Structure of Food/Biofuel Chains: From the Final Consumers to Input Suppliers

FEARP/USP 21 and 28 August 2023

Prof. Dr. Marcos Fava Neves

Business School - University of São Paulo (USP) at Ribeirão Preto, since 1995
Business School – Fundação Getulio Vargas (FGV) at São Paulo, since 2018
Center for Agricultural Business - Purdue University (Indiana/USA), since 2013
School of Agronomy (PAA) – University of de Buenos Aires (Argentina), since 2006
Founder of Markestrat Projects Organization (www.markestrat.com.br) in 2004
Specialist in Agribusiness Strategic Planning

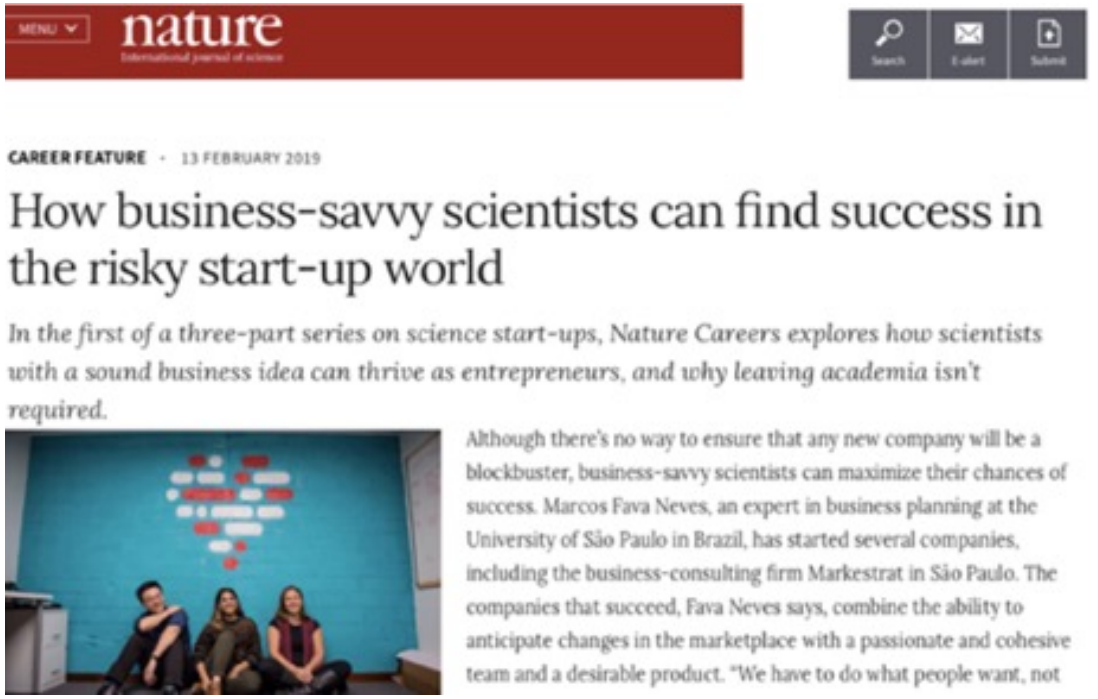
www.**doutoragro**.com

Prof. Marcos Fava Neves

Quem sou eu?

Falo hoje como:

1. **Professor/educador (formar talentos) desde 1995 ajudando a formar quase 1.700 administradores de empresas na USP e FGV e outros cursos;**
2. **Empresário fundador da Markestrat em 2004, que hoje da oportunidades a 120 pessoas;**
3. **Empreendendo (acertando e errando) em startups;**
4. **Estruturador e viabilizador de projetos no agro;**
5. **Torcedor e advogado do agro!**



nature

CAREER FEATURE · 13 FEBRUARY 2019

How business-savvy scientists can find success in the risky start-up world

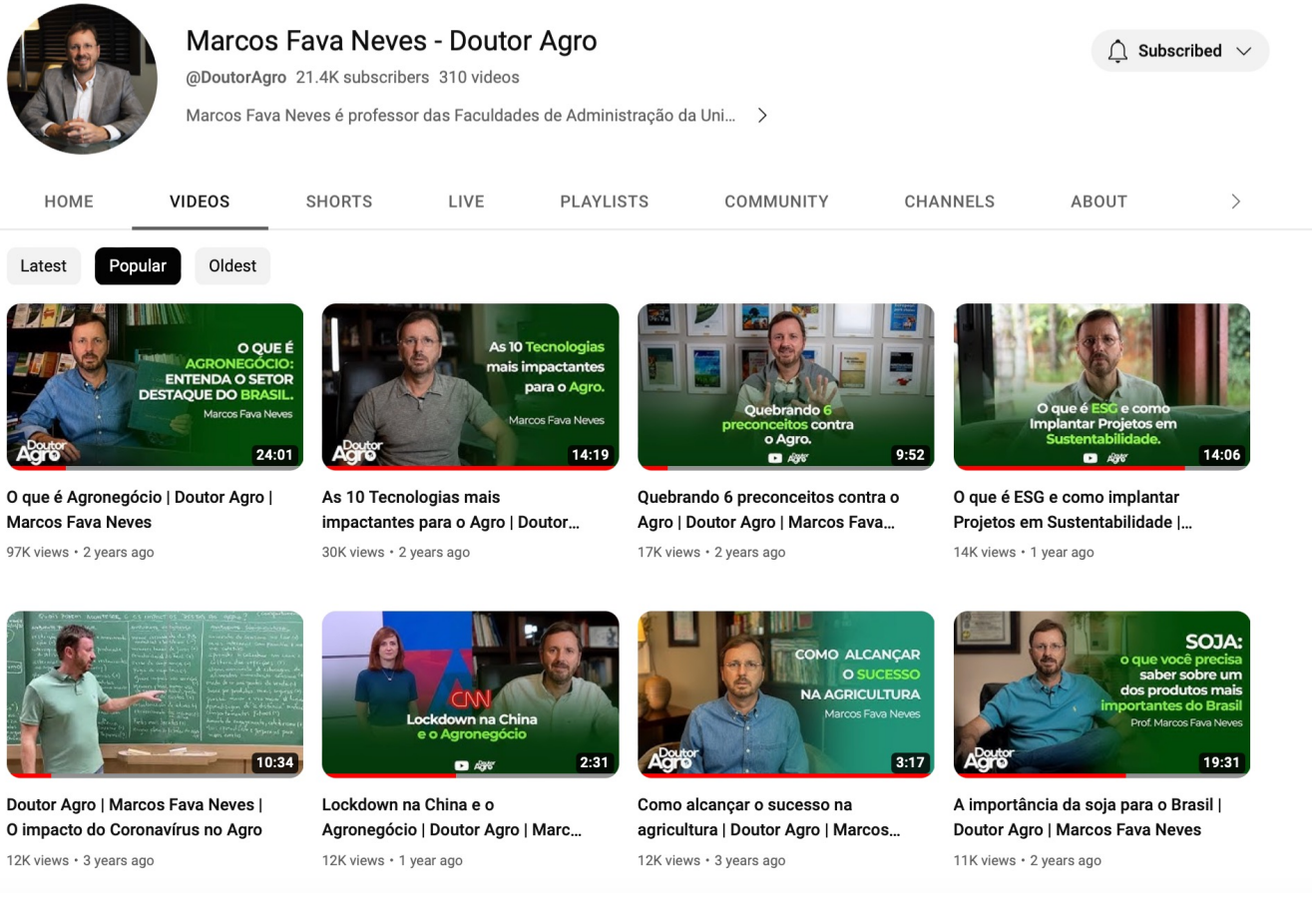
In the first of a three-part series on science start-ups, Nature Careers explores how scientists with a sound business idea can thrive as entrepreneurs, and why leaving academia isn't required.

