

How does Chinese Pesticide Export Reshape Crop Protection Market in Latin America?

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Self Intro

- Working experiences

- Correspondent/Freelancer at **Agrow** journal for 7 years
- Director at Hanson Agrochemical Consulting for 5 years
- Consultant to **Phillips McDougall** for 5 years
- Consultant to **Arysta** Global Licencing Team for 5 years
- Technical support manager (Asia) at Arysta LifeScience for 3 years
- Sales manager (Central China) at Ciba-Geigy, Novartis, Syngenta for 5 years

- Educational background

- PhD degree at University of Ottawa, majored in plant biotechnology
- Master degree at Carleton University, majored in plant molecular biology
- Master degree at Fujian Agricultural University, majored in Entomology
- Bachelor degree at Huazhong Agricultural University, majored in crop protection

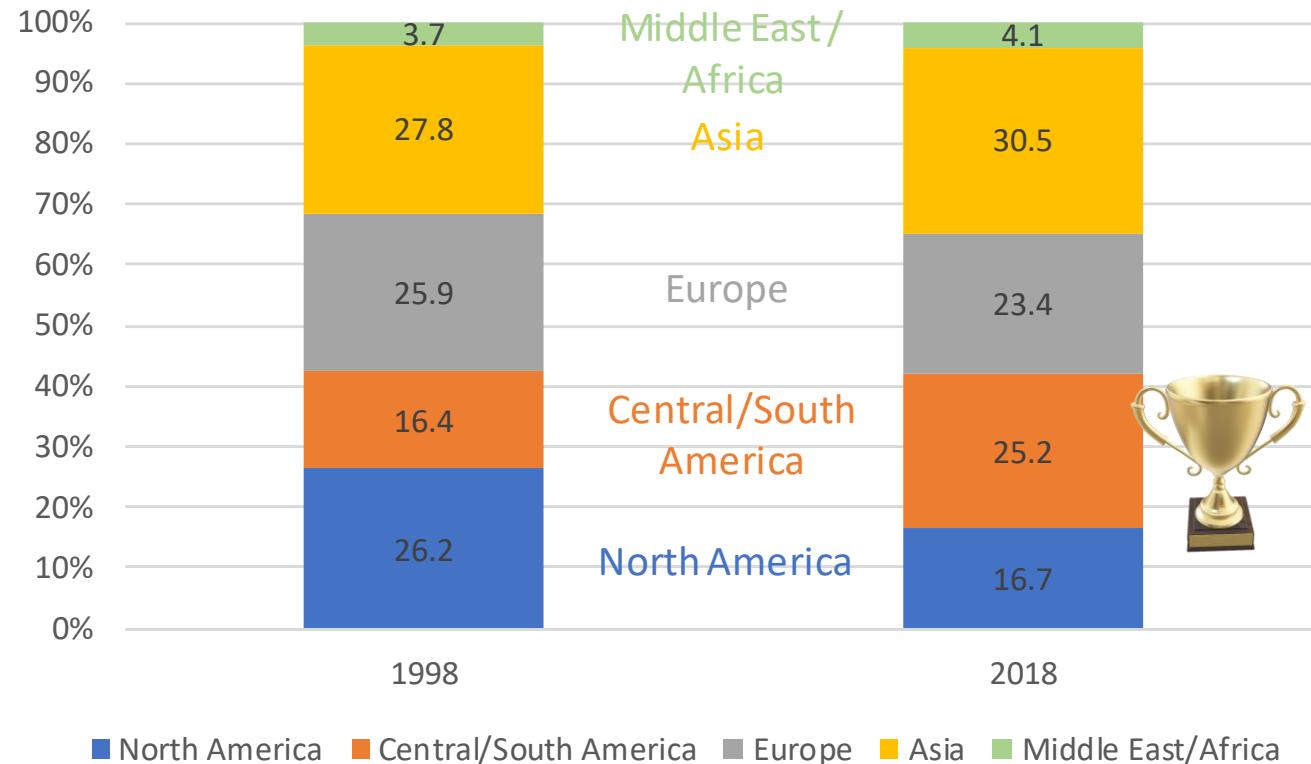


Content

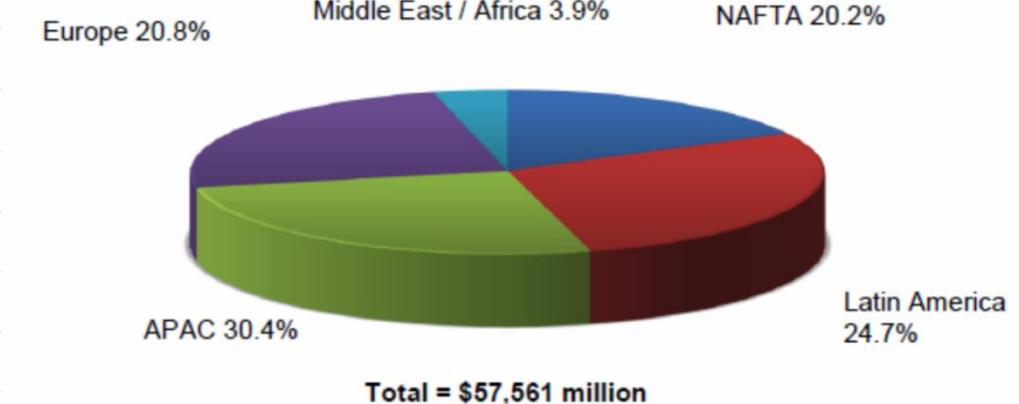
- The Global Market of Crop Protection Products
- Agrochemicals Exported from China (2018)
- Agrochemicals Targeted to Latin America (2018)
- Import Analysis in the Key Latin America Countries
 - Brazil
 - Argentina
 - Paraguay
 - Mexico
- How will China-made Agrochemicals affect Crop Protection Market in Latin America?



Crop Protection Regional Market Development 1998 to 2018



CROP PROTECTION MARKET BY REGION 2018



Phillips McDougall, 2019

AgbiolInvestor 2019

The Global Crop Protection Industry Leading Country Markets

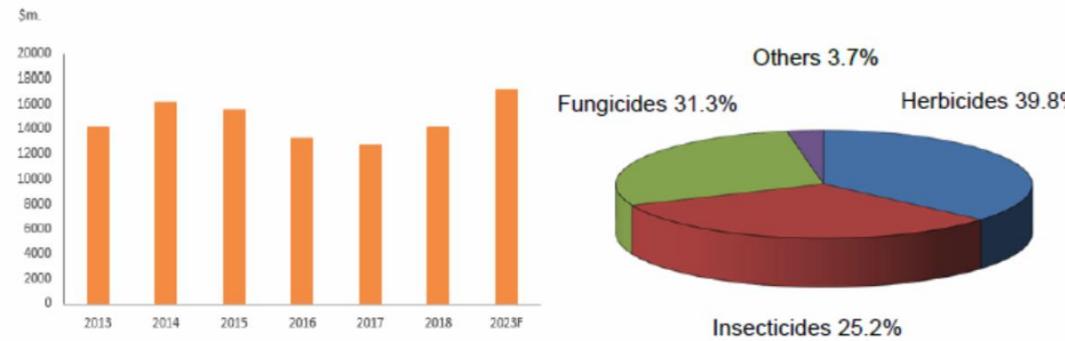


Leading Crop Protection Country Markets						
Rank 2018	Country	Rank 1998	1998 \$ bn.	2018 \$ bn.	CAGR 2018/1998	
1	Brazil	3	2.6	8.4	6.1	
2	USA	1	7.5	8.0	0.3	
3	China	5	2.2	6.3	5.3	
4	Japan	2	2.7	3.4	1.1	
5	India	10	0.9	2.5	5.4	
6	Argentina	7	1.0	2.5	4.5	
7	France	4	2.3	2.3	0.0	
8	Canada	12	0.7	1.7	4.2	
9	Australia	9	0.9	1.7	3.2	
10	Germany	6	1.4	1.7	0.9	
World			31.4	57.8	3.1	

AgbioInvestor 2019

Crop Protection Markets in Latin America (2018)

