

WASTE

China's New Front in the War on Pollution



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World's Recycling Bin Now Closed



The Biggest Source of Plastic Trash You've Never Heard Of



Photo credit: [Istockphoto/Gannet77](#)

U.S. agriculture ~ billion pounds plastic annually
Films used for mulch/greenhouse covers/wraps for bales, tubing and pipes.
Also nursery containers, pesticide containers, silage bags, storage covers, twine and more.

Plastic Mulch on Cotton Crops in Xinjiang



Photo by Changrong Yan

↑ 20%–35% grain/ 20-60% cash crop

↓ water infiltration, nutrient movement, irrigation efficiency
Overlooked source of ocean plastic pollution

China's Solid Waste Will DOUBLE by 2035 to 500 million tons annually



~2100 Landfills

Photo Credit:
Rob Schmitz/NPR

<https://www.npr.org/sections/parallels/2017/02/20/515814016/the-burning-problem-of-chinas-garbage>



1.4 million
tons per day
by 2025 and
likely half will
be incinerated



China's Food Waste Mountains

China generated 17-18 million tons of food waste per year from 2013 to 2015, enough to feed 30-50 million people annually.

Shenzhen Planning World's LARGEST Waste-to-Energy Plant



Source: Gottlieb Paludan Architects

<https://www.seeker.com/china-is-building-worlds-biggest-trash-incinerator-1771091940.html>



2018 Soil Waste Law Amendments

Recycling Action Plan (54% by 2020!)

46 City Pilot Cities on Waste Sorting

Compulsory Waste Classification System by 2020

**2017 Guidelines on
External Packaging Standards**

**2018 Guidelines
on Green Packages for Express Deliveries**

Operation Green Fence

National Sword Policy



Little Yellow Dog Smart Trash Bins Money to Wechat Wallet for Recyclables



Source: Little Yellow Dog



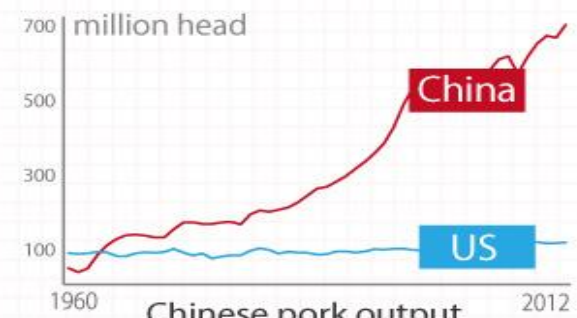
THE PORK INDUSTRY IN CHINA

65% of the meat consumed by China is pork.

81 LBS Per Capita Annual Pork Consumption in China



China consumes about **HALF** of the world's pork.



Chinese pork output has increased by **15 times** over the past five decades.

High hog population density in China has tightened supplies of feed and damaged the environment.

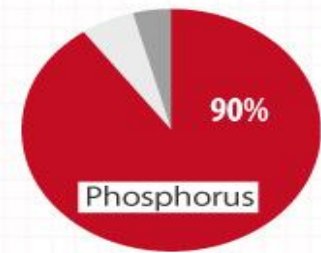
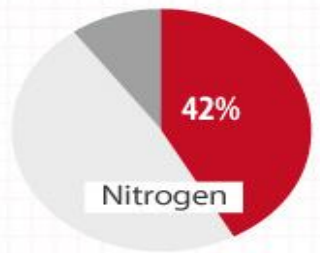


per 100 acres of cropland

The average pig in China produces **5.3 kg** of waste each day, which contains nutrients, heavy metals, and pharmaceutical residues.



Pig production accounts for an estimated **42% of nitrogen** and **90% of phosphorus** flows into the South China Sea.*



Legend: Pig Production (Red), Domestic Wastewater (Grey), Other Sources (Light Grey)

* Including the Pearl River basin in Guangdong Province, the Chao Phraya River basin in Thailand, and the Red River and Dong-Nai River basins in Vietnam.