Although there's no way to ensure that any new company will be a blockbuster, business-savvy scientists can maximize their chances of success. Marcos Fava Neves, an expert in business planning at the University of São Paulo in Brazil, has started several companies, including the business-consulting firm Markestrat in São Paulo. The companies that succeed, Fava Neves says, combine the ability to anticipate changes in the marketplace with a passionate and cohesive team and a desirable product. "We have to do what people want, not

1. **"Precisamos fazer o que as pessoas querem, e não o que sabemos como fazer e achamos que elas querem."**
2. **"A nossa função é a de construir margens/valor para quem nos usa."**
3. **"Missão de gerar oportunidades às pessoas."**

markestrat Agribusiness · Harven Agribusiness School · fea-RP · FGV EAESP · Doutor Agro

Plataformas com Missão de Criar Oportunidades às Pessoas: www.doutoragro.com



Interessados em participar da lista de distribuição (envio de 1 vídeo/material por semana) salvar contato e mandar WhatsApp apenas com nome completo e organização na mesma linha. Exemplo: Carlos Martins da "Empresa X"

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(16) 99993-4499

Doutor Agro

DATA	TÓPICOS/TOPICS	LEITURAS/READINGS
Aula 1 (07/08)	Introdução ao Curso e Conceitos de Agronegócios/ Course Introduction and Agribusiness Concepts	*Neves, 2020 - Food and Agribusiness in 2030: A RoadMap (01)* *Neves, 2014 - Future of Food Business (6, 7)* *Neves, 2019 - Doutor Agro (1, 10, 16, 34, 35, 41, 47, 50, 53, 90)*
Aula 2 (14/08)	Cadeias e Sistemas Agroindustriais/ Chains and Agroindustrial Systems	*Neves, 2020 - Food and Agribusiness in 2030: A RoadMap (01)* *Neves, 2019 - Doutor Agro (1, 10, 16, 34, 35, 41, 47, 50, 53, 90)* *Neves, 2021 - Ferramentas para o Futuro do Agro (01)*
Aula 3 (21/08)	As Empresas de Insumos aos Produtores Rurais/ Crop Input Supply Industry, Agricultura e Propriedades Agrícolas/ Agriculture and Farmers, Agroindústria, Indústria de Alimentos e as Tradings/ Food Industry and Tradings, Varejo de Alimentos e Foodservice/ Food Retailers and Foodservice, Cooperativas, Associações e O Papel dos Governos/ Cooperatives Associations and Governments	*Neves, 2020 - Food and Agribusiness in 2030: A RoadMap (3)* *Neves, 2014 - Future of Food Business (11, 12, 13, 37, 11)* *Neves, 2019 - Doutor Agro (68, 39)* *Neves, 2021 – Ferramentas para o Futuro do Agro (3, 12)*
Aula 4 (28/08)	Métodos de Análises de Cadeias Agroindustriais (Planejamento de Cadeias) / Methods of Agroindustrial Strategic Chain Planning)	*Neves, 2020 - Food and Agribusiness in 2030: A RoadMap (01)* *Neves, 2014 - Future of Food Business (24, 25, 26)* *Neves, 2019 - Doutor Agro (13, 14, 15); Neves, 2021 - Ferramentas para o Futuro do Agro (15)*
(04/09)	**Semana da Pátria; não haverá aula (no class).**	-
Aula 5 (11/09)	Métodos de Análises de Cadeias Agroindustriais (Planejamento de Cadeias) / Methods of Agroindustrial Strategic Chain Planning)	*Neves, 2020 - Food and Agribusiness in 2030: A RoadMap (01)* *Neves, 2014 – Future of Food Business (24, 25, 26)* *Neves, 2019 – Doutor Agro (13, 14, 15); Neves, 2021 – Ferramentas para o Futuro do Agro (15)*
Aula 6 (28/09)	O Macro-Ambiente do Agronegócio, Tendências e Análise de Mercados/ The Macro-Environment of Agribusiness and Market Analysis/Trends	*Neves, 2020 - Food and Agribusiness in 2030: A RoadMap (2, 8)* *Neves, 2014 - Future of Food Business (1, 2, 3, 4, 14, 15, 16, 23, 24, 42)* *Neves, 2019 – Doutor Agro (91 94 35 42 43 89 51 38 56 65 74 81 82)* *Neves, 2021 – Ferramentas para o Futuro do Agro (02)*
Aula 7 (25/09)	O Macro-Ambiente do Agronegócio, Tendências e Análise de Mercados/ The Macro-Environment of Agribusiness and Market Analysis/Trends	*Neves, 2020 - Food and Agribusiness in 2030: A RoadMap (2, 8)* *Neves, 2014 - Future of Food Business (1, 2, 3, 4, 14, 15, 16, 23, 24, 42)* *Neves, 2019 – Doutor Agro (91 94 35 42 43 89 51 38 56 65 74 81 82)* *Neves, 2021 – Ferramentas para o Futuro do Agro (02)*
Aula 8 (02/10)	O Macro-Ambiente do Agronegócio, Tendências e Análise de Mercados/ The Macro-Environment of Agribusiness and Market Analysis/Trends	*Neves, 2020 - Food and Agribusiness in 2030: A RoadMap (2, 8)* *Neves, 2014 - Future of Food Business (1, 2, 3, 4, 14, 15, 16, 23, 24, 42)* *Neves, 2019 – Doutor Agro (91 94 35 42 43 89 51 38 56 65 74 81 82)* *Neves, 2021 – Ferramentas para o Futuro do Agro (02)*
Aula 09 (09/10)	O Macro-Ambiente do Agronegócio, Tendências e Análise de Mercados/ The Macro-Environment of Agribusiness and Market Analysis/Trends	*Neves, 2020 - Food and Agribusiness in 2030: A RoadMap (2, 8)* *Neves, 2014 - Future of Food Business (1, 2, 3, 4, 14, 15, 16, 23, 24, 42)* *Neves, 2019 – Doutor Agro (91 94 35 42 43 89 51 38 56 65 74 81 82)* *Neves, 2021 – Ferramentas para o Futuro do Agro (02)*
Aula 10 (16/10)	O Macro-Ambiente do Agronegócio, Tendências e Análise de Mercados/ The Macro-Environment of Agribusiness and Market Analysis/Trends	*Material de sites e outras fontes sobre cadeias do agronegócio* *Material from websites and other sources about specific food chains*
Aula 11 (23/10)	O Macro-Ambiente do Agronegócio, Tendências e Análise de Mercados/ The Macro-Environment of Agribusiness and Market Analysis/Trends	*Material de sites e outras fontes sobre cadeias do agronegócio* *Material from websites and other sources about specific food chains*
Aula 12 (30/10)	O Macro-Ambiente do Agronegócio, Tendências e Análise de Mercados/ The Macro-Environment of Agribusiness and Market Analysis/Trends	*Material de sites e outras fontes sobre cadeias do agronegócio* *Material from websites and other sources about specific food chains*
Aula 13 (06/11)	O Macro-Ambiente do Agronegócio, Tendências e Análise de Mercados/ The Macro-Environment of Agribusiness and Market Analysis/Trends	*Material de sites e outras fontes sobre cadeias do agronegócio* *Material from websites and other sources about specific food chains*
Aula 14 (13/11)	Sustentabilidade no Agro - Sustainability, Smallholders and Social Inclusion	*Neves, 2020 - Food and Agribusiness in 2030 A RoadMap (5); Neves, 2014 – Future of Food Business (27 28 29 30 66 67 68); Neves, 2021 – Ferramentas para o Futuro do Agro (06)*
Aula 15 (20/11)	Sustentabilidade no Agro - Sustainability, Smallholders and Social Inclusion	*Neves, 2020 - Food and Agribusiness in 2030: A RoadMap (5); Neves, 2014 – Future of Food Business (27 28 29 30 66 67 68); Neves, 2021 – Ferramentas para o Futuro do Agro (06)*
Prova (27/11)	Prova Final - Final Test	*Todo o material - All the material*

What is a Chain?

ORANGE JUICE CHAIN: PAST, PRESENT AND FUTURE offers the following key features and analysis:

- Ways to combat global challenges to juice consumption
- Competition with other beverages
- Developing internal markets for juices
- Consolidation of retailing (supermarkets) and juice bottlers
- Trends for the juice processing industry
- Focus on orange producing farms: increasing costs, diseases and challenges to remain competitive
- Sustainability, new consumers and juice marketing
- How to develop and grow under strategic plans to increase markets and margins

ABOUT THE AUTHOR

Marcos Fava Neves is an international expert on global agribusiness issues and a part-time professor of planning and strategy at the School of Business (FEARP) of the University of São Paulo (USP) and FGV Business School, Brazil. He is a permanent International Adjunct Professor at Purdue University (Indiana, USA) and an international professor at the University of Buenos Aires, Argentina.