Crop Protection



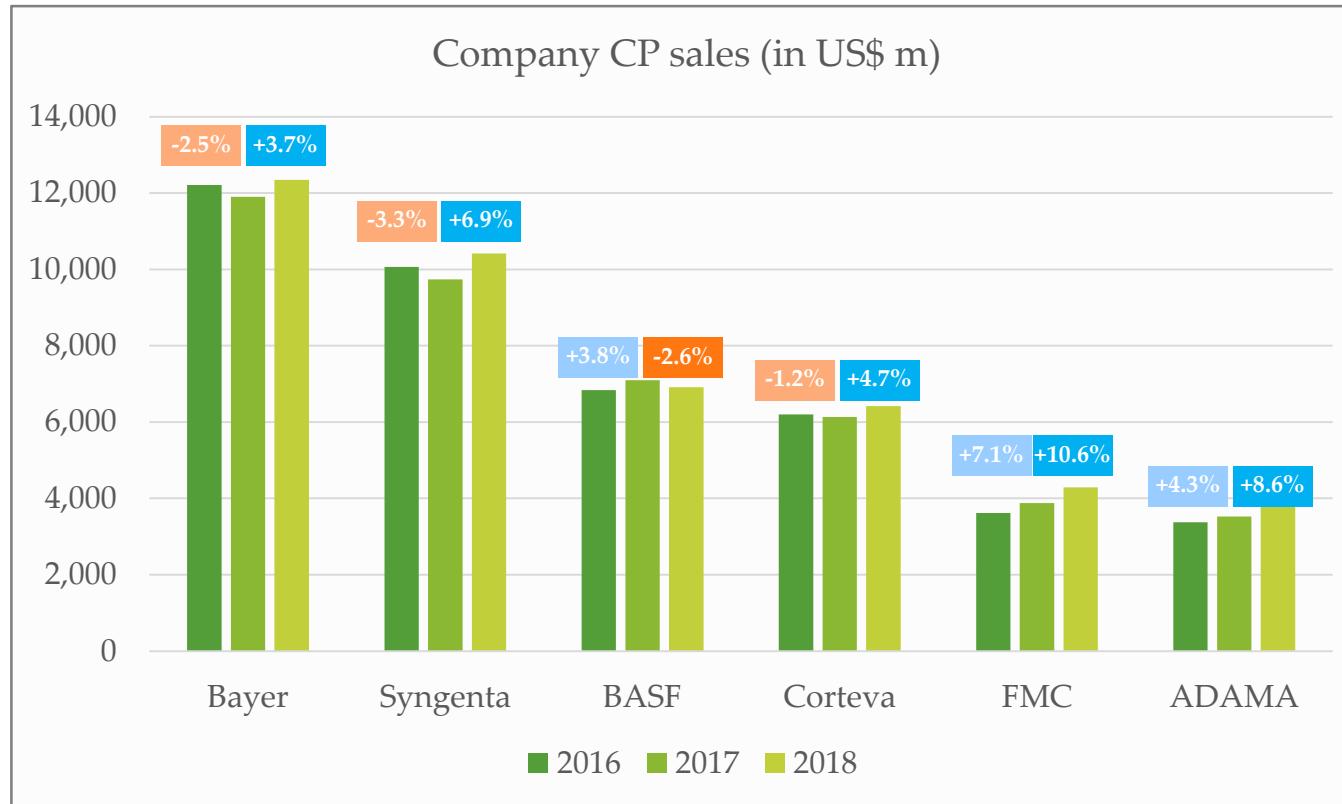
Key Crops	Market Share
Soybean	43.6%
Fruit & Vegetables	15.0%
Maize	10.2%
Sugarcane	8.4%
Cotton	5.4%
Others	17.4%

Key Points

- Improved generic product prices
- Increased adoption of Intacta RR soybeans impacting insecticide demand
- Reduced levels of inventory stocks
- Rebound in Brazilian market
- High inflation in Argentina

Crop Protection Sales of the leading companies

(average year exchange rates used, 2016-2018)



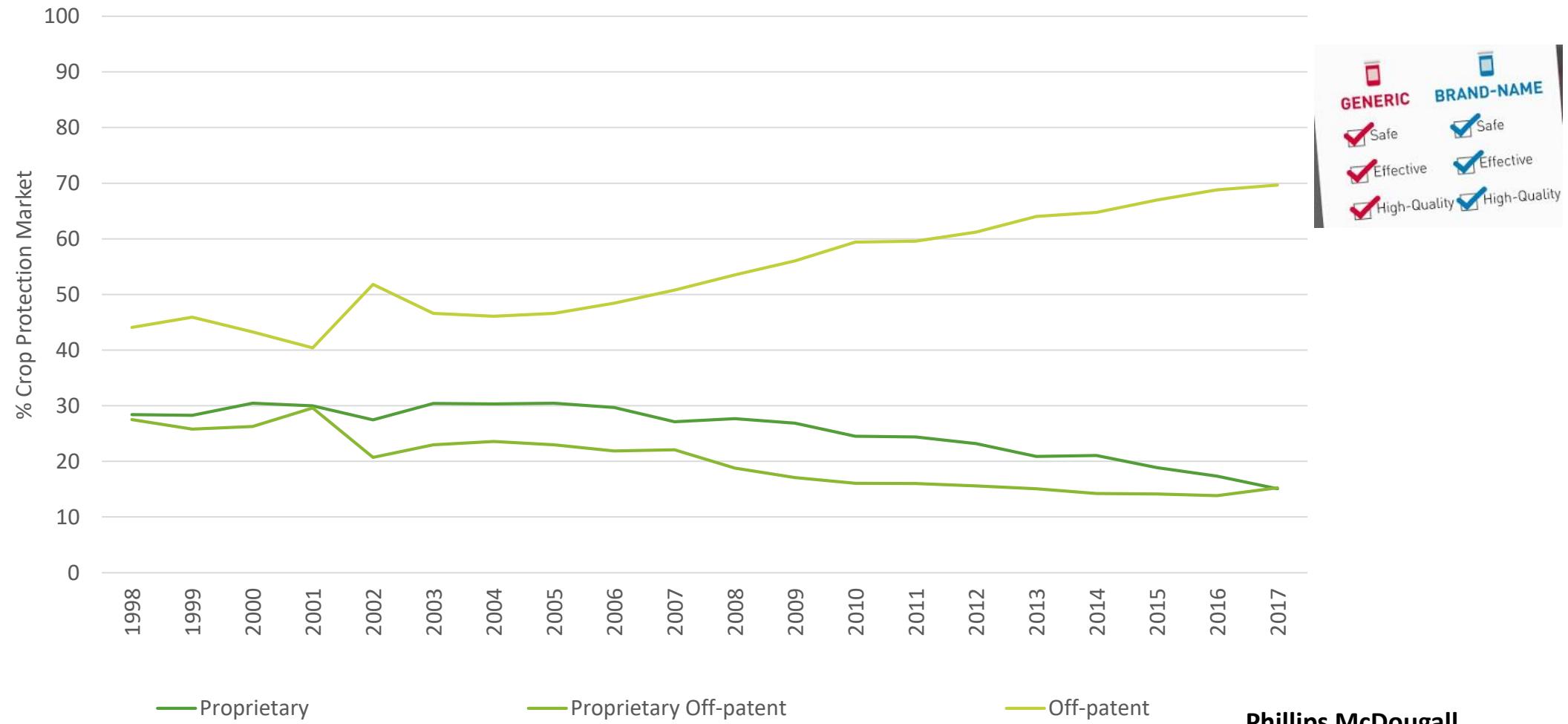
Key comparisons

- In 2017 the market performed better than the “leading companies”. This situation **was reversed** in 2018.
- 2018 was a return to positive growth for most multinationals with Q4’s especially strong.
- Buy-back of “inventory” from **overloaded distribution channels** in 2017 **normalised** inventory levels in 2018 to **the point of shortage** in some cases
- 2nd and 3rd tier companies also generally out-preformed the multinationals in 2018 as in 2017

Note: Data is presented in nominal terms and expressed on a pro-forma basis, i.e. figures for 2016 are partly estimated. Light shaded boxes display 2017/16 growth rates while dark shaded boxes illustrate 2018/17 growth rates.

Kleffmann Group ©2018

Agrochemical Industry Generic Share (%)



Rising China

- **Tier 1**

- Bayer (Monsanto)
- **Syngenta**
- BASF
- Corteva (Dow/Dupont)
- FMC
- **Adama**

- **Tier 2**

- UPL (Arysta)
- Sumitomo

- **Tier 3**

- Nutrichem
- Rainbow
- Fuhua Tongda
- Nanjing Red Sun
- Sinochem
- Huifeng
- Zhejiang Wynca
- Hubei Sanonda

