Guizhou

Zhejiang Province

Shanghai City

Harbin City

Guizhou

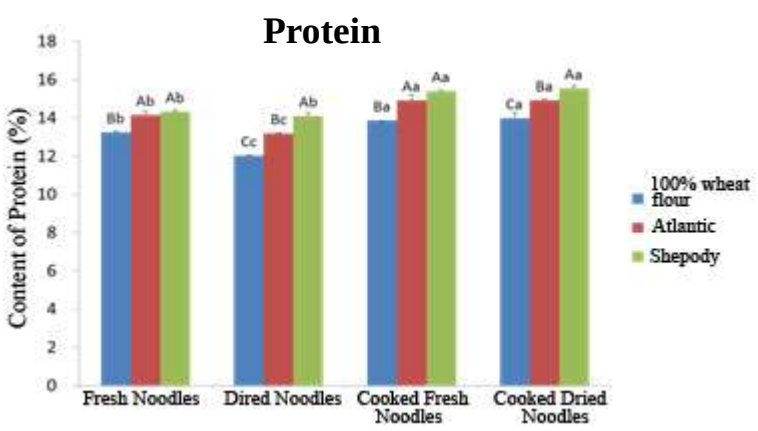
Zhejiang Province

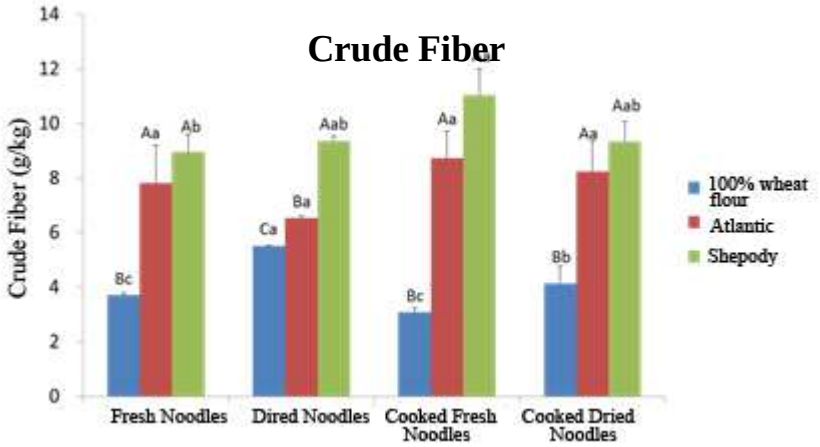
Shanghai City

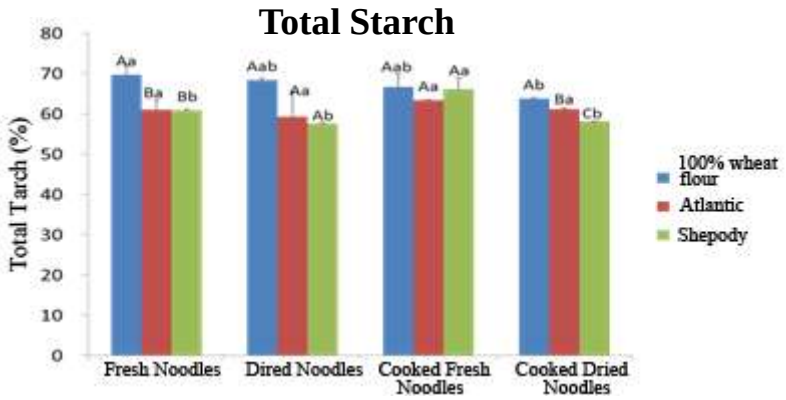
Harbin City

3.Nutritional Evaluation of Potato Staple Foods (35%）

Evaluation of Major Nutrient Indexes

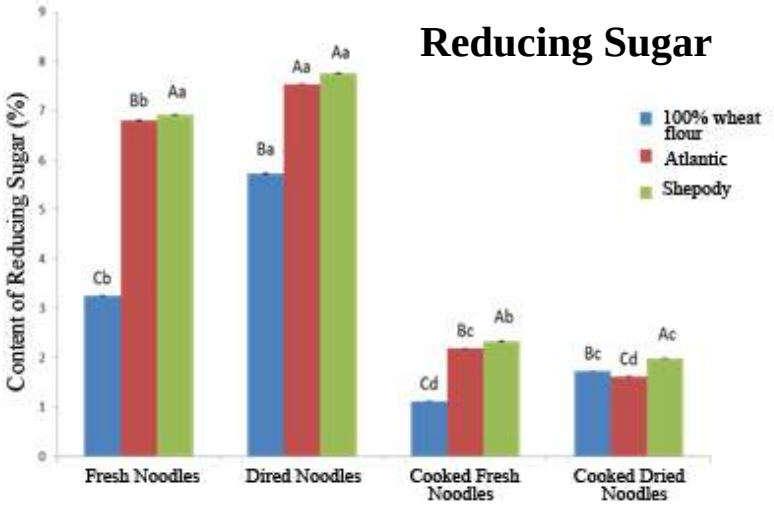


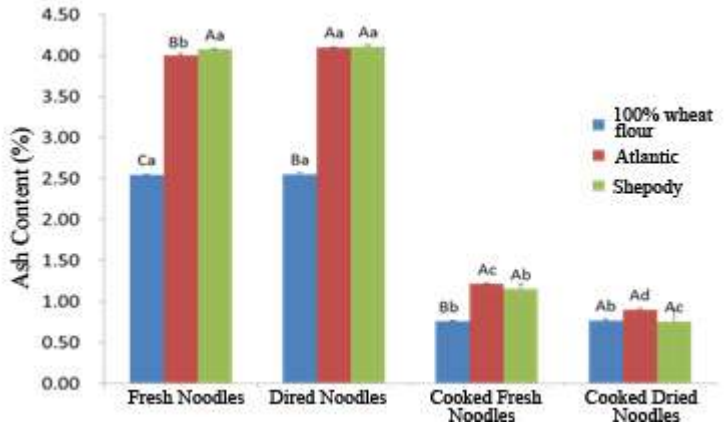


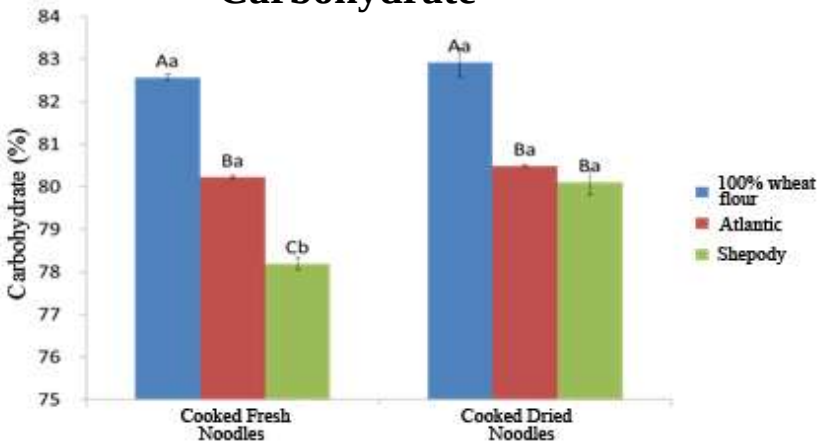


Note: a, b, c, d…represent the significant differences beteen noodles of the same variety but under different conditions; A, B, C, D…represents the significant differences beteen noodles of different varieties but under the same conditions

Potato noodles clearly contain more protein and crude fiber than wheat noodles. Shepody potato noodles contain more crude fiber than Atlantic potato noodles. However, potato noodles contain less total starch than wheat noodles.

