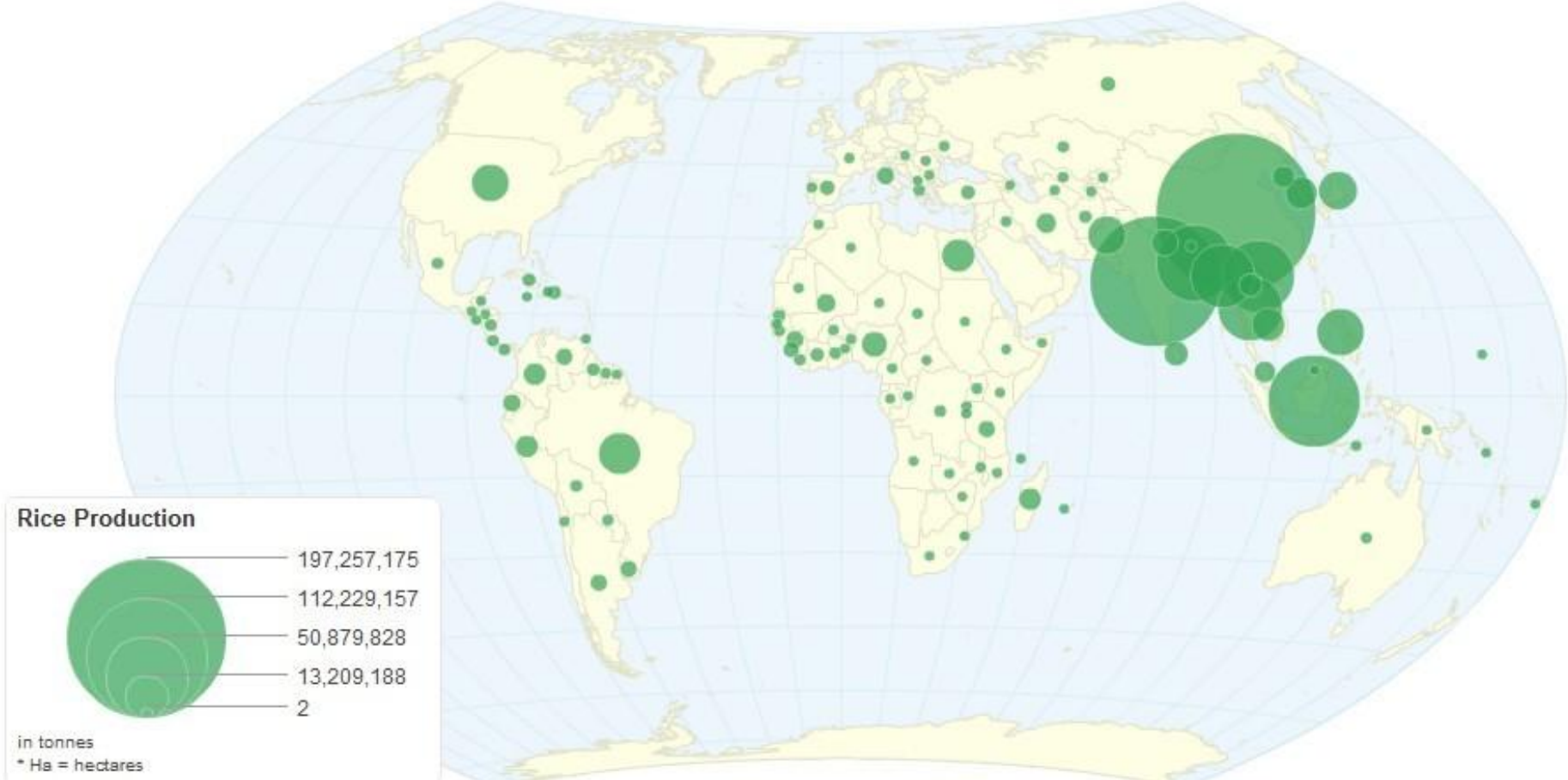


Fig. 4 A theory of *japonica* origin from the Yangtze Valley (Yo-Ichiro Sato, "DNA ga kataru inasaku bunmei", NHK Books).