- **Tier 4**

- Gowan
- Sipcam
- Smaller Chinese players
- Indian players

Bigger than 2.0 b\$

1.8-2.0 b\$

0.5-0.8 b\$

less than 0.5 b\$

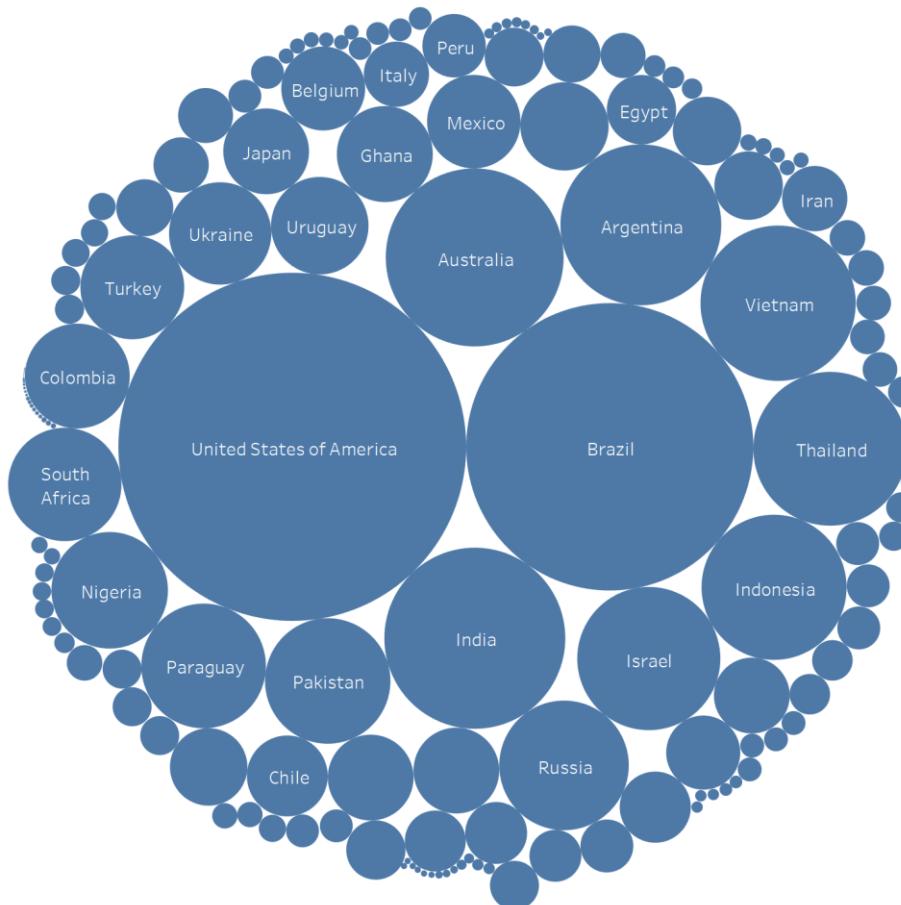


Summarization on Chinese Pesticide Exports in 2018

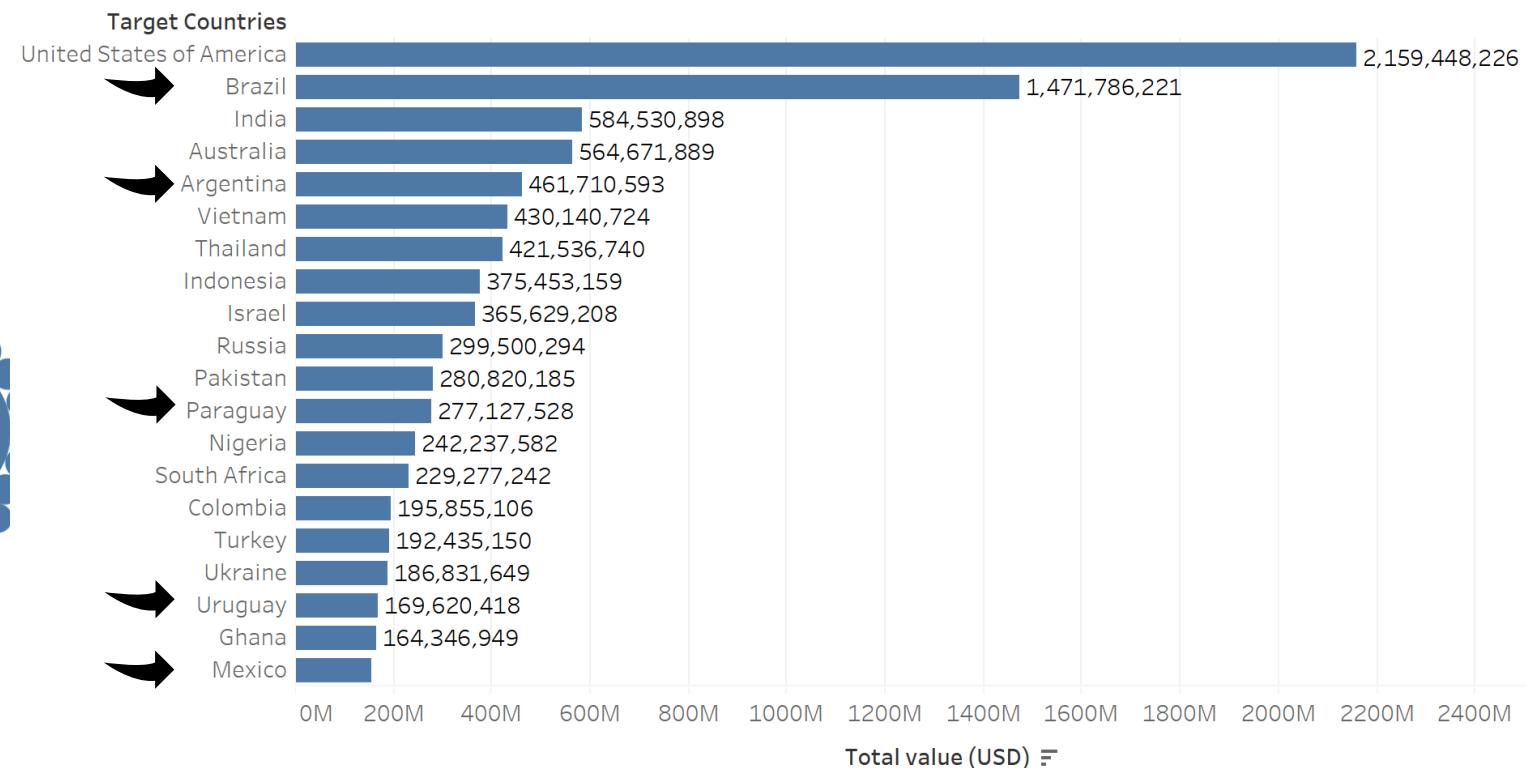
- Herbicides, insecticides/miticides, fungicides, rodenticides, PGRs, bio-pesticides
- 103,222 deals/shipments
- 457 solo-AI products, 477 mixed AI products (2 or more AIs in a product)
- 1,651 product manufacturers/exporters
- **12.45 billion USD**



Top Target Countries of China-made Pesticides

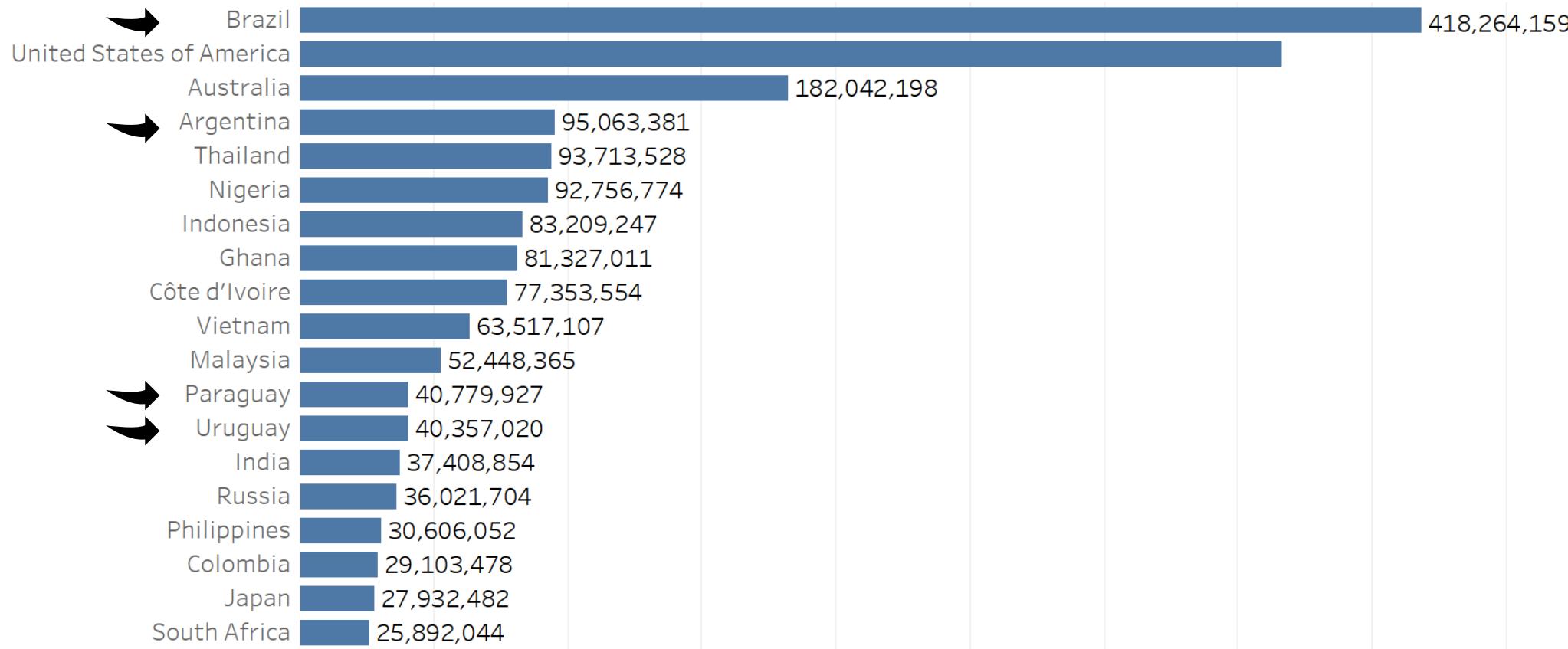


164 target countries



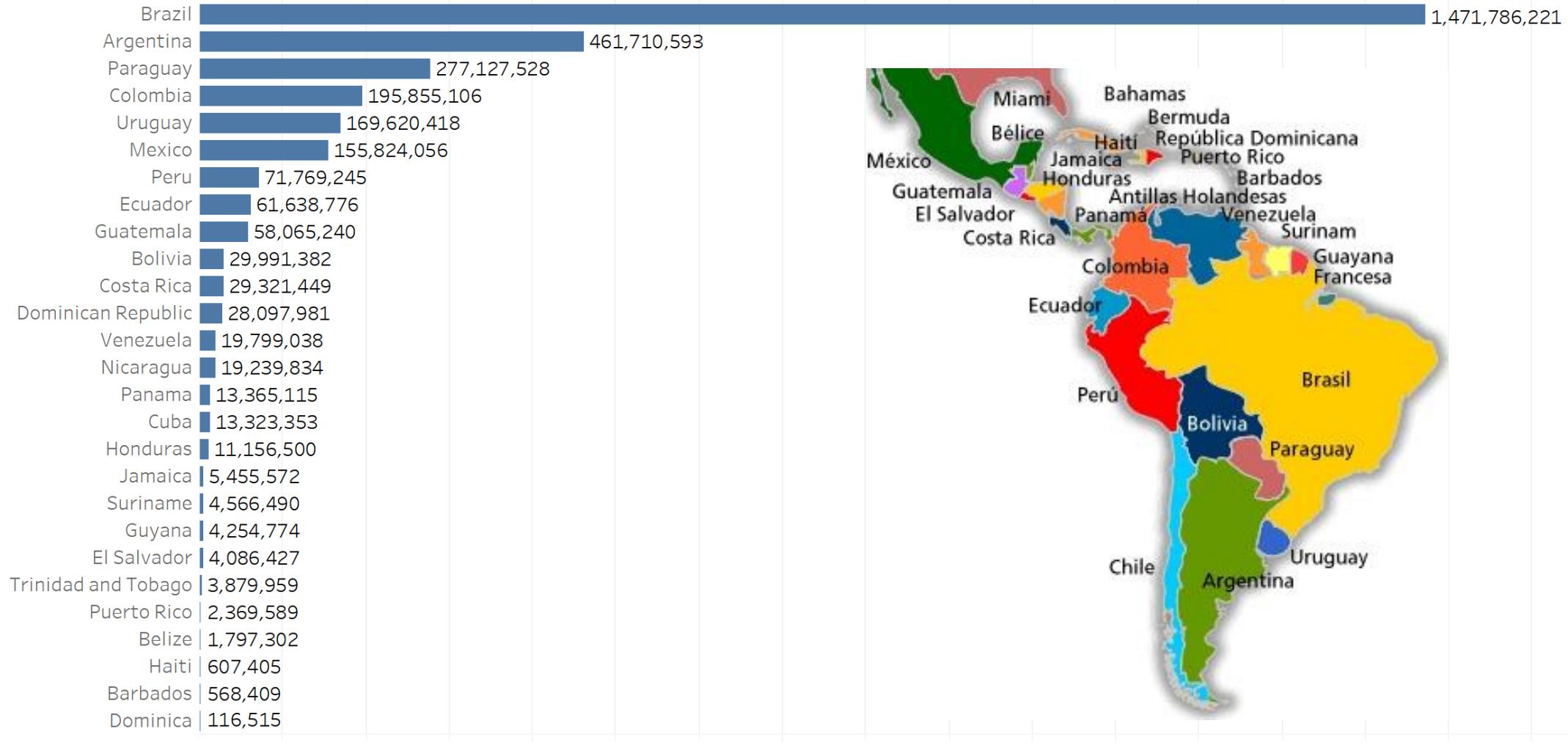
Where did Chinese Glyphosate go in 2018?