He has extensive experience in agronomic engineering, exports, biofuels, management, and agribusiness, with a specialization in strategic planning for companies and food chains.

Recognized as the most prolific Brazilian academic with the largest number of international publications about the orange juice and sugar cane chain, and one of the most cited Brazilian authors in the area of food and agribusiness, his work strongly focuses on supplying simple and effective methods for business. He has published more than 100 articles in international journals and has been author and editor of 63 books by 10 different publishers, globally. He is also one of Brazil's most active and well-recognized speakers, both locally and abroad, and has received around 150 recognitions from Brazilian and international organizations.

ISBN: 9780620827164

KAAP AGRI

Citrus Growers' Association

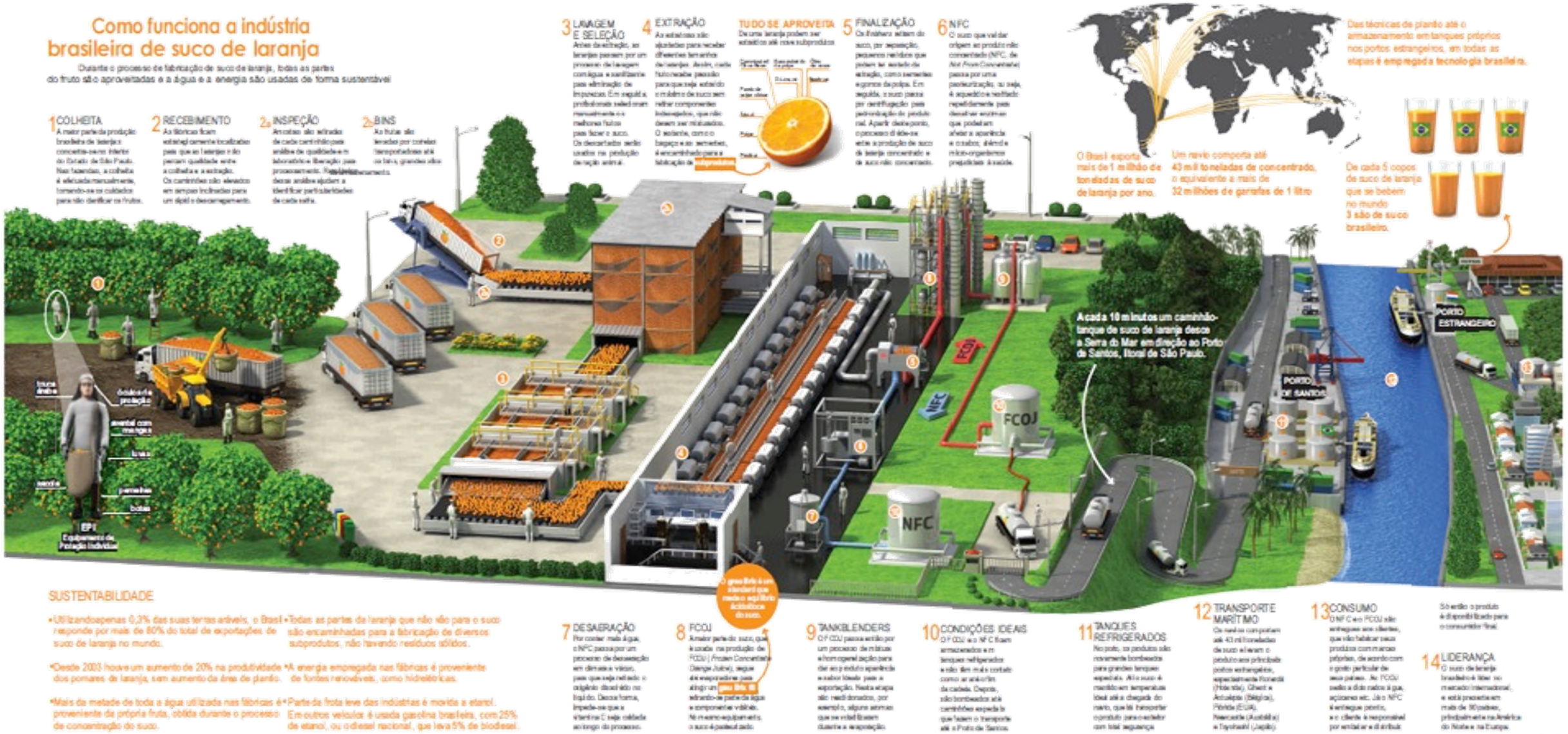
ORANGE JUICE CHAIN: PAST, PRESENT AND FUTURE MARCOS FAVA NEVES

ORANGE JUICE CHAIN
PAST, PRESENT AND FUTURE

Marcos Fava Neves
Vinicius Gustavo Trombin
Lourival Carmo Monaco Neto
Rafael Bordonal Kalaki

Marcos Fava Neves

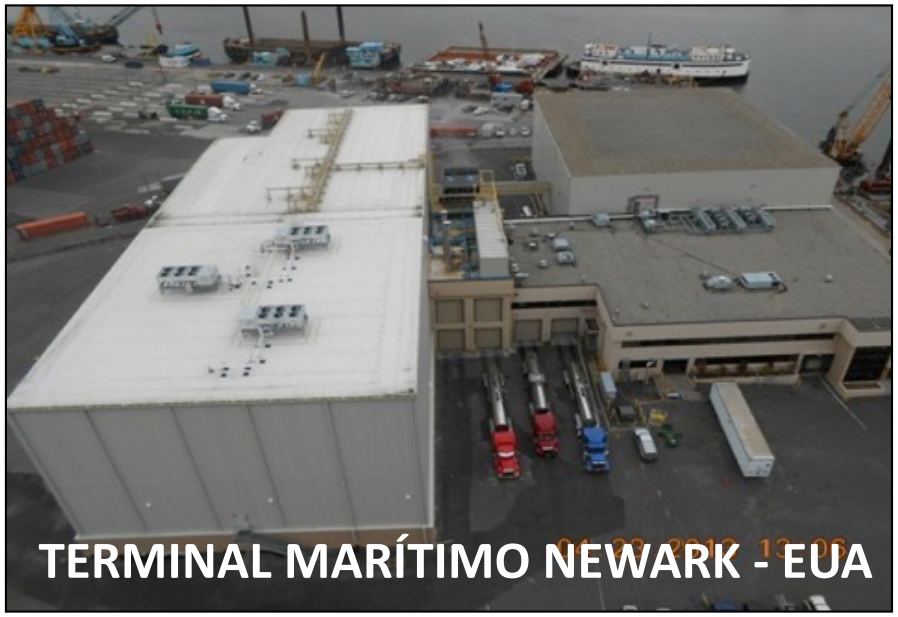
Orange Juice Chain



Source: Citrus BR – www.citrusbr.com.br

9 Factories Processing 200 Million Orange Boxes Per Year

World Distribution of Orange Juice



CARGA ÚNICA
RETORNO VAZIO AO BRASIL

ROTAS NO ATLÂNTICO NORTE
14 DIAS ATÉ O DESTINO
32 DIAS PARA RETORNAR

ROTAS NO PACÍFICO
35 DIAS ATÉ O DESTINO
78 DIAS PARA RETORNAR

ALOCAÇÃO DA PRODUÇÃO AMERICANA:
- EUA e Canada: 96%
- Outros: 4%

ALOCAÇÃO DA PRODUÇÃO BRASILEIRA:
- Europa: 71%
- América do Norte: 12%
- China: 4%
- Brasil: 3%
- Outros: 10%


's-Gravenzande
Naaldwijk
Hoek van Holland
Delft
Nieuwe Waterweg
Delfland
Vlaardingen
Maassluis
Schiedam
Rozenburg
Oostvoorne
Brielle
Rockanje
Voorne
13/12/2011 07:15


13/12/2011 07:28


VEYNAT
travesa
13/12/2011 09:58


WARTSILA
2
1
13/12/2011 10:12


13/12/2011 10:24


Real
NAPPA
13/12/2011 10:25


13/12/2011 10:27


13/12/2011 10:35


HDG 055.8°T GYRO
STW 0.6kn
COG 326.0°T DGPS 1
SOG 0.0kn DGPS 1
Center
Offset
History
SANTOS - RDA
Hide
ARPA
Alarms
Std
Warns
Auto Acknowledge Alarms
Stop Auto Acknowledge
13/12/2011 10:39


STS289
Nur für Lebensmittel
13/12/2011 08:02


www.tip.ge.com
FOR
FOODSTUFFS
ONLY
13/12/2011 08:56

What are the trends of the agents (participants) in a chain?