- Eutrophication of surface water damages wetlands and fragile coastal ecosystems
- Leaching nitrates and pathogens contaminate soil and water
- Excess nutrients and heavy metals damage soil fertility and shrink arable land
- Ammonia, methane, and other gases cause pollution and contribute to greenhouse effect
- Diseased pigs are not always disposed of properly – 16,000 carcasses were found in the Huangpu River in 2013

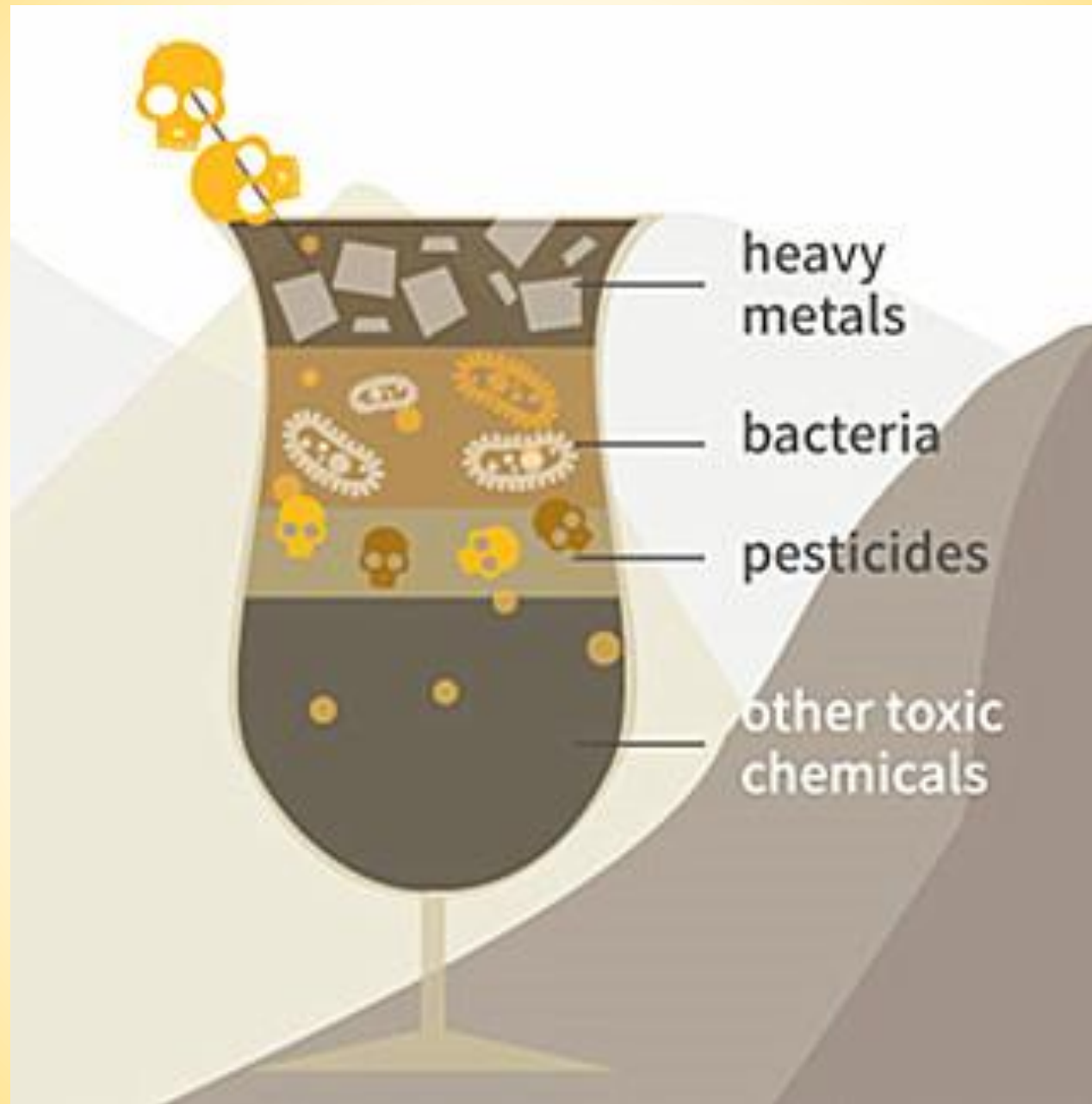
Livestock farm waste is about **3 TIMES** the amount emitted from industries.