Target Countries



27 Target Countries in LA with Value of \$ 3,115.4 million in 2018

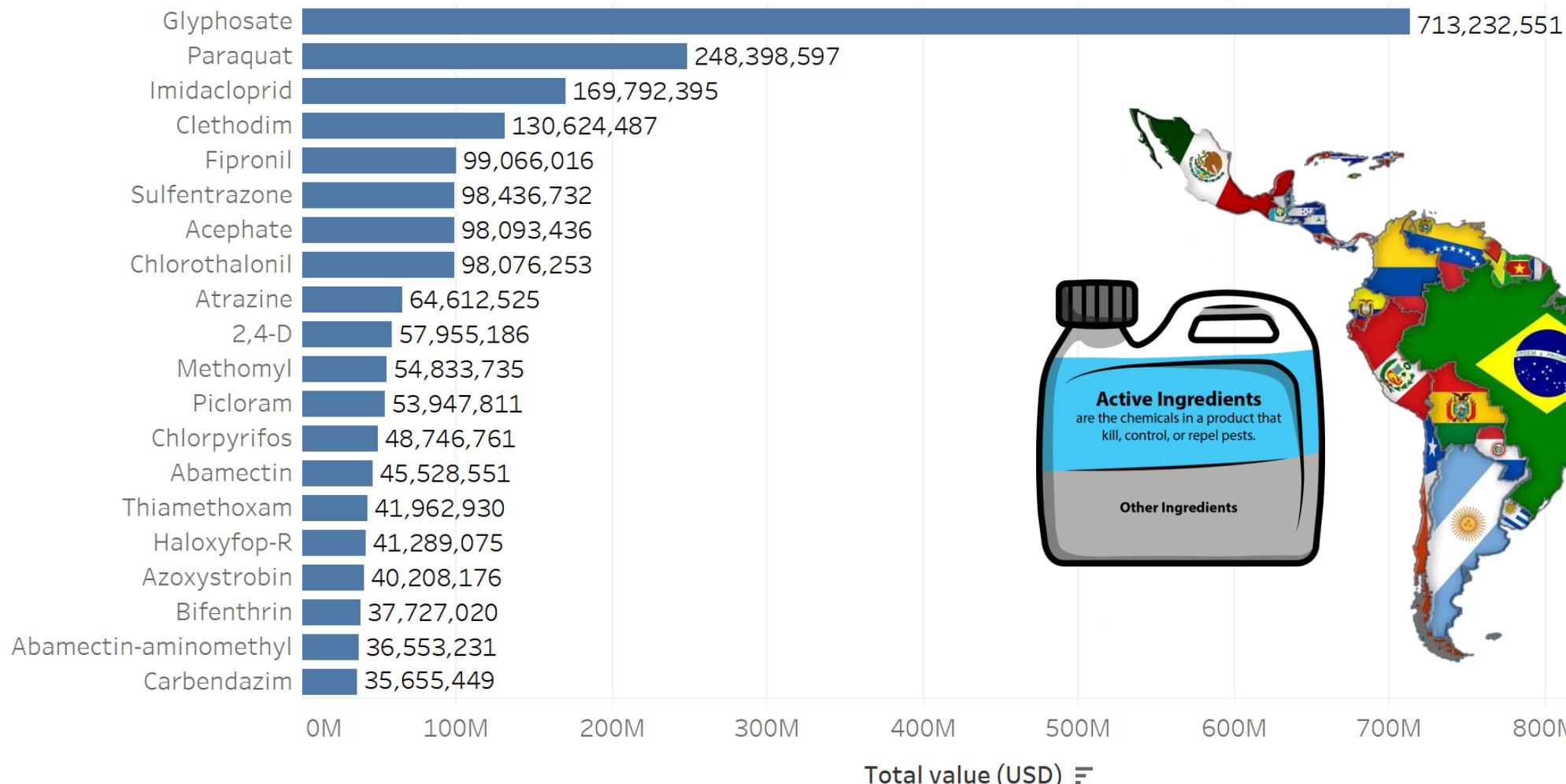
Target Countries



Total value (USD) ₩

Major Imported AIs to 27 Targeted Countries in LA in 2018

Product AI names



Crop Protection Market in LA Heavily Relies on Chinese Agrochemicals

Countries	Total CP Value (m\$, 2017)*	CP Value (\$m, 2018) imported from China **	Total value after 25% Value-added (m\$) ***	Percentage (%) of the China-made products over total CP value ****
Uruguay	133	169.2	211.5	159.0%
Paraguay	258	277.1	346.4	134.3%
Chile	216	116.7	145.9	67.5%
Peru	150	71.7	89.6	59.8%
Ecuador	233	61.6	77.0	33.0%
Argentina	1,748	461.7	577.1	33.0%
Mexico	742	155.8	194.8	26.2%
Brazil	8,763	1,471.8	1,839.8	21.0%
Colombia	245	36.3	45.4	18.5%
Bolivia	246	30.0	37.5	15.2%

* Data source: Phillips McDougall

** Data source: Customs China

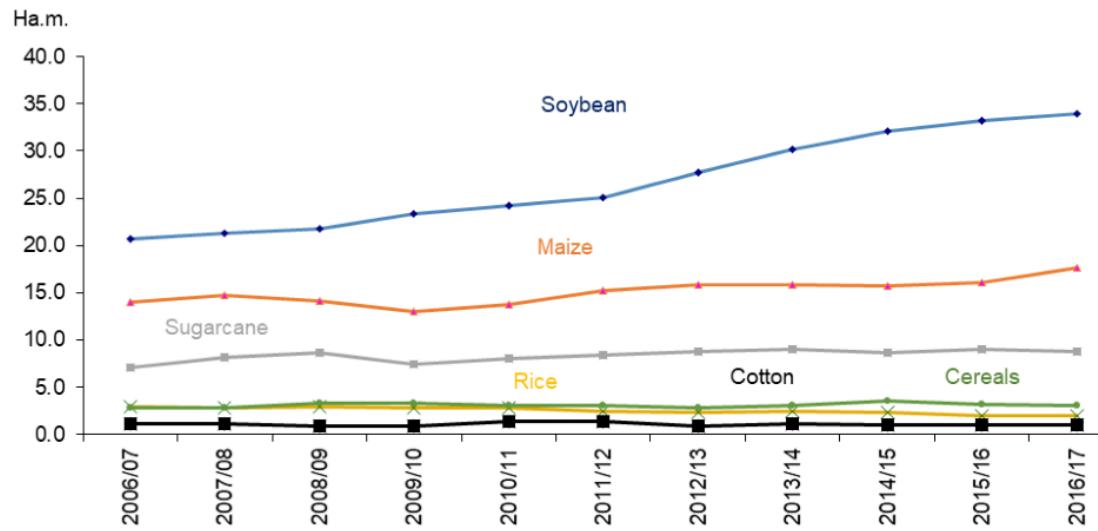
*** Custom tax, value added tax, importer's margin, added values from technical to formulation

**** Reasons for over 100% might be 1) imports more than needs; 2) transfer to the 3rd country

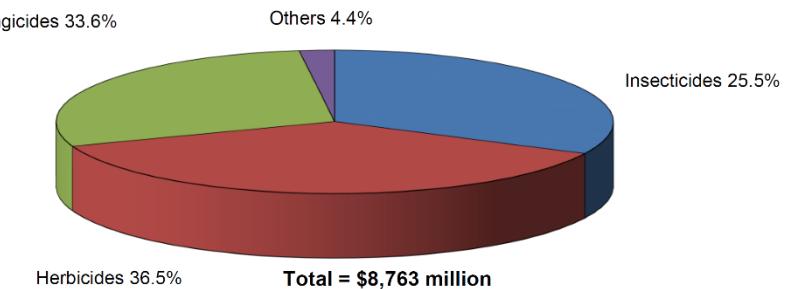


Crop Protection Market in Brazil (2017)