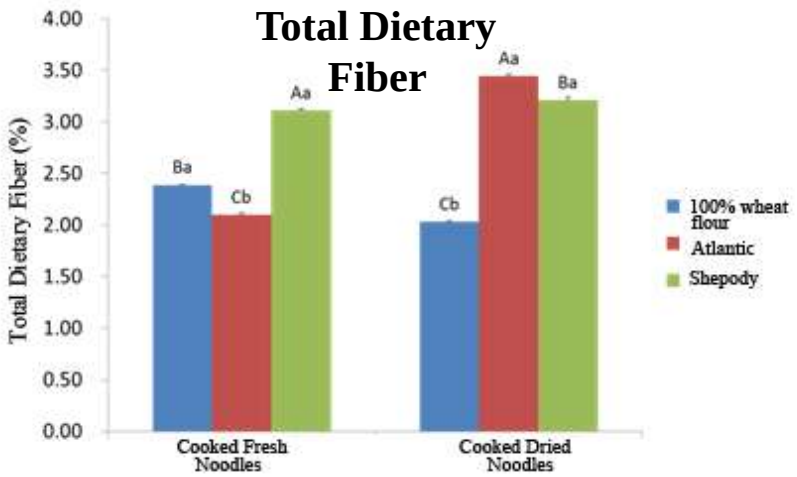


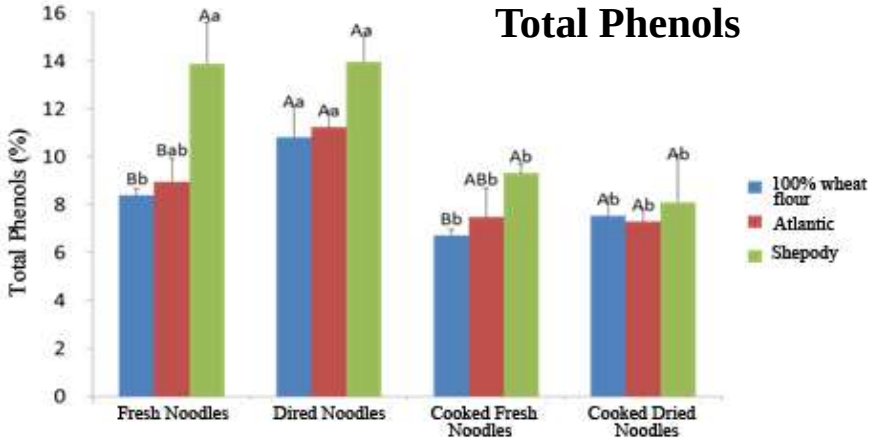


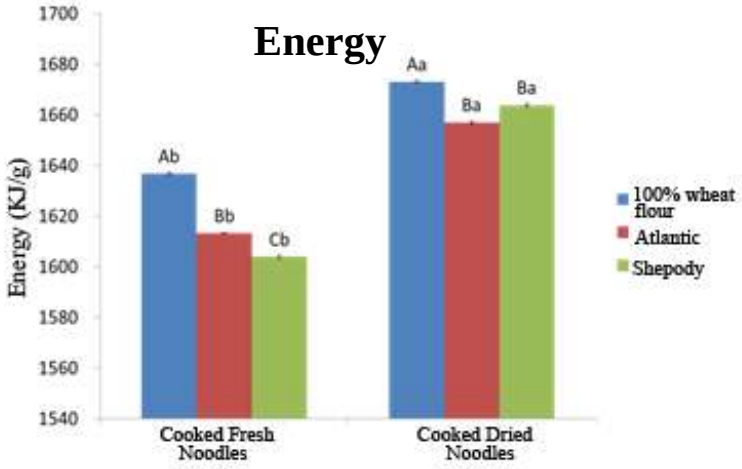


Note: a, b, c, d…represents the significant differences beteen noodles of the same variety but under different conditions; A, B, C, D…represents the significant differences beteen noodles of different varieties but under the same condition

Conclusion: Potato noodles contain substantially more reducing sugar and ash content than wheat noodles. However, cooked noodles contain less reducing sugar and ash content. Potato noodles contain less carbohydrate than wheat noodles.