Worldwide Rice Production



Rice

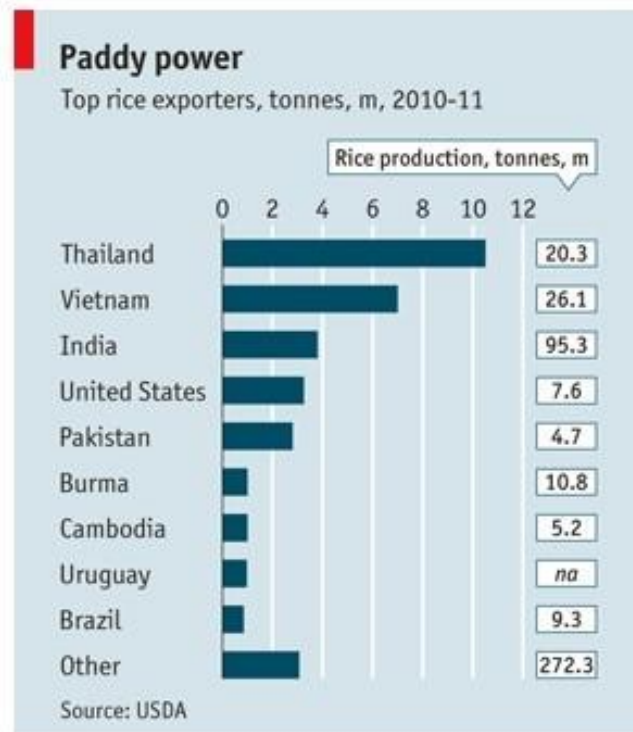
Asia's rice bowls

How serious will the impact of the Thai floods be on Asian tables?

Nov 12th 2011 | from the print edition

IN ASIA kingdoms are said to rise and fall with the shifting price of rice. So the continent's rulers presumably ought to be worried by the effects of disastrous floods in Thailand, the world's biggest exporter of the white grains (see chart).

Last year Thailand provided about a third by volume of all internationally traded rice—around 10m tonnes. Thailand's government reckons that some 5m-6m tonnes (nearly a fifth of the country's total production) might have been destroyed by the deluge. Some analysts say that the damage could be even more severe. Pessimists worry that Thailand's exports could be cut by 3m-4m tonnes. With the world trade in rice expected to hit over 33m tonnes in 2011 this could take around 10% out of the market. If the same thing happened with oil or wheat the results would be calamitous.



谁来养活中国??