Planted Areas of Major Crops



Crop Protection Markets 2016/17



Global market share: 16.2%

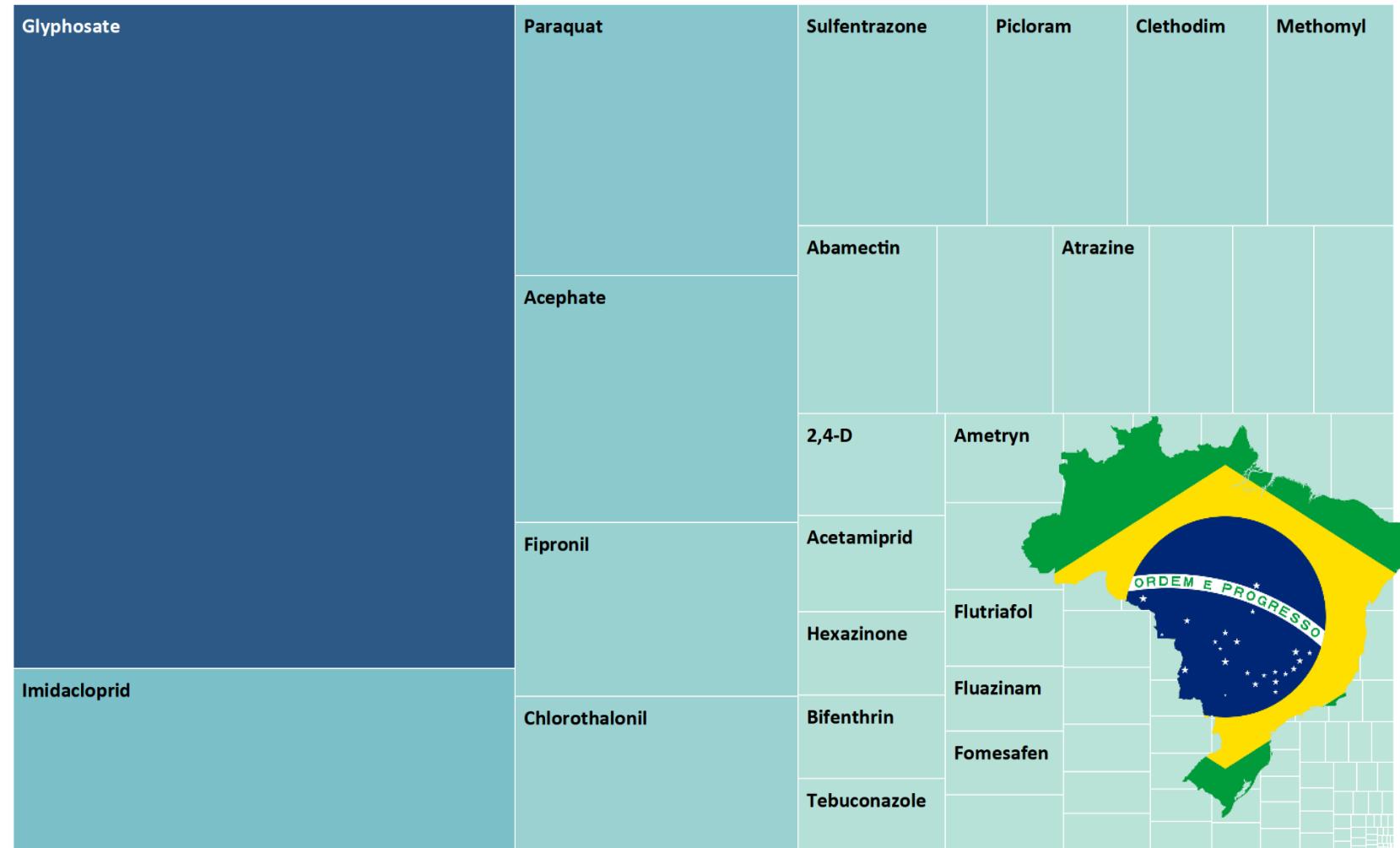
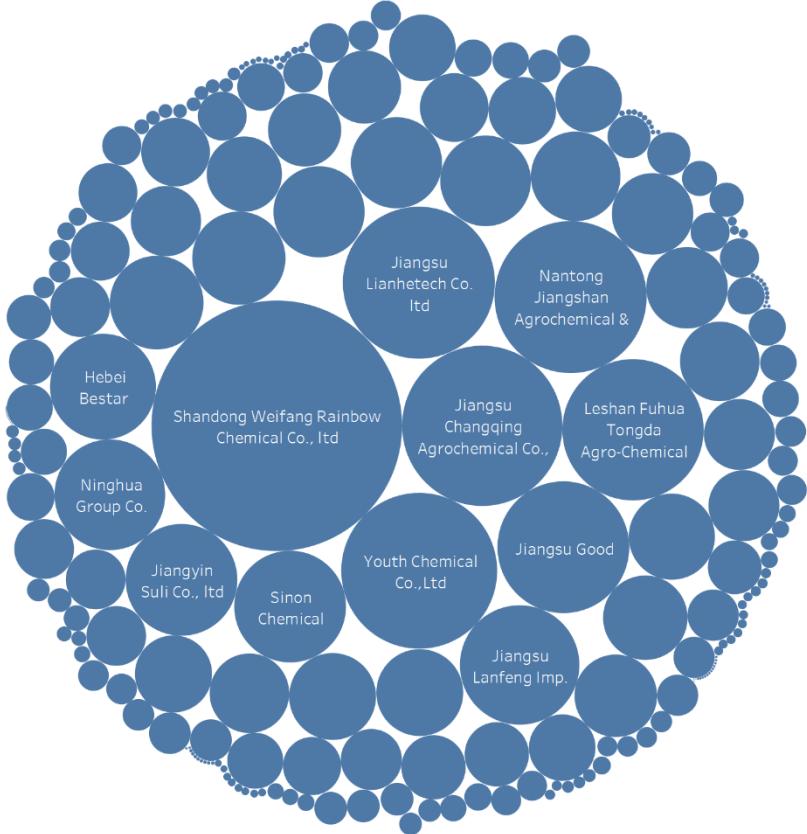
Active Ingredient

- glyphosate
- azoxystrobin
- trifloxystrobin
- benzovindiflupyr
- chlorantraniliprole
- prothioconazole
- thiamethoxam
- pyraclostrobin
- imidacloprid
- fipronil
- ciproconazole
- mancozeb
- paraquat
- flumioxazin
- clomazone
- picoxystrobin
- atrazine
- lambda-cyhalothrin
- fluxapyroxad
- methomyl

Phillips McDougall, 2019

Pesticides Exported to Brazil from China (2018)

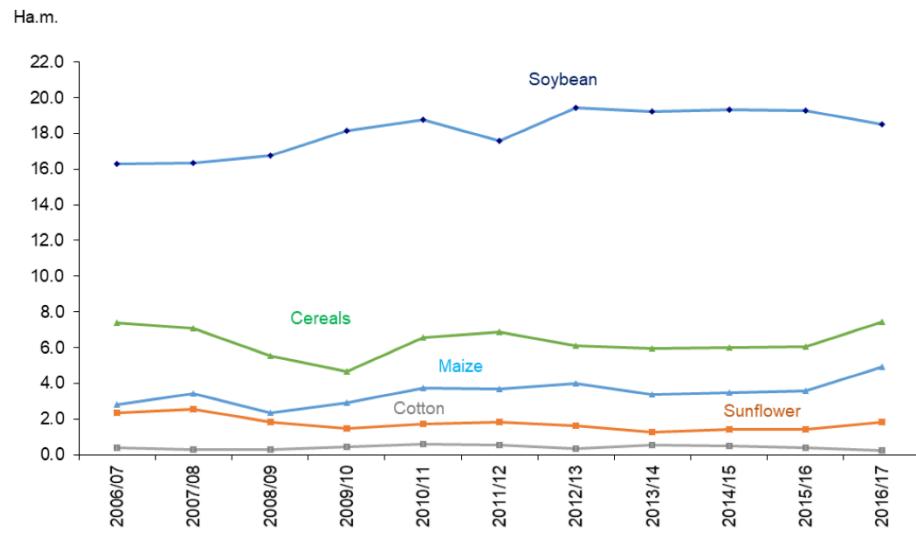
- China exported 142 ai/ combi to Brazil with total value of \$ 1,471.79 million in 2018.
- The main players include



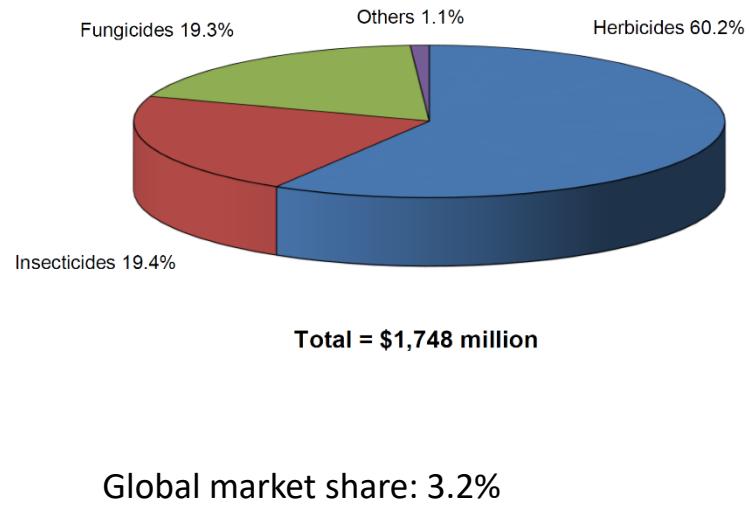
Crop Protection Market in Argentina (2017)