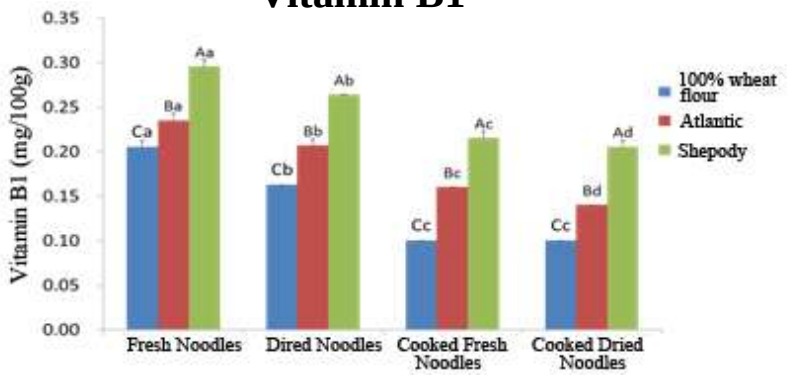




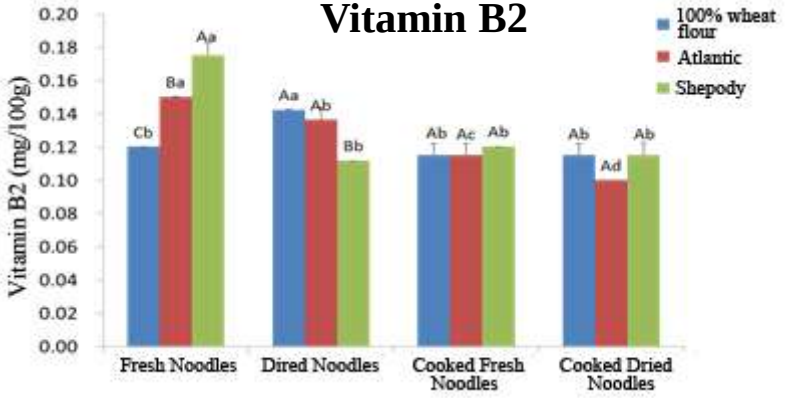
Note: a, b, c, d…represents the significant differences beteen noodles of the same variety but under different conditions; A, B, C, D…represents the significant differences beteen noodles of different varieties but under the same condition

Conclusion: Potato noodles contain substantially more total dietary fiber and total phenols and less energy than wheat noodles. This clearly shows that **the calorific value of potato noodles is less than in wheat noodles.**

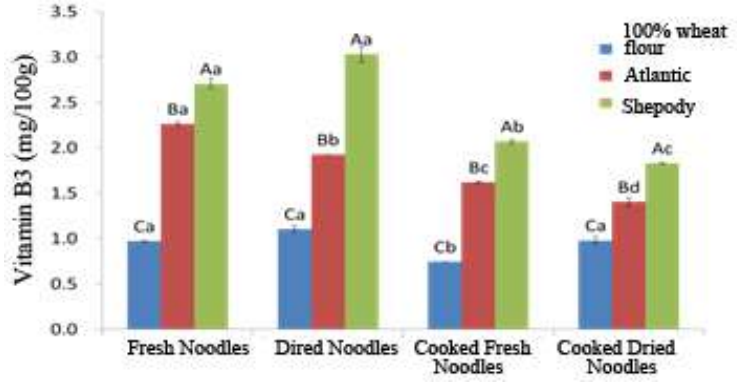
Vitamin B1



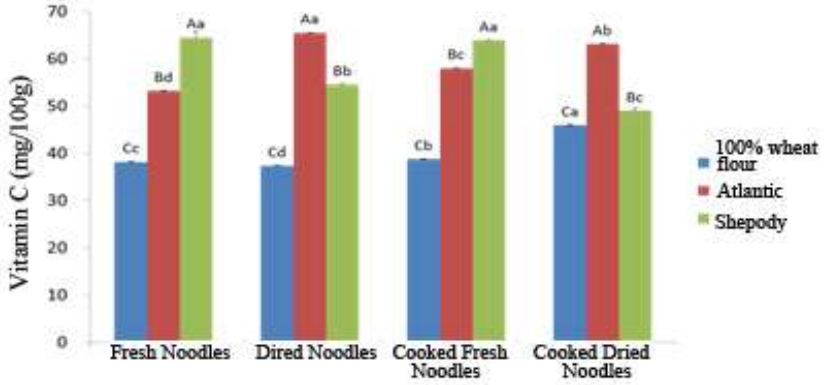
Vitamin B2



Vitamin B3



Vitamin C



Note: a, b, c, d…represents the significant differences beteen nooddles of the same variety but under different conditions; A, B, C, D…represents the significant differences beteen nooddles of different varieties but under the same condition

Conclusion: Potato noodles contain substantially more VitaminB1, B2, B3 and C than wheat noodles. Shepody potato noodles contain more Vitamin B1 and B3 than Atlantic potato noodles. Cooked noodles contain less vitamins. However, cooked potato noodles still contain more Vitamin B1, B3 and C than wheat noodles.