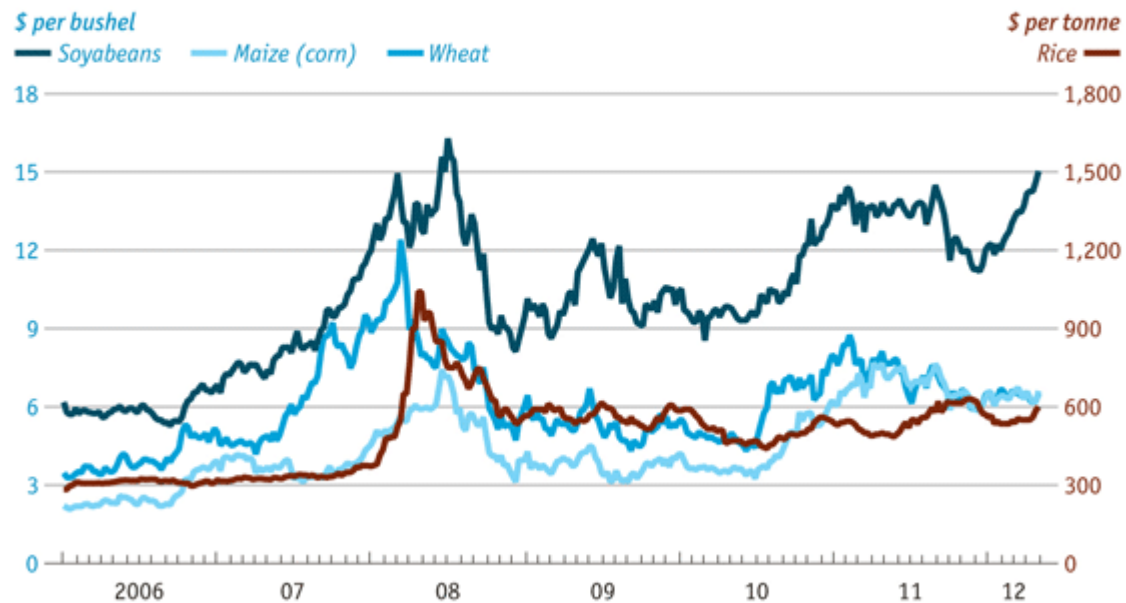
水稻种植区划

(资料来源:《中国农业区划的理论与实践》)