Planted Areas of Major Crops



Crop Protection Markets 2016/17



Active Ingredient

glyphosate

atrazine

2,4-D

clethodim

haloxyfop

chlorantraniliprole

diclosulam

thiamethoxam

azoxystrobin

cyproconazole

imidacloprid

trifloxystrobin

imazapyr

chlorpyrifos

epoxiconazole

thienicarbazone-methyl

methoxyfenozide

acetochlor

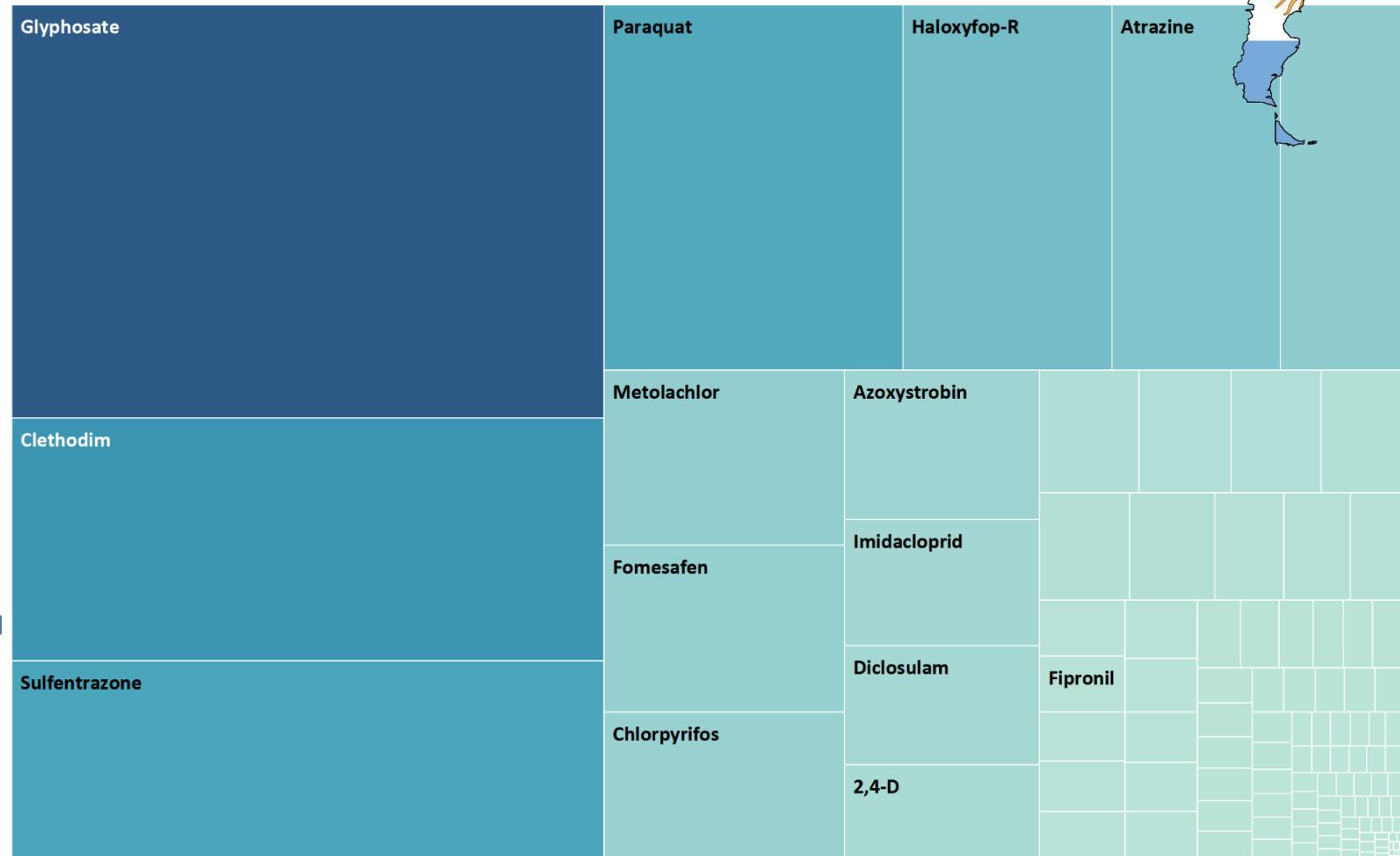
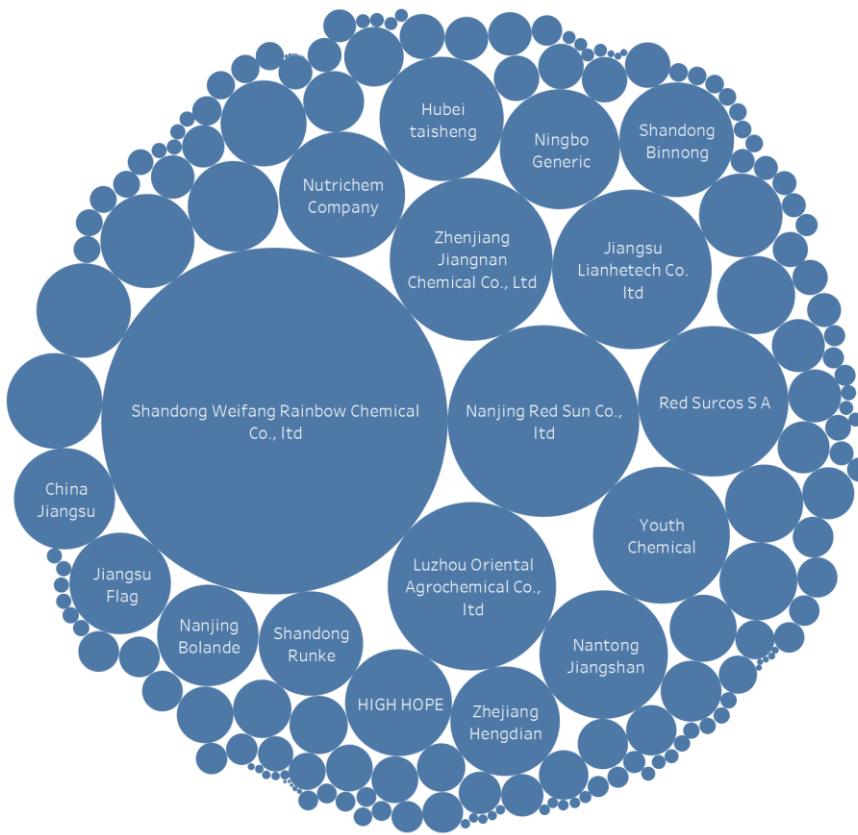
lambda-cyhalothrin

flubendiamide

Pesticides Exported to Argentina from China (2018)

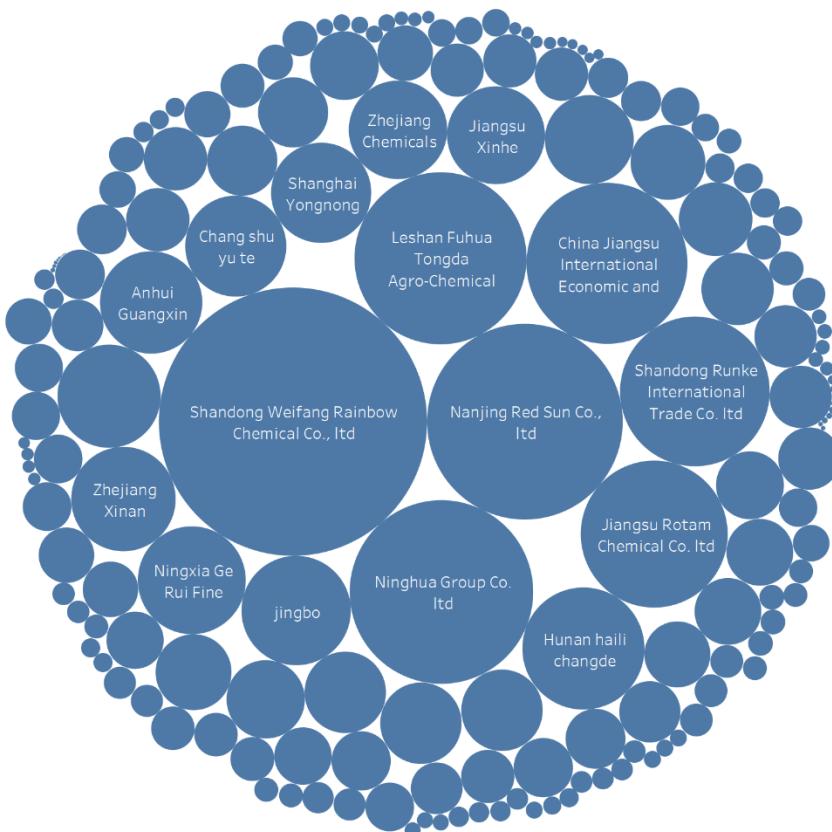


- China exported 123 ai/ combi to Argentina with total value of \$ 461.71 million in 2018.
- The main players include



Pesticides Exported to Mexico from China (2018)