1.29 BILLION metric tons of waste is produced by the Chinese pork industry per year.

China produces over
40 million tons of sludge – enough to fill
5 GREAT PYRAMIDS OF GIZA

with less than 20%
properly treated.





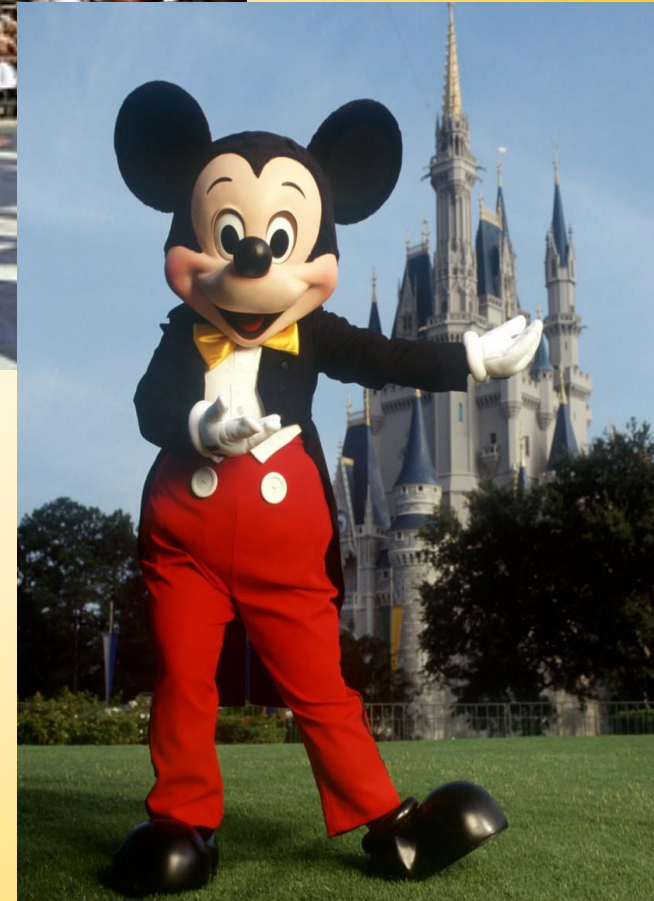




Source: Bauer Griffin



Source: Disney



100% Off Grid



Carlton Joint Water Pollution Control Plant, LA County

20 MW

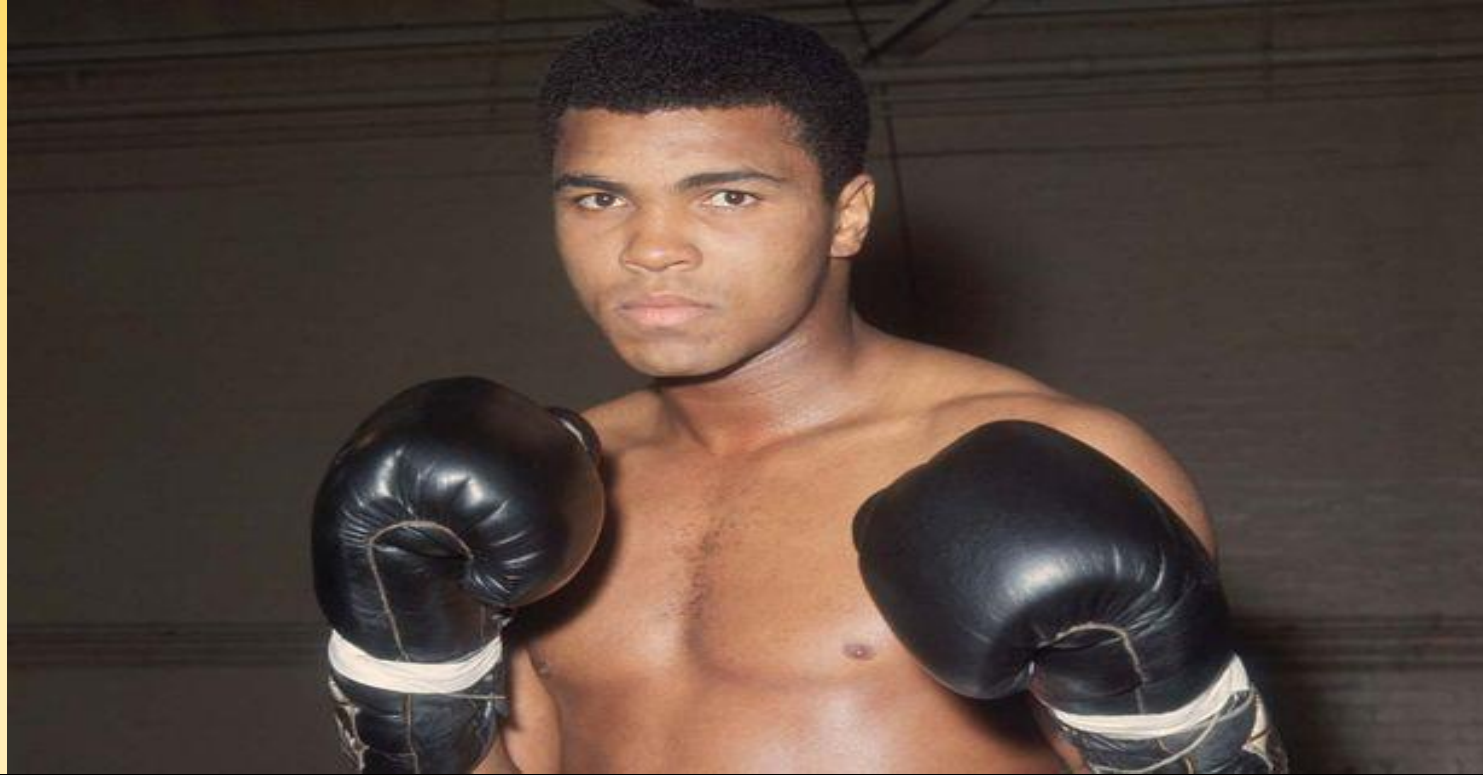


Wong Campion / Reuters



Photo Credit: TOVEN





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Photo Acknowledgment Links not in PPT Body

Greenhouse photo <https://ensia.com/features/the-biggest-source-of-plastic-trash-youve-never-heard-of/>

Mikey Mouse Photo <http://www.disneyeveryday.com/grab-a-fastpass-to-meet-mickey-mouse-at-the-magic-kingdom/>

Body Builders: <http://www.gossiprocks.com/forum/just-plain-scary/76519-bodybuilders-venice-beach.html>

Pumpkin Pie: <https://www.kingarthurflour.com/recipes/pumpkin-pie-recipe>

Incinerator Protest: <https://e360.yale.edu/features/as-china-pushes-waste-to-energy-incinerators-protests-are-mounting>

Plastic Mulch <http://www.world-agriculture.net/article/the-benefits-and-challenge-of-plastic-film-mulching-in-china>

Title Slide garbage pile *Flickr user Gerben van Heijningen*

Muhammad Ali <https://www.history.com/news/10-things-you-may-not-know-about-muhammad-ali>