Food, Agribusiness and Biofuels Chains

Macro-environmental variables:

- Political-Legal (Regulatory)
- Economic-Natural
- Sociocultural (Behavioral)
- Technological

Input Suppliers

Channel Dealer

Cooperatives

Farmers

Tradings

Cooperatives

Agro-industry Biofuel Industry

Food-industry

Retail

Foodservice

Final Consumer

Associations and Service Providers (Facilitators)

Flows of Products, Services and Communications

Flows of Information and Payments

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Source: Prof. Marcos Fava Neves

Doutor Agro

Food, Agribusiness and Biofuels Chains

Macro-environmental variables: Political-Legal (Regulatory) | Economic-Natural | Sociocultural (Behavioral) | Technological

Input Suppliers

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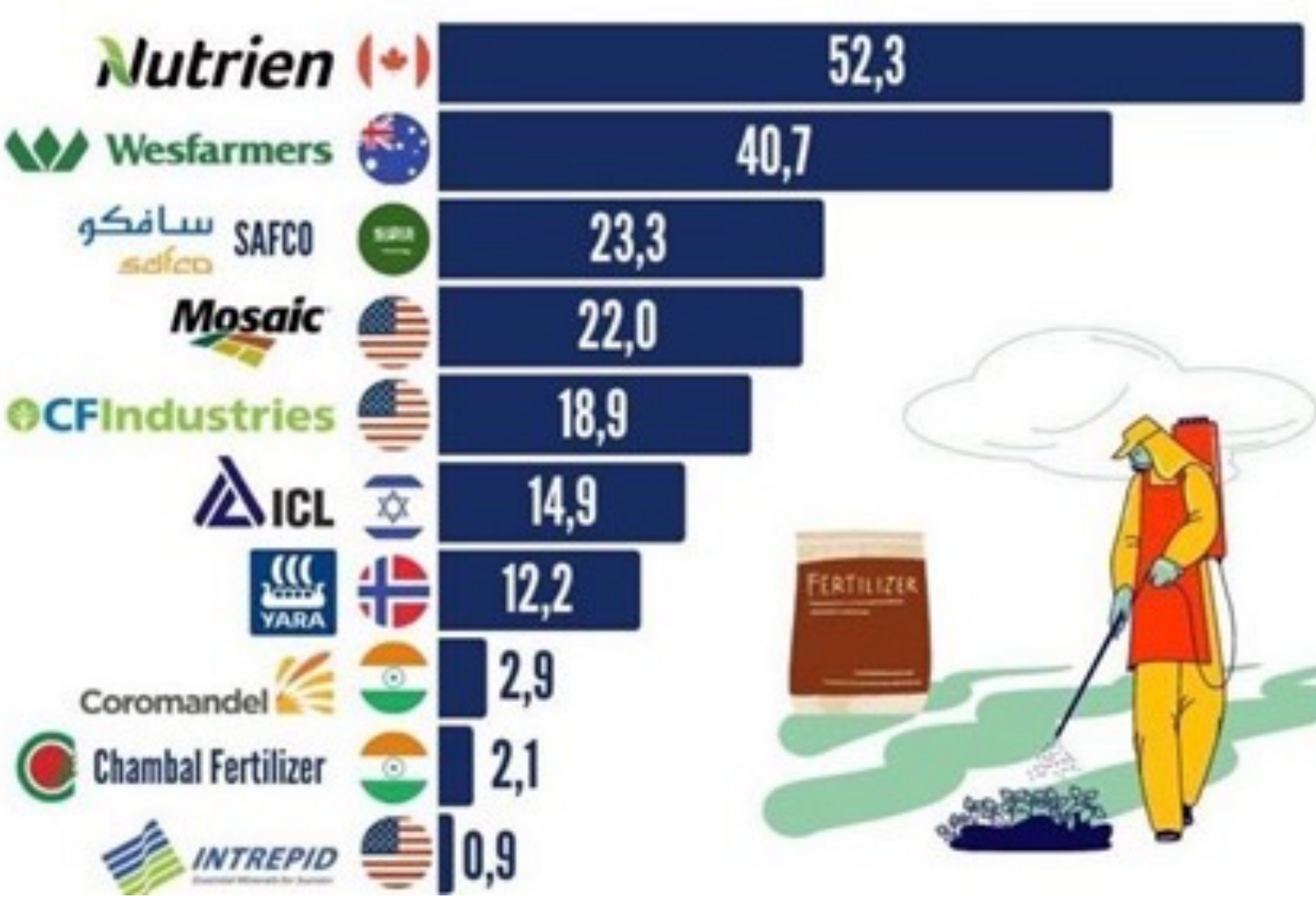
Source: Prof. Marcos Fava Neves

Doutor Agro

Top Fertilizer Companies



Source: Atlas do Agronegócio 2018

Mercado de Medicamento Veterinário – Fusões & Aquisições

Pfizer — *Separação do Negócio* — *25/06/2013* — zoetis — *Compra* — *22/07/2019* — PLATINUM PERFORMANCE

Após IPO conduzido pela **Pfizer** em fevereiro de 2013, **Zoetis** torna-se independente, **líder global** no setor. Em 19, adquire a **Platinum,** diversificando portfólio para equinos e pets

11/03/2019 — Lilly — *Separação do Negócio* — Elanco — *Compra* — *04/2014* — NOVARTIS ANIMAL HEALTH

Elanco — *Compra* — Bayer HealthCare Animal Health — *20/08/2019*

Assim como o movimento conduzido pela Pfizer com a Zoetis, **Lilly** anuncia IPO da **Elanco** em agosto de 2018 e logo após, em 2019, encerra a participação na empresa. Elanco já havia incorporado a **Novartis** em 2014 (acordo de U$S 5,4 bi) e, como empresa independente, compra a divisão de saúde animal da **Bayer** em agosto de 2019, por U$S 7,6 bi

GENERAL ATLANTIC — *26/09/2014 Aquisição de ações* — ourofino saúde animal

Ourofino firma acordo de investimento com o fundo de *private equity* **General Atlantic.** Capta R$ 200 milhões em troca de ações ordinárias da companhia. Em outubro do mesmo ano, levanta US$ 172 milhões com uma Oferta Pública de Ações (IPO)

Boehringer Ingelheim — *1/01/2017 Compra* — MERIAL

Troca de ativos entre **Boehringer** e grupo **Sanofi**, resultando na aquisição da **Merial.** Boehringer se torna a **quinta** maior veterinária em participação no **Brasil** e a **vice-líder global** do setor, com faturamento combinado de € 4 bi

vaxxinova — *5/02/2018 Compra* — Biovet

Empresa holandesa, do grupo alemão **EW**, adquire o laboratório paulista **Biovet**, formando um dos 15 maiores grupos em saúde animal do país

vetoquinol ACHIEVE MORE TOGETHER — *3/04/2019 Compra* — CLARION SAÚDE ANIMAL

A francesa **Vetoquinol** incorpora o laboratório goiano **Clarion Biociências**, como forma de fortalecer sua presença no Brasil

Vallée — *6/07/2016* — MSD — *Compra* — Antelliq — *18/12/2018*

MSD adquire a mineira **Valeé** em 2016, em acordo de R$ 1,2 bi (maior aquisição de uma empresa brasileira do setor na história). Em 2018, incorpora a **Antelliq**, líder mundial em serviços digitais para saúde animal, por € 3,25 bi