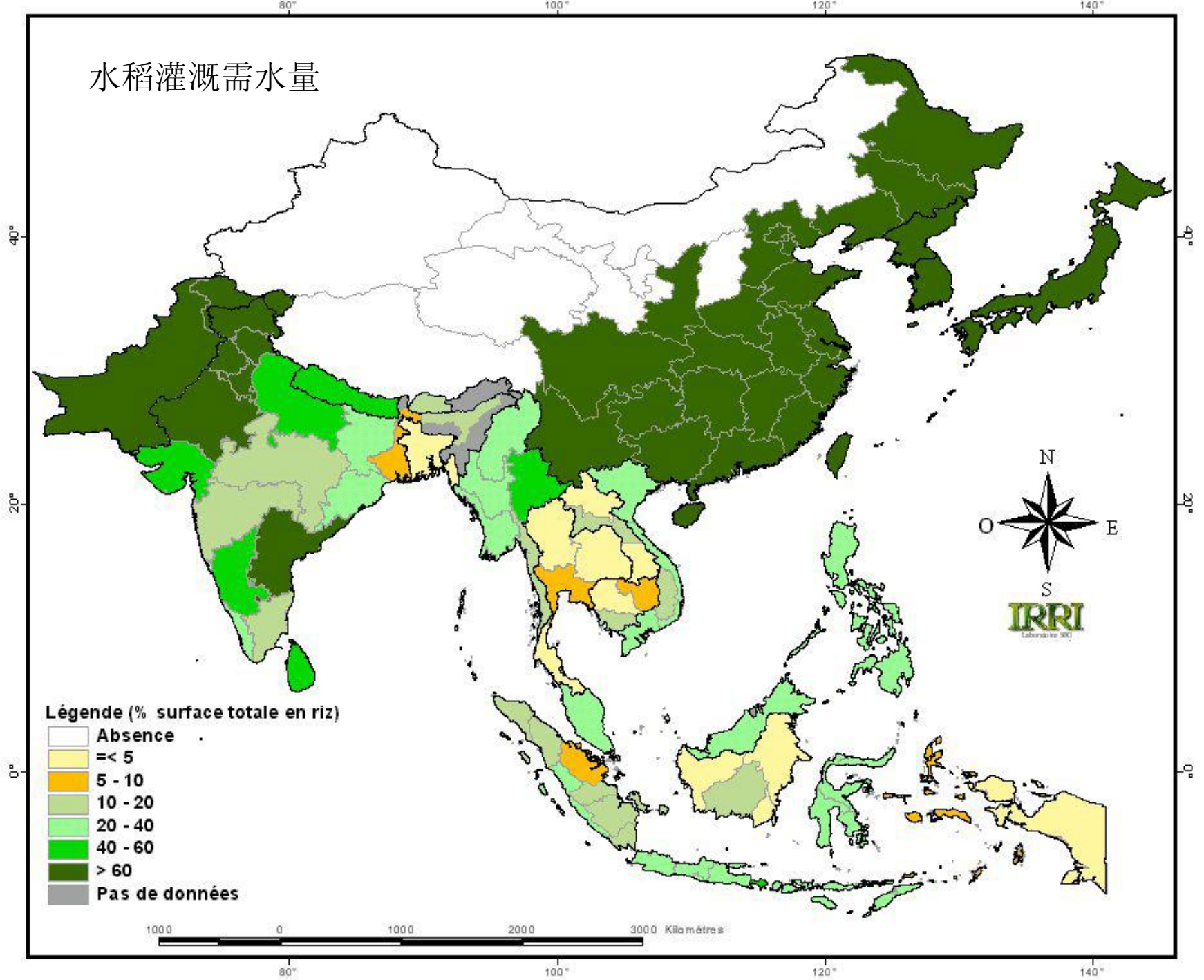
Grain prices

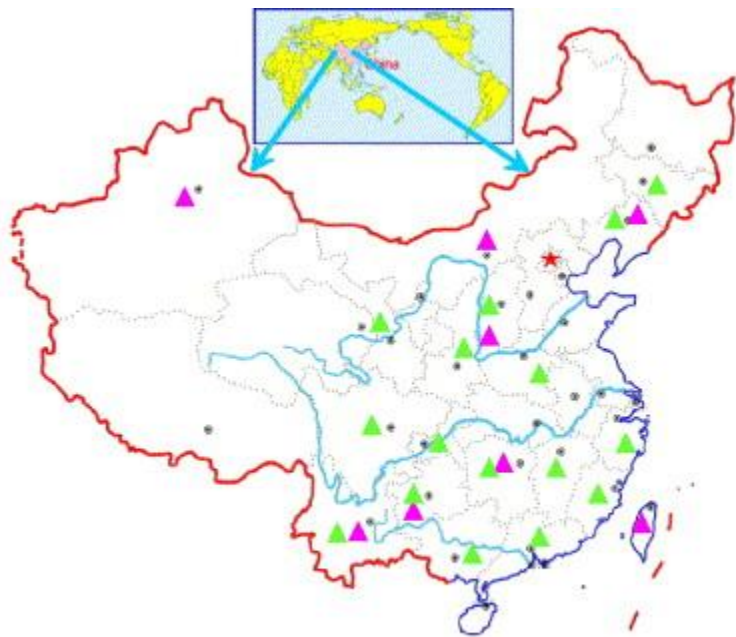


Source: *The Economist*

低迷的稻米：价格暴涨的粮食

水稻灌溉需水量





As and Cd Pollution in China Cd ▲ As ▲

四川德阳地区
中国地质大学2008年研究显示，绵竹、什邡等地居民大米、小麦镉摄入量超标2倍至10倍

贵州铜仁万山特区
中科院地球化学所2010年研究显示，成人通过吃米平均每天摄入量49微克之多

广西阳朔兴坪镇
多位村民疑似“骨痛病”初期症状

广东大宝山矿区
中山大学2010年研究显示，21个水稻品种镉和铅超标率分别达100%和71%

湘西凤凰铅锌矿区