Nutrient Indexes--Essential Amino-Acid

		Fresh	
Unit (mg/g)	100% Wheat	Atlantic	Shepody
Thr	2.596	3.500	3.417
Val	5.050	5.210	5.935
Met	2.317	1.575	1.413
Ile	3.560	3.954	4.471
Leu	6.929	8.104	8.301
Phe	5.987	6.316	6.026
Lys	**2.655**	**3.417**	**3.357**
Ser	4.007	7.227	8.682
Glu	4.520	5.163	4.980
Gly	40.515	42.836	43.697
Ala	3.650	3.902	4.206
Cys	2.849	2.711	4.347
Asp	1.462	0.405	0.910
Tyr	0.734	1.475	2.901
His	2.223	2.533	2.437
Arg	2.909	3.432	4.357
Pro	8.040	6.831	14.360
Essential Amino-Acid	29.095	**32.076**	**32.919**
Total Amino-Acid	100.002	108.591	7

Note: Red font represents the content of esential amino-acids.

Fresh potato noodles contain more esential amino-acids than wheat noodles.

Nutrient Indexes--Minerals

Fresh Noodles

Unit (mg/kg)	100% Wheat	Atlantic	Shepody
Mn	4.46[a]	3.32[b]	2.47[c]
Mo	0.04[c]	0.10[b]	0.10[b]
Pb	0.17	Not Detected	Not Detected
Zn	Not Detected	1.93[b]	2.36[a]
K	541.58[c]	3003.22[a]	2938.69[b]
Na	6885.15[b]	7085.40[a]	6378.81[c]
P	2465.83[c]	4105.16[b]	4437.49[a]
S	1912.62[c]	2282.42[b]	2365.29[a]
Se(μg/100g)	3.52[b]	2.98[c]	17.86[a]

Dried Noodles

Unit (mg/kg)	100%Wheat	Atlantic	Shepody
Mn	3.35[a]	2.62[b]	2.42[c]
Mo	Not Detected	0.12	0.12
Pb	0.27	Not Detected	Not Detected
Zn	Not Detected	1.58[b]	2.09[a]
K	502.58[c]	3129.64[a]	3108.66[b]
Na	6406.80[c]	6949.76[a]	6559.16[b]
P	2334.95[c]	4024.98[b]	4548.49[a]
S	1787.09[c]	2261.48[b]	2465.05[a]
Se(μg/100g)	4.92[b]	4.83[b]	6.05[a]

◆ **Compared with 100% wheat noodles, 35% potato noodles contain more major macronutrients, micronutrients, (VB1, Vc, minerals,and dietary fiber), amino acids and total phenols.**

Note: a, b, c,…represent the differences in the same mineral elements between noodles of different varieties under the same conditions.

Potato noodles contain more mineral elements than wheat noodles do, especially the content of magnesium, iron, and potassium.

5. Interest shown by Foreign Countries in the Chinese Potato Staple Food strategy

Invited to give over 60 speeches at domestic and international academic exchange conferences

In 2015, Director DAI Xiaofeng was keynote speaker at the International Seminar on Potato Staple Products and Development of the Potato Product Industry.

King William Alexander and the Queen of the Netherlands and the Dutch Minister of Agriculture

Sign a joint project with the Shaanxi Jinzhong Changxin Agricultural Technology Co., Ltd.

Article Published in *Wall Street Journal* on August 17, 2015

"China is Highlighting Potatoes"

11/27/2016 In Latest Mash-Up, China Puts Spotlight on Spuds - WSJ

THE WALL STREET JOURNAL.

A-HED

In Latest Mash-Up, China Puts Spotlight on Spuds

Effort to boost potato profile includes songs, mooncakes, 'earth bean' buns

The Chinese character 'Fu,' meaning good fortune, was formed by steamed potato buns at a Beijing show in July. PHOTO: ZHANG HAICHUAN/XINHUA/ZUMA PRESS

By TE-PING CHEN

Updated Aug. 17, 2015 7:52 p.m. ET

BEIJING—When it comes to the potato, Feng Xiaoyan gets rhapsodic.

"Potatoes are tasty, the flavor is fresh. The more you eat them, the more they're on your mind," Ms. Feng has crooned on Chinese television. She has commissioned several songs extolling the potato, including "Potato, Potato, Potato" and "Our Potato, Little Round Potato."

The 51-year-old potato farmer-turned-entrepreneur is on a mission to turn the potato into a culinary staple in China, where rice and noodles have ruled for millennia. She picked up a powerful ally this year. The government announced that it wants to turn the New World spud into a key part of the diet for the country's 1.3 billion population.