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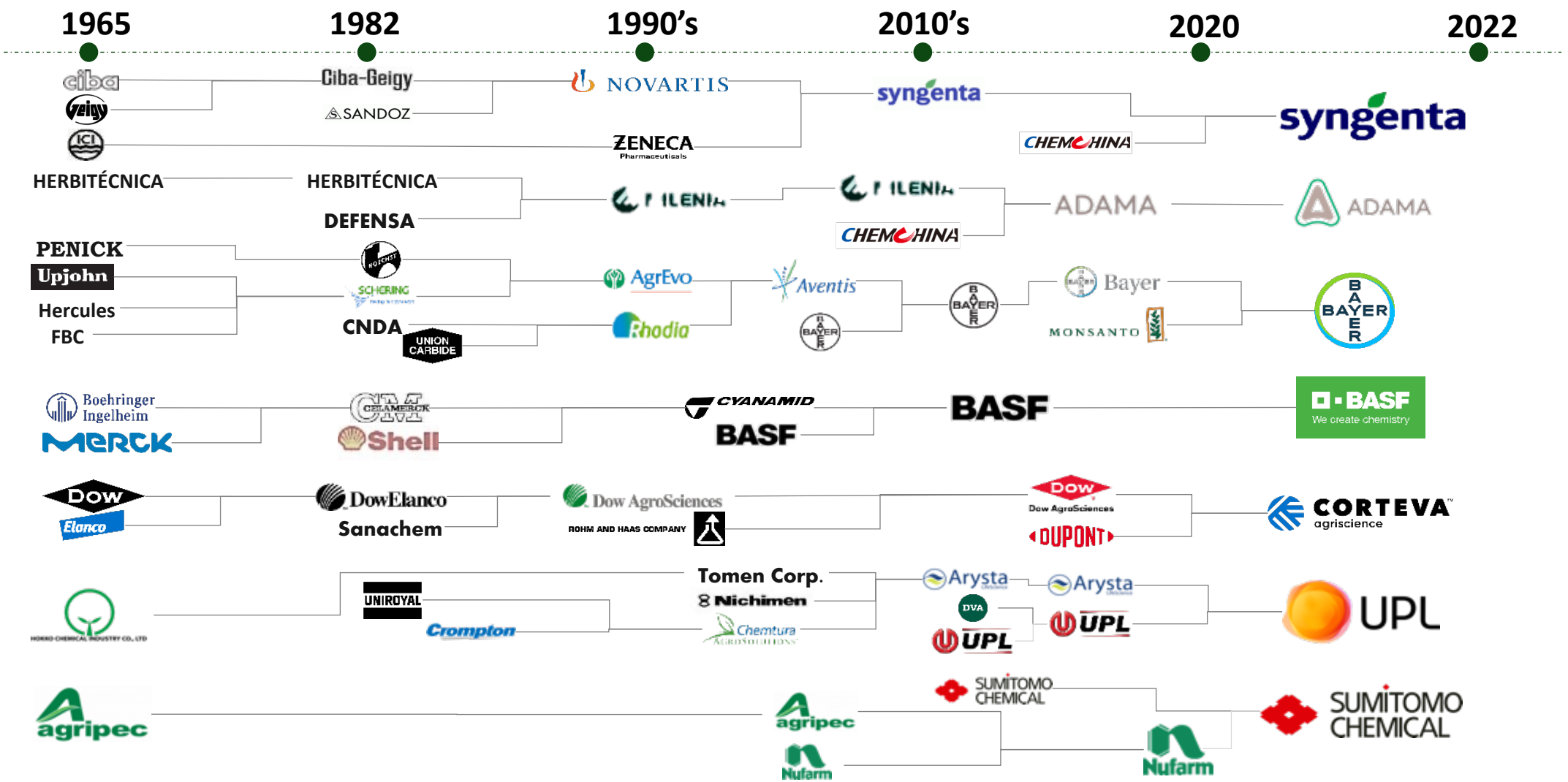
Source: Markestrat analyzes

Doutor Agro

Strong Consolidation of the Industry



Source: Markestrat analyzes

Major Participants – Agrochemical Companies

Sales of top 20 global agrochemical firms in FY2020 ($ million) — AGROPAGES

FY 2020 (FY 2019) Ranking	Company	FY2020[1] (Reported Currency)	FY2019[1] (Reported Currency)	FY2018[1]	% Change [2] (FY2020/ FY2019)
1 (2)	Syngenta [3,4]	11,208 ($11,208)	10,588 ($10,588)	9,909	+6
2 (1)	Bayer Crop Science [5]	9,986 (€8,749)	10,374 (€9,263)	9,641	-3.7
3 (3)	BASF [6]	7,036 (€6,165)	7,123 (€6,360)	6,916	-1.2
4 (4)	Corteva[6]	6,451 ($6,451)	6,256 ($6,256)	6,445	+3.1
5 (6)	UPL[7]	4,662 (INR 346,280)	4,461 (INR316,260)	2,688	+4.5
6 (5)	FMC	4,642 ($4,642)	4,609.8 ($4,609.8)	4,285.3	+0.7
7 (7)	ADAMA[3]	3,738 ($3,738)	3,611 ($3,611)	3,617	+3.5
8 (8)	Sumitomo Chemical [8]	3,235 (-)	2,575 (-)	2,538	+25.6
9 (9)	Nufarm[9]	1,720 (AUD2,563.157)	2,517 (AUD 3,536)	2,332	-31.7
10(10)	Jiangsu Yangnong[3]	1,413 (Yuan 9,754)	1,251 (Yuan 8,639)	788	+13
11(11)	Rainbow Chemical	1,056 (Yuan 7,289.8)	880 (Yuan 6,074)	809	+20
12 (-)	Sino-Agri Leading Biosciences	963 (Yuan 6,641)	629 (Yuan 4,343)	-	+ 53.1
13 (12)	Huapont Life Sciences	893 (Yuan 6,186)	757 (Yuan 5,230)	935	+18
14 (14)	Wynca Chemical	881 (Yuan 6,081)	690 (Yuan 4,763)	665	+27.7
15 (15)	Kumiai Chemical[10]	738 (¥79,395)	663 (¥ 72,623)	881	+11.3
16 (17)	Lianyungang Liben Crop Science	680 (Yuan 4,698)	617 (Yuan 4,261)	561	+10.2
17(18)	Lier Chemical	673 (Yuan 4,644)	586 (Yuan 4,044)	606	+14.8
18 (20)	Hubei Xingfa Chemicals	635 (Yuan 4,387)	523 (Yuan 3,614)	509	+21.4
19 (16)	Nissan Chemical[8]	602 (¥63,848)	655 (¥ 64,038)	571	-8.1
20 (13)	Nanjing Red Sun	577 (Yuan 3,986)	691 (Yuan 4,768)	891	-16.5

Source: Prof. Marcos Fava Neves.