中科院地理所2008年研究表明，稻米铅、镉污染严重

湖南株洲马家河镇新马村
稻米镉污染主要来自一公里外的湘江

江西大余钨矿区
江西有色地质队1997年研究显示，水稻镉超标

辽宁李石开发区
辽宁石油化工大学2008年研究显示，水稻中铝含量超标

浙江遂昌
浙江丽水卫生监督站1987年研究显示，遂昌金矿附近污染区稻米镉含量严重超标

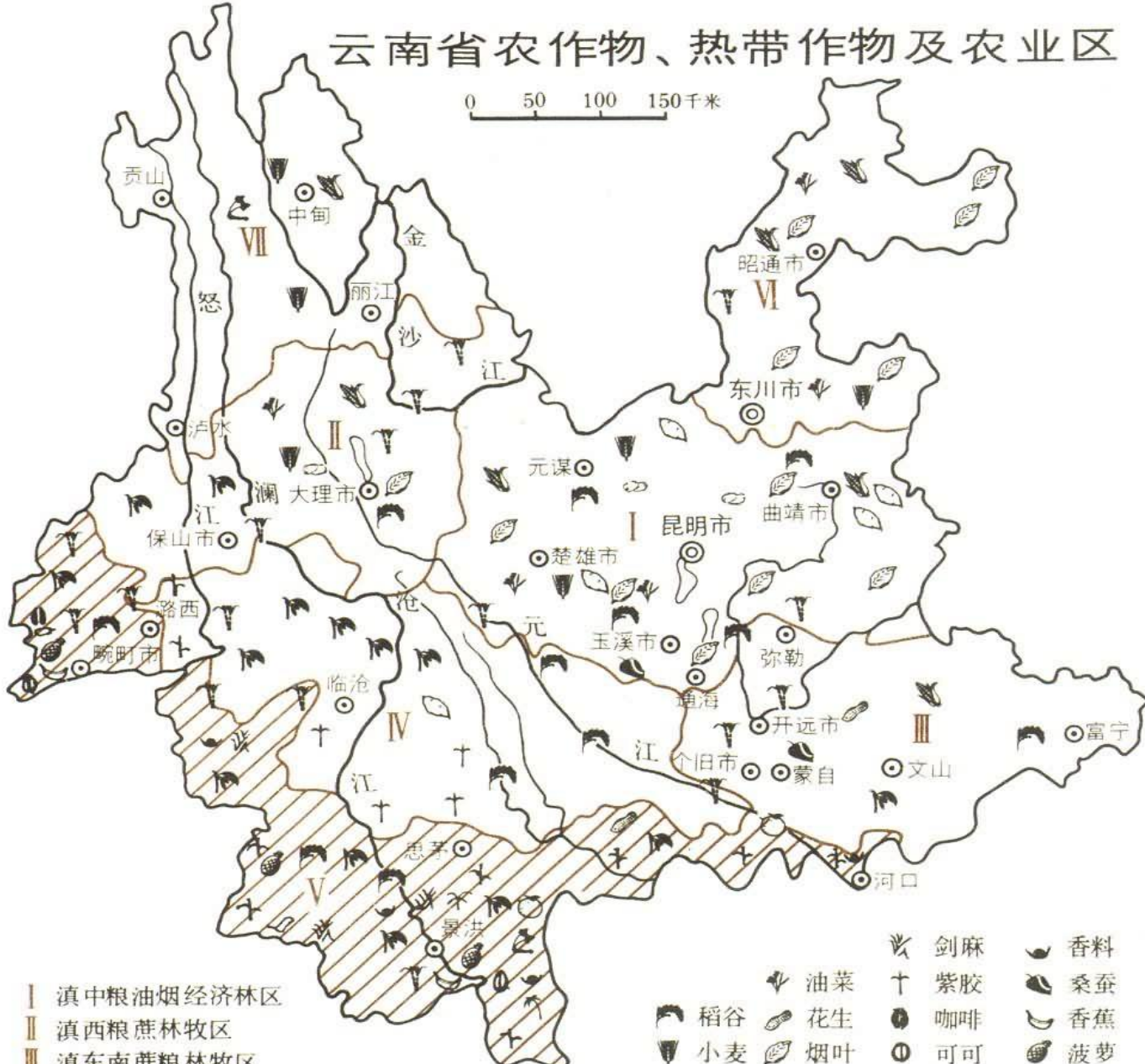
毒大米：镉米



辐射污染大米与大米遗传资源

云南省农作物、热带作物及农业区

0 50 100 150 千米



- I 滇中粮油烟经济林区
- II 滇西粮蔗林牧区
- III 滇东南蔗粮林牧区
- IV 滇西南茶紫胶蔗林牧区
- V 南部边缘热作热林蔗茶区
- VI 滇东北经济林旱粮油烟区
- VII 滇西北林牧药材区
- 热带作物区