The push is in part environmental: The country's land is badly parched, and crops like rice and wheat are far more water-intensive than the low-maintenance potato. Food

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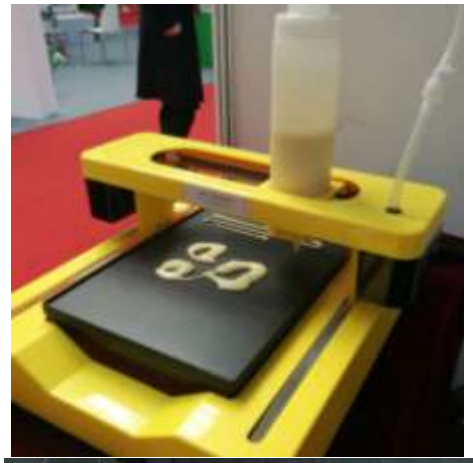
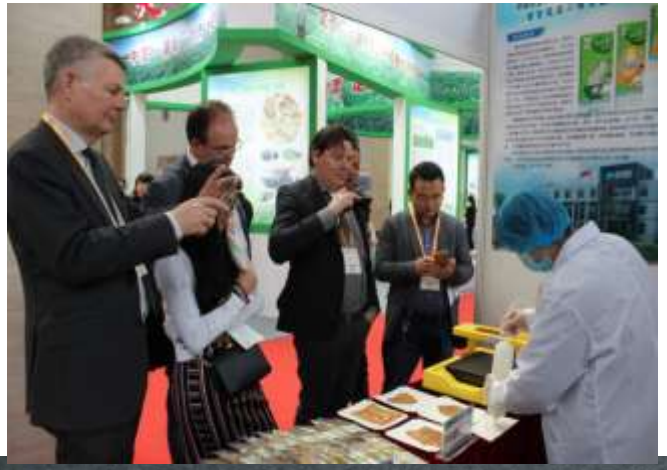
Reporter from HBO (U.S.) filming potato staple products.

The 23rd Shaanxi Yangling Agricultural Technology Exhibition Nov. 8, 2016

3D Printing Technology and Equipment for Chinese Potato Staple Foods





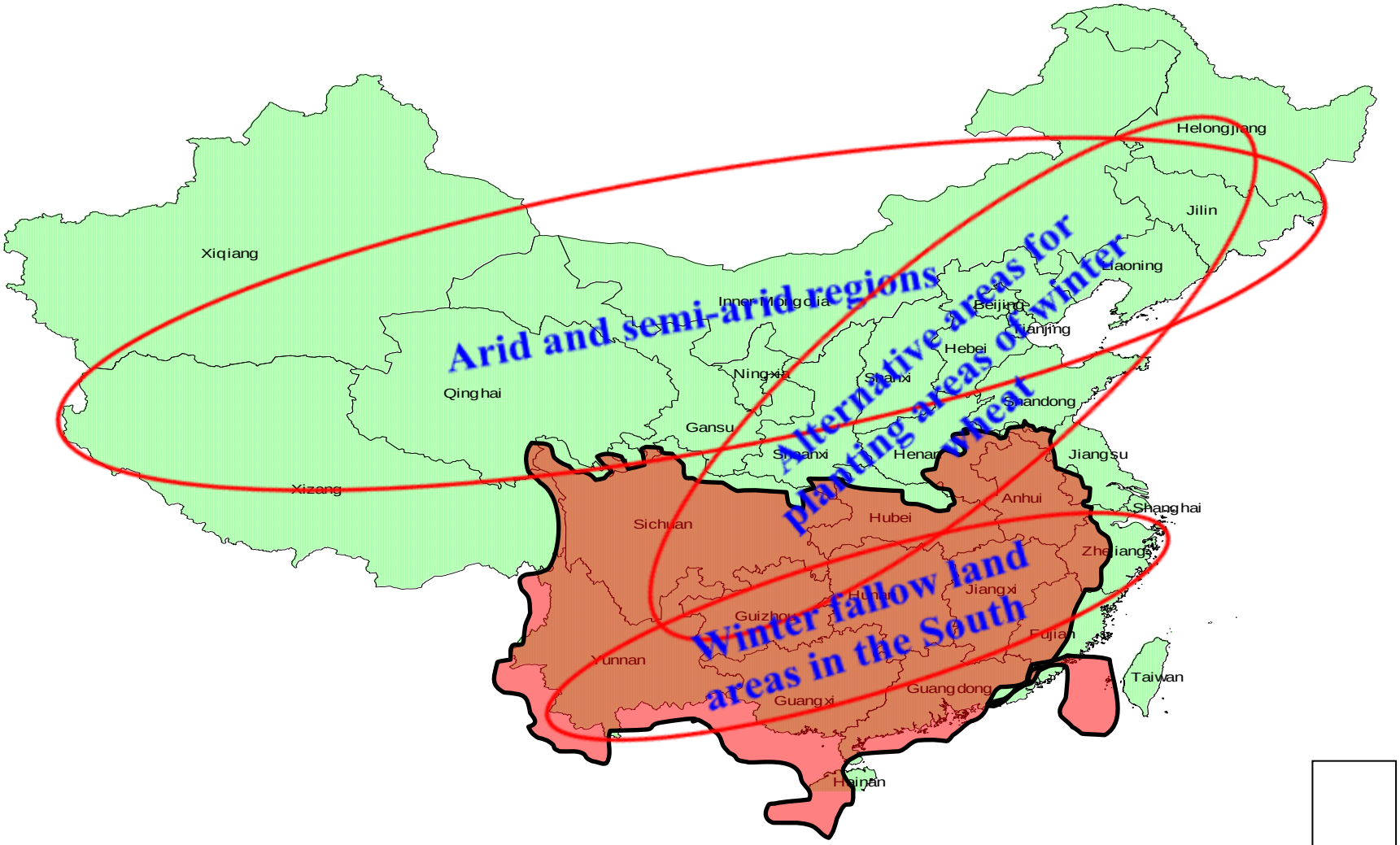
2017 China International Potato Exposition (Beijing); March 29-30, 2017