Major Participants – Tractor/Agricultural Equipment Companies

Market Research Reports

Leading Agricultural Equipment Manufacturers in World

Company	Head Quarter	Product Range
JOHN DEERE	Illinois, United States	**John Deere** is the brand name of Deere & Company, an American corporation that manufactures agricultural, construction, and forestry machinery, diesel engines, drivetrains used in heavy equipment.
CNH INDUSTRIAL	Amsterdam, Netherlands	**CNH Industrial N.V.** is an Italian-American Dutch-domiciled multinational corporation with corporate offices in Amsterdam and London. CNH Industrial designs, produces, and sells agricultural equipment and construction equipment.
AGCO	Georgia, United States	**AGCO Corporation** is an American agricultural equipment manufacturer headquartered in Duluth, Georgia, United States. Company manufactures equipment such as Tractors, Combines Self-propelled sprayers, Hay tools, Forage etc.
CLAAS	Harsewinkel, Germany	**CLAAS KGaA mbH (CLAAS)** is a global agricultural machinery manufacturer based in Harsewinkel, Germany. The product range includes tractors, balers, mowers, rakes, tedders, silage trailers, wheel loaders, telehandlers and other harvesting equipment.
DF DONGFENG BRAND CHINA WELL-KNOWN BRAND / DFAM	Wuhan, China	**Changzhou Dongfeng Agricultural Machinery Group Co., Ltd. (DFAM)** is a Chinese company and has been engaged in manufacturing durable and reliable agricultural machinery. DFAM products are marketed under four core brands in global market: **DF®, Dongfeng®, DFAM® for tractors and Town Sunny®** for farm implements.
LOVOL	Huangdao, China	**Lovol Heavy Industry CO.,LTD. (Lovol)** is a Chinese Company. The company is a large-scale industrial equipment manufacturer and has primarily specializing in agricultural equipment, construction machinery, vehicles, core components, financial services and other businesses.
CHANGFA	Huangdao, China	**Changfa Group** is a large diversified industrial conglomerate mainly engaged in properties industry and manufacturing industry of agricultural machinery and refrigeration equipment. Company manufactures equipment such as tractors, harvesters, rice transplanters, seeder and tillage, dryer etc.
YTO GROUP CORPORATION	Luoyang, China	**The YTO Group Corporation** is a Chinese agriculture and construction machinery manufacturer that is part of **Sinomach**, a comprehensive machinery conglomerate. The company manufacture a range of products including agricultural tractors, engines, combine harvesters and trucks, the company is best known for farming equipment.
SDF Farming Technology. Since 1927.	Treviglio, Italy	**SDF,** a multinational group based in Treviglio (Bergamo) in Italy, and is one of the world's leading manufacturers of tractors, harvesting machines, diesel engines and agricultural machinery.
CCMG 山东常林	Changlin, China	**Shandong Changlin Machinery Group Co. Ltd.** manufactures machinery. The Company develops, designs, produces, and sells agricultural machinery and other related products. Shandong Changlin Machinery Group also manufactures and sells casting products and other products.

Source: Desk research

Animal Health Industry

Pfizer realiza fusão com a farmacêutica **Wyeth**, em acordo de cerca de US$ 68 bilhões, adquirindo a divisão veterinária da companhia, a **Fort Dodge**.

Separação do Negócio → Pfizer | Compra → zoetis → PLATINUM PERFORMANCE

Após IPO conduzido pela **Pfizer** em fevereiro de 2013, **Zoetis** torna-se independente, **líder global** no setor. Em 2019, adquire a **Platinum**, expandindo seu portfólio em equinos.

GENERAL ATLANTIC — Aquisição de ações → ourofino saúde animal

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Ceva — Compra → Vetbrands

Ceva adquire a **VetBrands** do fundo brasileiro de *equity* Axxon, responsável pela previa incorporação da **Purina Saúde Animal** à marca, em 2002.

Separação do Negócio → Lilly | Compra → Elanco → NOVARTIS ANIMAL HEALTH

Elanco — Compra → Bayer HealthCare Animal Health

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Vallée ← Compra — MERCK — Compra → Antelliq

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Fonte: Análises Markestrat. Elaborado por Fernando Kolya e Leonardo Rodrigues. fkolya@markestrat.com.br - https://www.linkedin.com/in/fernandokolya/

Source: Markestrat

Trends: Input Suppliers (Protection, Seeds, Machinery…)

- ✓ More concentration;
- ✓ Stronger presence from China and India;
- ✓ Increasing competition from generic companies;
- ✓ Dealers and cooperative brands;
- ✓ Merging industries towards seeds, crop protection and biological products (complete solution providers);
- ✓ Presence of renewable production inputs that replace non-renewable ones, as today's fertilizers;
- ✓ Growth of biological products;
- ✓ Reuse of resources and the use of by-products, in order to reduce pollution and costs;
- ✓ Use of big data, satellites and drones;
- ✓ Machines with higher efficiency and cheaper maintenance;
- ✓ Better asset usage with the sharing economy ("uber");
- ✓ Lower residual effects of the chemical products;
- ✓ Genetically modified varieties in order to increase yields with traits of protection towards plagues and diseases, droughts, climate;
- ✓ Better grain to protein (animal) and sun to energy (plant) conversion;
- ✓ Technologies for precocity (saving time);
- ✓ Biotechnology and natural control in order to use less chemical products;
- ✓ Reducing losses on input transport and application;
- ✓ Use of open innovation to complement value delivery;
- ✓ Growth of direct sales to farmers or pools.

Source: Neves et al. (2020)

Food, Agribusiness and Biofuels Chains

Macro-environmental variables:

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- Economic-Natural
- Sociocultural (Behavioral)
- Technological

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Cooperatives

Farmers

Tradings

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Food-industry

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markestrat Agribusiness · Harven Agribusiness School · fea-RP · FGV EAESP

Source: Prof. Marcos Fava Neves

Doutor Agro

Consolidation in Plant Protection Distribution Channels

Quadro Consolidação e Grupos Estratégicos na Distribuição de Insumos

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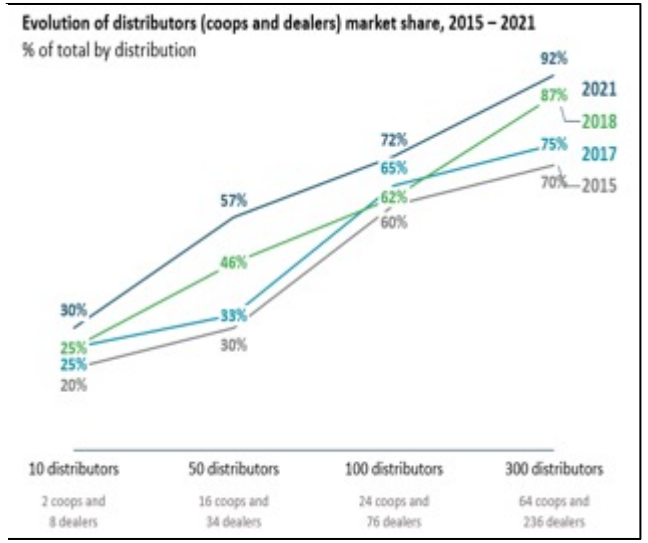
	Consolidador	Empresas da Rede*	# de Lojas**	Negócios Relacionados no Grupo Estratégico
Fundos	AXXON GROUP	Casal	51	
	AQUA CAPITAL / AGRO GALAXY	AGRO 100, GRÃO, rural, Agro Ferrari, Campeã, BOA VISTA, ferrari zagatto, CAT	144	
	PATRIA / LAVORO	IMPACTO, América, Integra, Recize	195	
	CERES / AGROINVEST	Cultura	8	
Investidores estratégicos	BUNGE	Agrofel, SINAGRO, AGROIMPORT	69	
	Mitsubishi Corporation	SYNAGRO, FERTGROW	31	
	Marubeni	DIBAN, Diamig, GAVILON	32	
	Nutrien	TEC AGRO, Utilfertil, BIO RURAL, BRA, agrichem	41	
	UPL	SINAGRO	29	
	PEROVEN / DAKANG	BELAGRÍCOLA, FIAGRIL, SEFERT Soluções Agrícolas	79	
	IHARA / terra	SC TEC, terra	9	
	syngenta	ATUA, Dipagro	43	
	Sumitomo Corporation	AGRO AMAZÔNIA	48	
Operações independentes	GRA	SUPREMA, AgroBoa, ZOOTEC	8	
	3tentos	3tentos	49	
	VACCARO	vaccaro, agro+	11	

*Com participação acionária ou não; **Apenas ponto de vendas de distribuição; Fonte: Mídia ou sites da empresa

Legenda

- Misturador fertilizantes
- Registro de defensivos
- Produção de Sementes
- Produção Especialidades
- Agroindústria
- Operação e recebimento de Grãos
- Agricultura digital



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Source: Markestrat

Doutor Agro

Distributors (Dealers)

- ✓Strong concentration in emerging markets;
- ✓Geographical diversification, working on several agricultural producers;
- ✓Growth in grains origination and trading;
- ✓Growth in credit offering to farmers;
- ✓Growth in farm management services;
- ✓Growth in own areas and shareholders areas;
- ✓Excellency in relationships and CRM programs;
- ✓Possible big data managers;
- ✓Coordinators of a strong contractual network of service providers;
- ✓Intense competition with trading companies and cooperatives;
- ✓Working with own brands;
- ✓Higher percentage of generic products;
- ✓Higher bargain power with input suppliers;
- ✓Consolidated and known regional and national brands;
- ✓Multinational managerial standards and governance;
- ✓Strong interpersonal relationships;
- ✓Pressure on business margins;
- ✓Rise wave of selling inputs online.