- | | | | |
|----|-----|----|----|
| 稻谷 | 油菜 | 剑麻 | 香料 |
| 小麦 | 花生 | 紫胶 | 桑蚕 |
| 玉米 | 烟叶 | 咖啡 | 香蕉 |
| 薯类 | 茶叶 | 可可 | 菠萝 |
| 蚕豆 | 中药材 | 橡胶 | 柑桔 |
| | 甘蔗 | 油棕 | 芒果 |
| | | 椰子 | 腰果 |



A Bite of China

舌尖上的中国

自然的馈赠

主食的故事

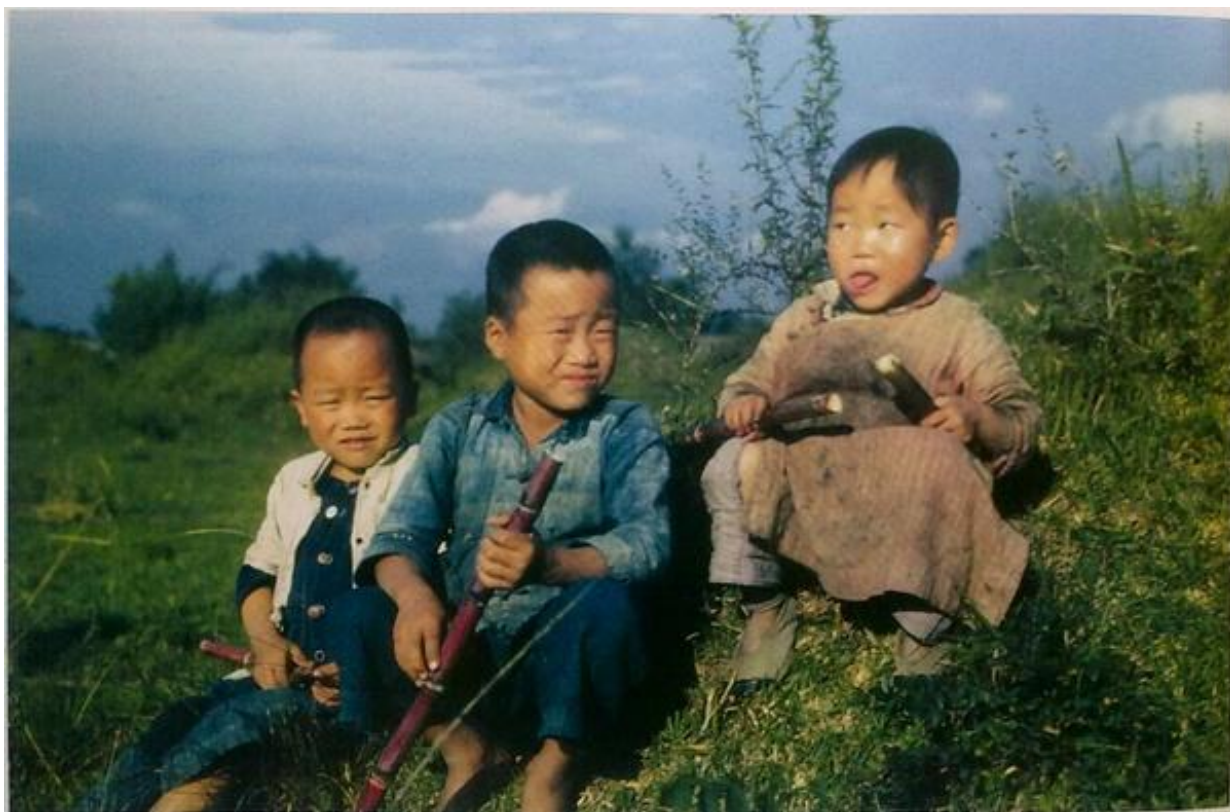
转化的灵感

时间的味道

厨房的秘密

五味的调和

我们的田野



谢谢大家!