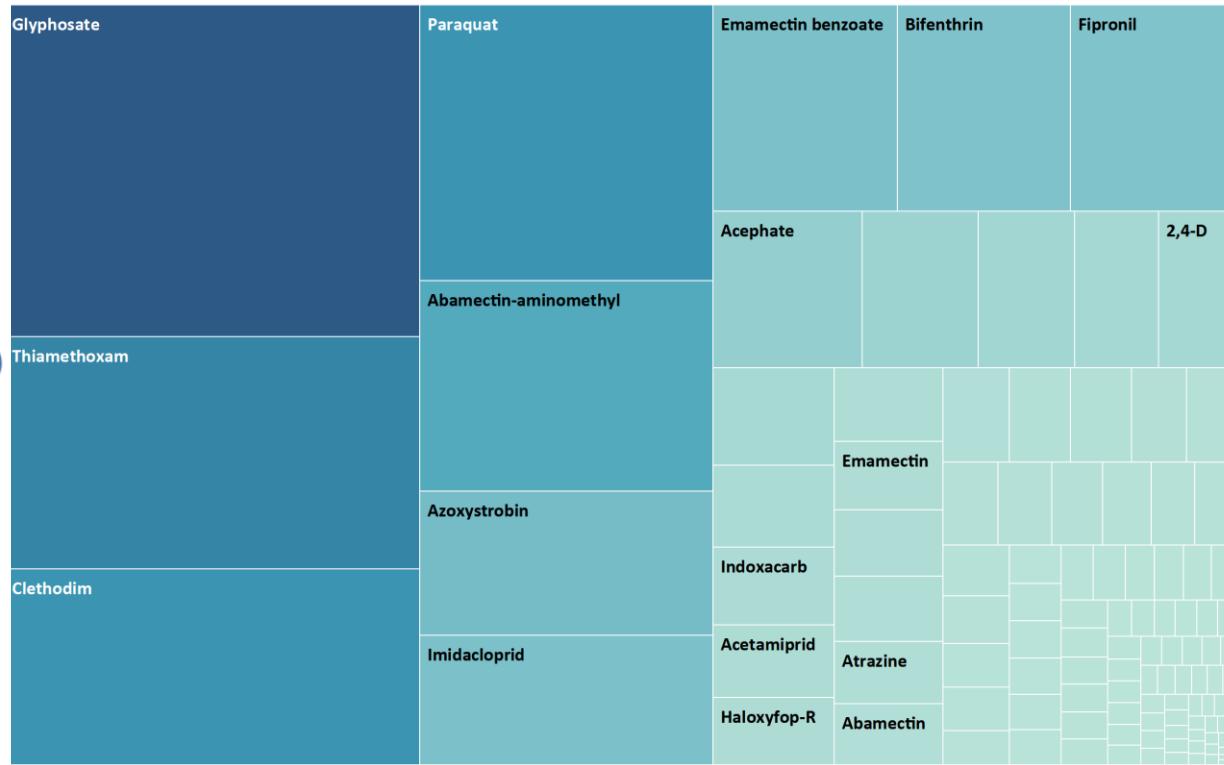
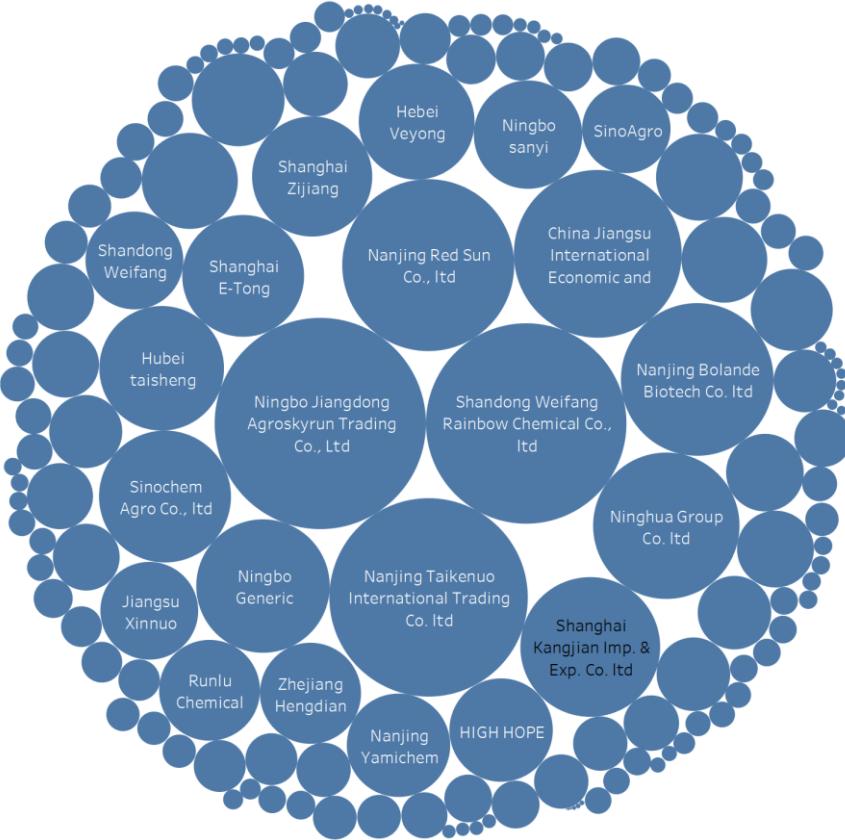
- China exported 103 ai/ combi to Mexico with total value of \$ 155.82 million in 2018.
- The main players include



Phillips McDougall (2019)

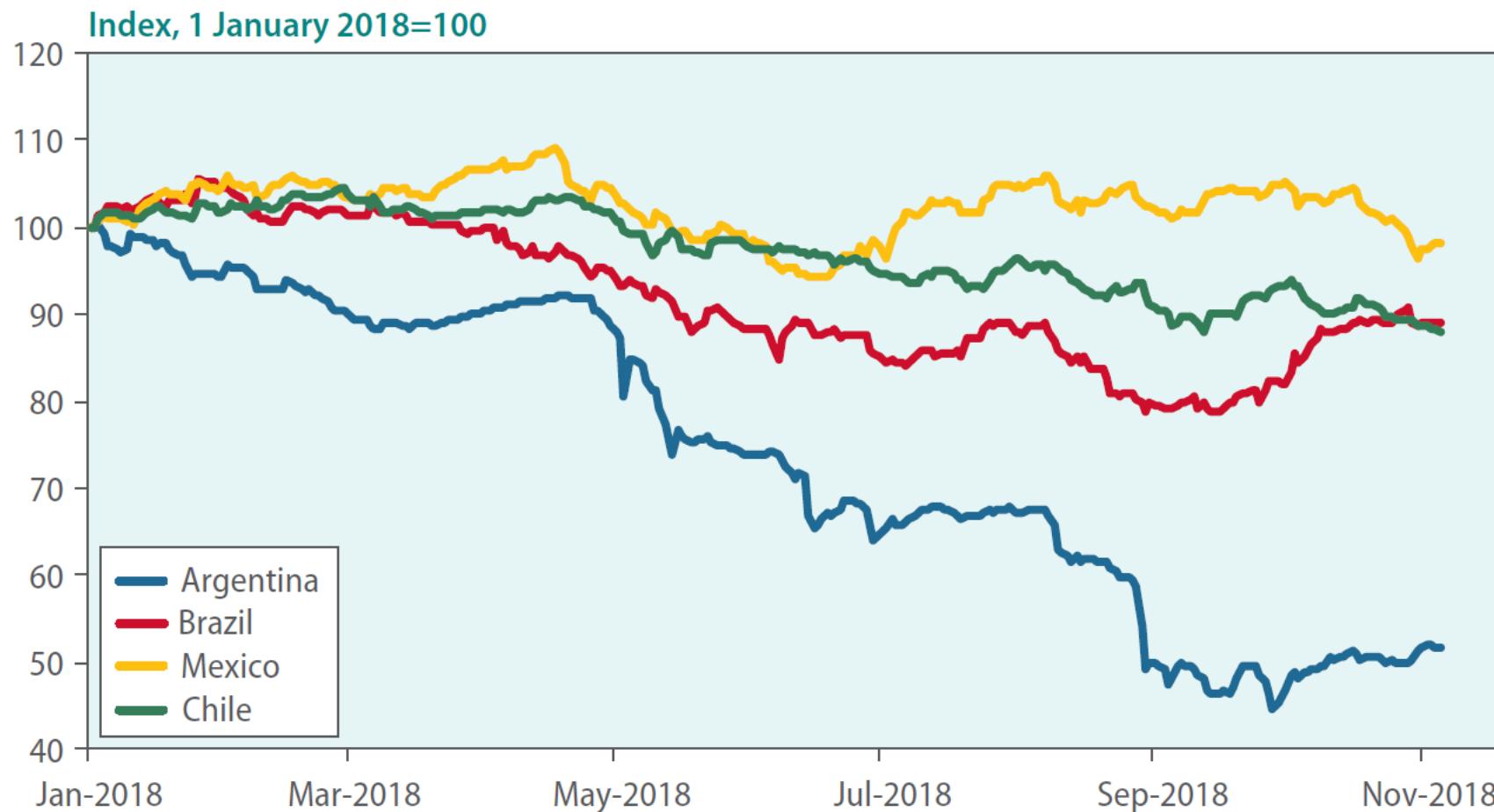
Pesticides Exported to Paraguay from China (2018)

- China exported 118 ai/ combi to Paraguay with total value of \$ 277.13 million in 2018.
- The main players include



Phillips McDougall (2019)

Selected Latin American exchange rates against the US dollar



Source: UN/DESA.

Note: A declining value indicates a depreciation of the currency against the US dollar.