International delegates tasting Chinese potato staple products

The 9th China（Tengzhou）Potato Festival in 2017;
Tengzhou, Shandong; April 18th, 2017

6. Strategy for the Industrial Development of Chinese Potatoes as a Staple

1. Regions where the planting area of Chinese potato can be increased



2. Prospects for Chinese Potato Staple Products and their Industrial Development

1. It is expected that by 2020 the total output of Chinese potatoes will reach about 130 million tons, 30% of which (40million tons) will be potatoes that have been processed into staple food varieties. The consumption of potato nutritional staple products will reach 20 million tons, about 40% of which will be potato products.

2. It is expected that by 2025 the total output of Chinese potatoes will reach 220 million tons. About 100 million tons of potatoes will be processed into staple foods. The consumption of potato nutritional staple products will reach 50 million tons, about 50% of which will be potato products.

3. Economic Benefits of Adopting Chinese Potatoes as a Staple

1) Improve Agricultural Supply Capability

The strategy of staple food is expected to drive the yield of potatoes up to 220 million tons. Based on a ratio of 3:1, they can be converted into **73 million tons** of grain, so that food supply capability can be improved.

2) Drive the Industrial Development in Rural Areas

The potato a staple product industry will promote integrative development of the primary sector, the secondary sector and the service sector; and will drive the agicultural products processing industry to reach a growth of over **300 billion *yuan***.