Source: Neves et al. (2020)

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Source: Prof. Marcos Fava Neves

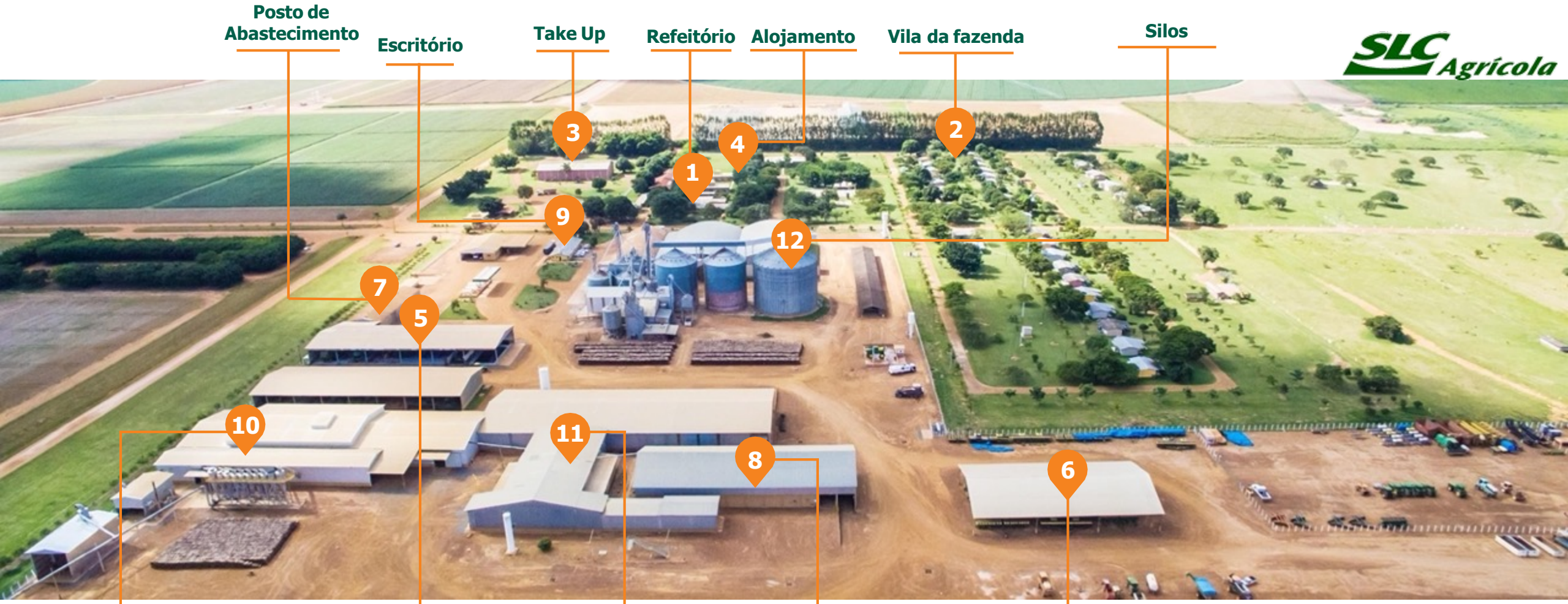
Large Farming Operations are Concentrated in the Midwest and Mapitoba

	1. MAPITOBAPA	2. MID-WEST	3. SOUTH AND SOUTHEAST
Farmers	10.000	25.000	800.000
Farm size	Some farmers with more than 100.000 ha	30% of the area > 5.000 ha	95% of farmers with less than 200 ha
Size of "small" farmer	2.000 ha or less	500 ha or less	100 ha or less
Financial Strength	+++	++	+
Average purchase/farmer	+++	++	+
Production focus	Grains and cotton	Grains and cotton	Grains and specialties
Distribution Channel	Direct sales / Dealer / Trading	Dealer / Direct sales / Trading	Cooperative / Dealer
Farmer models	New players	New players and Traditional	Traditional

- Region where the farmers have biggest crop fields is MAPITOBA (North and Northeast region). By that reason, in that region the farmers were also more capitalized and were responsible for bigger tickets.
- Farmer profile will change by reason lead by the land occupation period and Cerrado production expertise. The new players are agro-enterprises or big farmers that have initialized the occupation in the mid 90's and which have a greater experience raising crops in Cerrado. Those player generally have more than one field spread in those 3 regions.

Source: Elaborated by Markestrat Researchers from interviews (Nov/2012-Feb/2013).