Developing economies: rates of growth of real GDP, 2010–2020

Annual percentage change

	2010–2017 ^a	2010	2011	2012	2013	2014	2015	2016	2017 ^b	2018 ^c	2019 ^c	2020 ^c
Mexico and Central America	3.3	4.9	3.8	3.8	1.9	3.1	3.7	3.1	2.4	2.4	2.5	2.3
Mexico	3.1	5.1	3.7	3.6	1.4	2.8	3.3	2.9	2.0	2.2	2.3	2.0
Latin America and the Caribbean	2.1	6.1	4.5	2.8	2.9	1.1	-0.1	-1.3	1.0	1.0	1.7	2.3
South America	1.7	6.6	4.8	2.5	3.3	0.4	-1.5	-2.9	0.5	0.4	1.4	2.3
Argentina	2.3	10.1	6.0	-1.0	2.4	-2.5	2.7	-1.8	2.9	-2.8	-1.8	1.2
Bolivia (Plurinational State of)	5.0	4.1	5.2	5.1	6.8	5.5	4.9	4.3	4.2	4.3	4.4	4.0
Brazil	1.3	7.5	4.0	1.9	3.0	0.5	-3.5	-3.5	1.0	1.4	2.1	2.5
Chile	3.5	5.8	6.1	5.3	4.0	1.9	2.3	1.3	1.5	3.9	3.3	3.2
Colombia	3.8	4.0	6.6	4.0	4.9	4.4	3.0	2.0	1.8	2.7	3.3	3.1
Ecuador	3.3	3.5	7.9	5.6	4.9	4.0	0.1	-1.6	2.4	1.0	0.9	1.2
Paraguay	5.8	13.1	4.3	-1.2	14.0	4.7	3.1	4.3	5.2	4.5	4.7	4.3
Peru	4.8	8.3	6.3	6.1	5.9	2.4	3.3	4.0	2.5	3.9	3.8	3.6
Uruguay	3.6	7.8	5.2	3.5	4.6	3.2	0.4	1.7	2.7	1.9	1.5	2.4
Venezuela (Bolivarian Republic of)	-4.1	-1.5	4.2	5.6	1.3	-3.9	-5.7	-16.5	-14.0	-15.0	-8.0	-2.0

World Economic Situation and Prospects 2019

Global Area of Biotech Crops in 2016 and 2017:

by Country (Million Hectares)

Latin America is dominant on adopting GM crops.

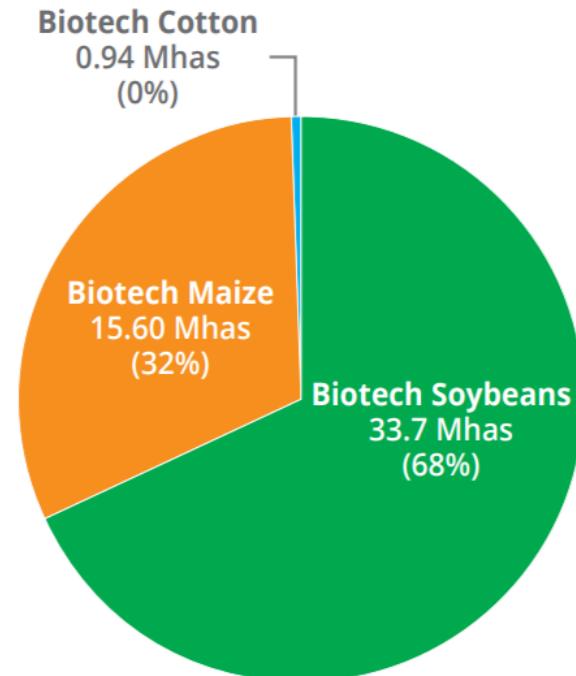


	Country	2016	%	2017	%	+/-	%
1	USA*	72.9	39	75.0	40%	2.1	3%
2	Brazil*	49.1	27	50.2	26%	1.1	2%
3	Argentina*	23.8	13	23.6	12%	-0.2	-1%
4	Canada*	11.1	6	13.1	7%	1.5	18%
5	India*	10.8	6	11.4	6%	0.6	6%
6	Paraguay*	3.6	2	3.0	2%	-0.6	-18%
7	Pakistan*	2.9	2	3.0	2%	0.1	3%
8	China*	2.8	2	2.8	1%	0.0	0
9	South Africa*	2.7	1	2.7	1%	0.0	0
10	Bolivia*	1.2	1	1.3	1%	0.1	7%
11	Uruguay*	1.3	1	1.1	1%	-0.2	-12%
12	Australia*	0.9	<1	0.9	<1	0.1	0%
13	Philippines*	0.8	<1	0.6	<1	-0.2	-21%
14	Myanmar*	0.3	<1	0.3	<1	0.0	0
15	Sudan*	0.1	<1	0.2	<1	0.1	59%
16	Spain*	0.1	<1	0.1	<1	0.0	0%
17	Mexico*	0.1	<1	0.1	<1	0.1	9%
18	Colombia*	0.1	<1	0.1	<1	<0.1	7%
19	Vietnam	<0.1	<1	<0.1	<1	<0.1	29%
20	Honduras	<0.1	<1	<0.1	<1	<0.1	3%
21	Chile	<0.1	<1	<0.1	<1	<0.1	23%
22	Portugal	<0.1	<1	<0.1	<1	<0.1	0
23	Bangladesh	<0.1	<1	<0.1	<1	<0.1	242%
24	Costa Rica	<0.1	<1	<0.1	<1	<0.1	0
25	Slovakia	<0.1	<1	--	--	--	--
26	Czech Republic	<0.1	<1	--	--	--	--
	Total	185.1	100	189.8	100%	5.4	+3%

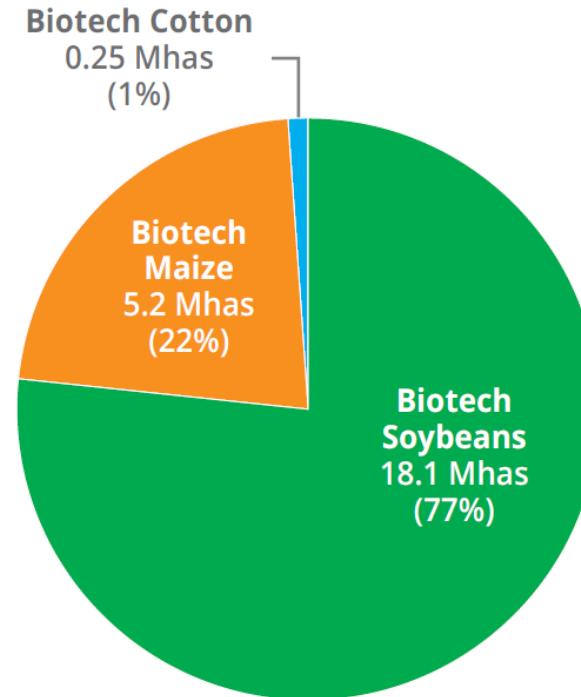
ISAAA (2019)

Biotech Crops in Latin America (2017)

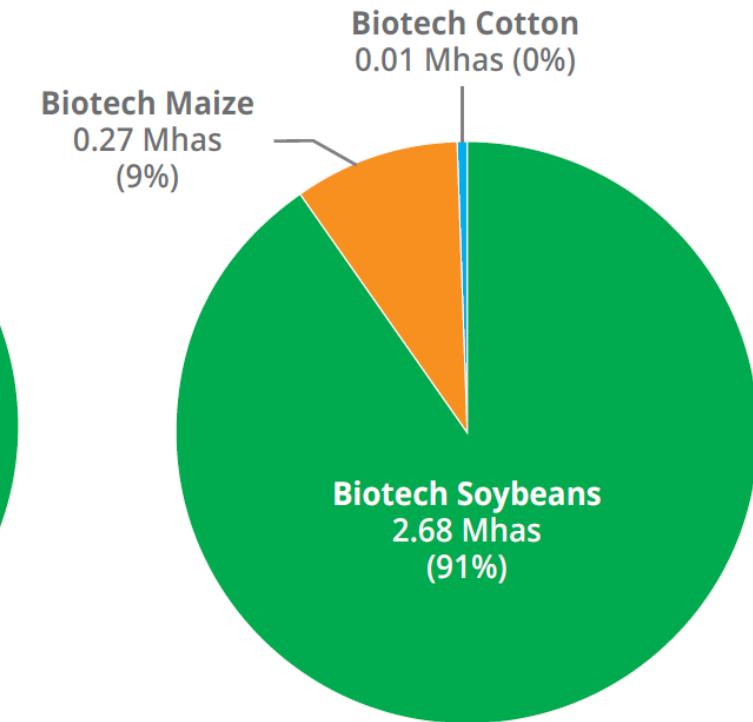
Biotech Crops Planted in Brazil,



Biotech Crops Planted in Argentina,



Biotech Crops Planted in Paraguay,



ISAAA (2019)

**Thanks for your time
and attentions,**

спасибо

GRACIAS

谢谢

THANK YOU

ありがとうございました **MERCI**

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شُكْرًا **OBRIGADO**

Brazil Crop Outlook

Brazil Planted Area and Production Forecast 2018/19

Crop	Area (Million Hectares)			Production (Million Tonnes)		
	2018/19 (forecast)	2017/18	Change %	2018/19 (forecast)	2017/18	Change %
Soybean	35.775	35.149	+1.8	113.823	119.282	-4.6
Maize	17.256	16.616	+3.8	94.009	80.710	+16.5
Beans	3.044	3.172	-4.0	3.130	3.1161	+0.5
Rice	1.705	1.972	-13.5	10.654	12.064	-11.7
Wheat	2.042	2.042	0.0	5.631	5.428	+3.7
Cotton	1.586	1.175	+35.0	2.647	2.006	+32.0
Others	1.620	1.594	+1.6	5.446	5.070	+7.4
Total	63.028	61.721	+2.1	235.341	227.675	+3.4

Paraguay Crop Outlook

The total soybean production in Paraguay is estimated at 6.0 million tons, which would be a significant improvement over the 3.8 million tons produced last year. Last year's production was probably an aberration due to the severe drought in the region and the social conflicts that disrupted the planting of the crop.

Argentina Crop Outlook

Argentina is rapidly turning into a country with one crop - soybeans. Currently, the Argentine soybean acreage is estimated at 19 million hectares and the corn acreage is estimated at 2 million hectares. In other words, the soybean acreage is 9 times more than the corn acreage and there are indications that the corn acreage may go even lower and that the soybean acreage may go higher. It would not be a surprise if the soybean acreage ends up 10 times larger than the corn acreage before planting is complete!