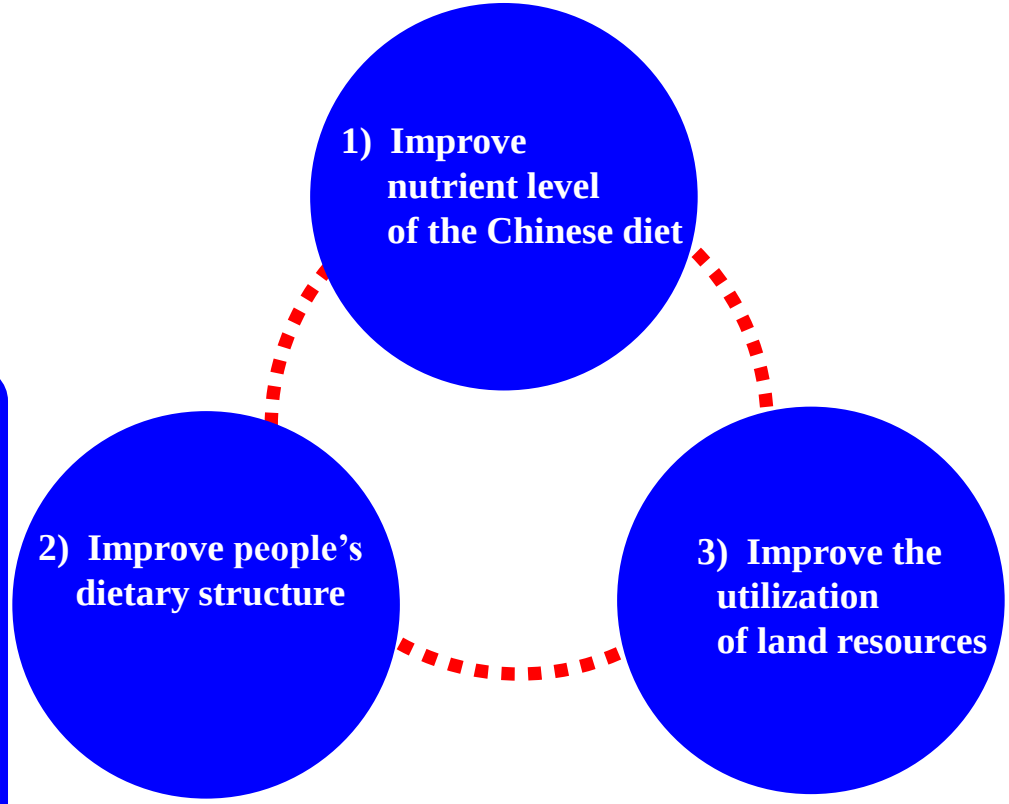
Economic Benefits by 2025

3) Improve the income of farmers

Processing staple foods will improve the imcome from each mu (approx 1/15 hectare) of potato fields by over 300 *yuan*. With 150 million *mu* of planting area, it is expected that the net income of potato farmers can be improved by **45 billion *yuan***.

3. Social Benefits of Adopting Chinese Potatoes as a Staple

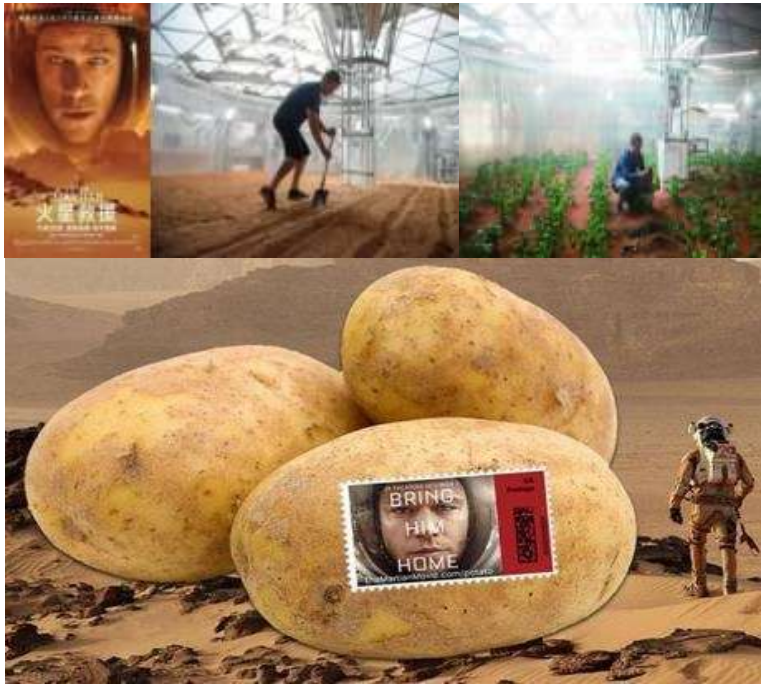
Potato staple foods are good for people who are overweight or suffer chronic diseases such as obesity, high blood pressure, and high sodium and low potassium etc.; and can meet the nutrient demands of the general public in China.



Increase the content of Vitamin A and C that are lacking in rice and wheat; increase nutrients such as calcium, potassium, iron, and dietary fiber etc.; and to improve dietary quality.

Potatoes are cold-resistant, drought-enduring and grow well in arid regions. By planting more potatoes, the utilization efficiency of land resources can be improved.

When the world faces a food crisis in the future, only potatoes will be able to save the human race.



- In the film *The Martian*, the lead actor Mark Watney showed resourcefulness in an emergency and survived on Mars by planting potatoes.
- NASA and the International Potato Center will cooperate to test the environment on Mars and trial potato planting to prepare for human habitation of Mars and other planets.

Look forward to receiving comments and corrections from our leaders and experts!

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