Replicable Production Unit - Fazenda Pomplona Cristalina GO



Source: SLC Agrícola

SLC Agrícola: Champion of Productivity in Brazil

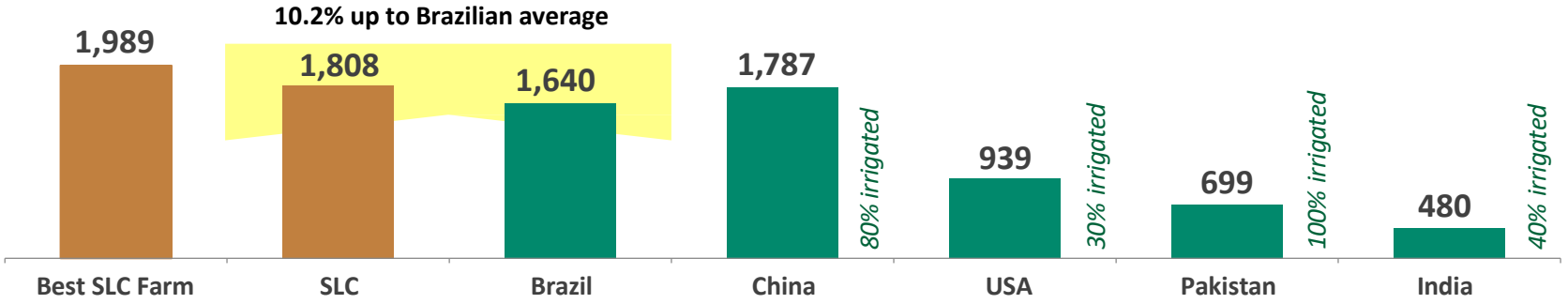
Farmers

SLC Agrícola

PRODUCTIVITY COMPARISON

FEATHER COTTON

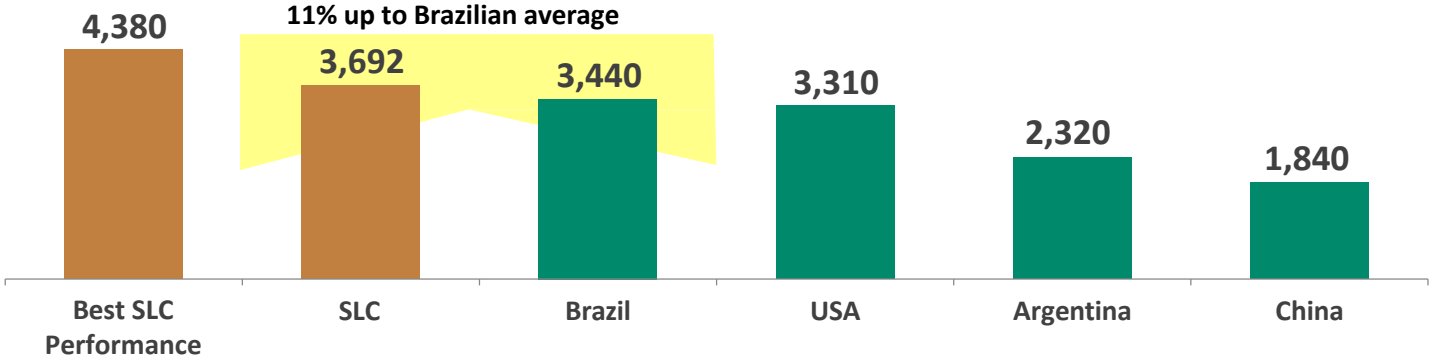
SEASON 2017/18 - Kg/ha



PRODUCTIVITY COMPARISON

SOYBEAN

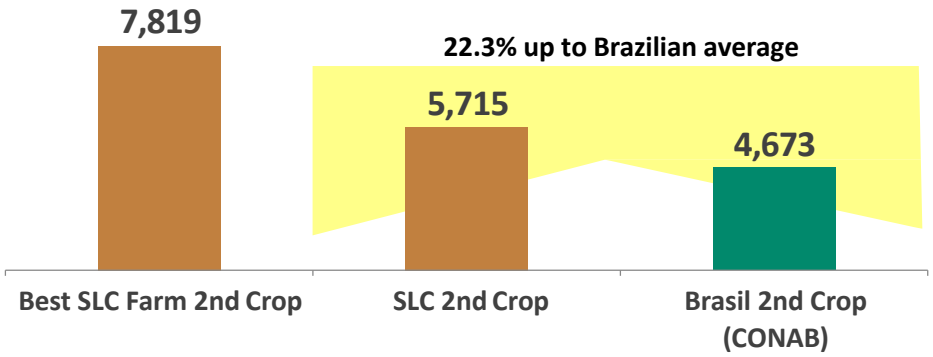
SEASON 2017/18 - Kg/ha



PRODUCTIVITY COMPARISON

CORN

SEASON 2017/18 - Kg/ha



Source: SLC Agrícola

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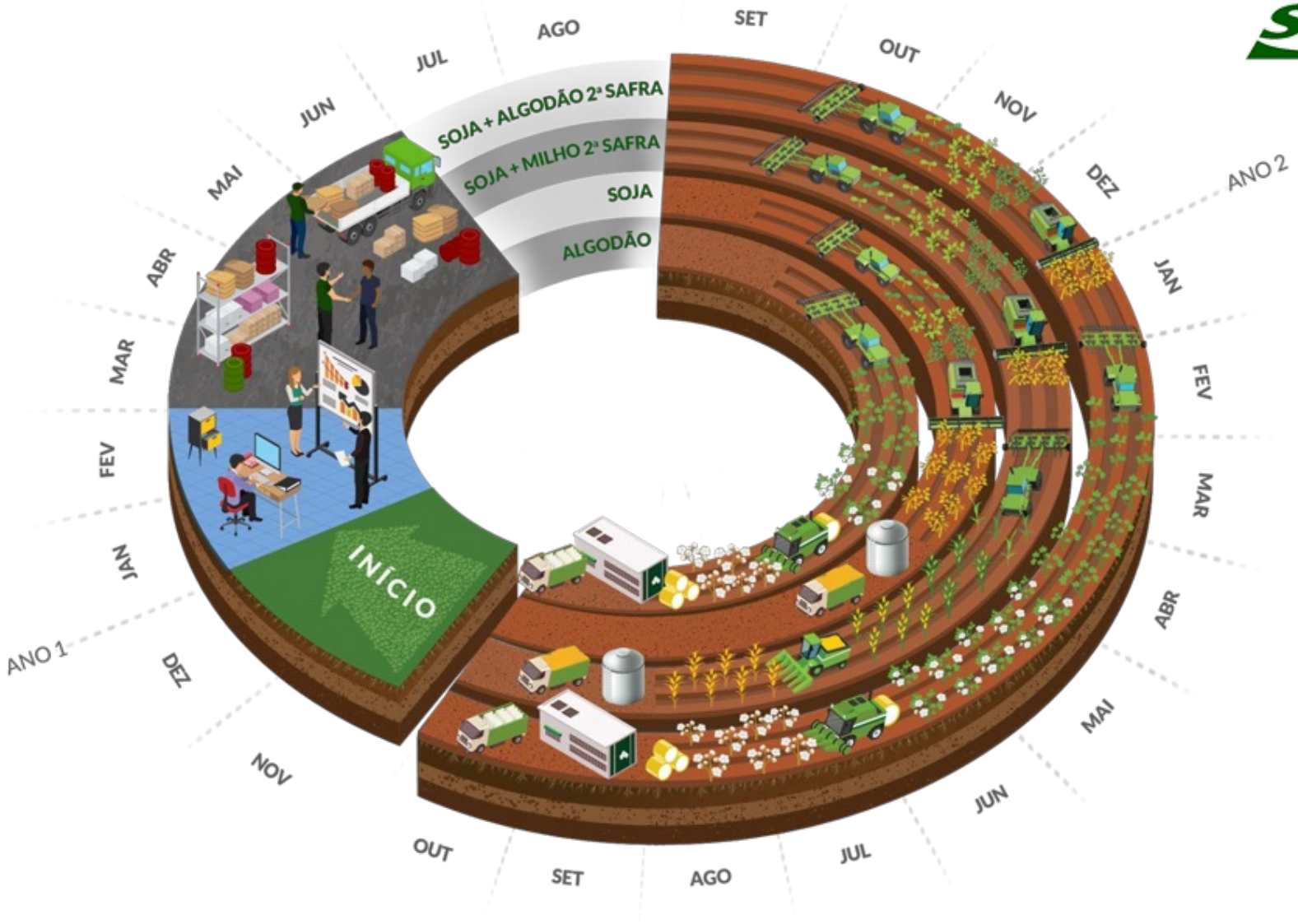
Production Cycle



Source: SLC Agrícola

Trends: Farmers

- ✓Environmental and labor regulations;
- ✓Large farm companies listed in stock exchange;
- ✓Production transparency;
- ✓Growth of circular economy and integration of crop, pasture, forestry;
- ✓Integration with neighbors;
- ✓Sharing economy;
- ✓Strong concentration in land management;
- ✓More informed and more linked (internet farmers);
- ✓Increasing professionalization;
- ✓Increasing gap between the “best” and the “worst”;
- ✓Square meter management;
- ✓Strong sustainability, conservation and animal welfare standards;
- ✓Precocity;
- ✓Measurement of all activities, water, carbon and derived certifications;
- ✓Traced and identified by consumers;
- ✓New generation assuming the business management;
- ✓Use of aerial imaging (satellites, airplanes and drones);
- ✓Big data and data analysis;
- ✓More accountability imposed by supply chain;
- ✓Vertical farming and others closed productive systems;
- ✓Smart farms and precision agriculture: digital farming everywhere with GPS guided equipment, data driven drones, analytics software, advanced equipment;
- ✓Regenerative agriculture;
- ✓Accelerating R&D and robotics (mainly for harvesting).

Source: Neves et al. (2020)

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Source: Prof. Marcos Fava Neves

Doutor Agro

Trading business, orientation and positioning are changing…Some moving downstream and others upstream

Open to partnership (CP + S) for Grain Origination, Left Fertilizer business, Entered in bioenergy, Focus on Food/C-Brands

BUNGE

Open to partnership (CP + S) for Grain Origination. Entered in bioenergy, Diversification strategy, Left Citrus business, Focus on Food/C-Brands

Cargill

Investing in Fertilizers. Decreasing investments in Sugar Mills. Open to partnership (CP + S) in Grain Origination

ADM

Investing in grain production, Partnership for logistics, Accessing international market; External production

Open to partnership (CP + S) for Grain Origination (CCAB), Investing in fertilizers, Investing in Sugar Mills, Registering CP. (CCAB), Encouraging Barter operation. Wishes to become a big distributor; Investing in logistics and services

LouisDreyfus Commodities

Needs to establish a partnership (CP + S) for Grain Origination. Investment in logistics and port terminals. Growing share in biofuels and Food, Focus on Food

CARAMURU

Growing/Investing in agri. supplies and grain origination. Partnership with Mitsubishi. Geographic diversification/Market Development; Wishes to offer "one stop shopping" solution for farmers

GRUPO LOS GROBO

Global focus on iron ore and fertilizers. (open to merger with Xtrata) Bought Agrenco for grains

GLENCORE

Production of citrus and grains. Trading Grains. Logistics synergy in the structure of citrus to operate with grains (terminals/port). Verticalization.

CUTRALE — New Player (Trading)

Important trading company in Asia, seeking to originate more grains in Brazil. Acquired Sugar mills. Commercialize agri supplies and machinery - grain exchange.

noble group — New Player (Trading)

Fertilizers; Distribution, Private Label (Chemicals), Trading

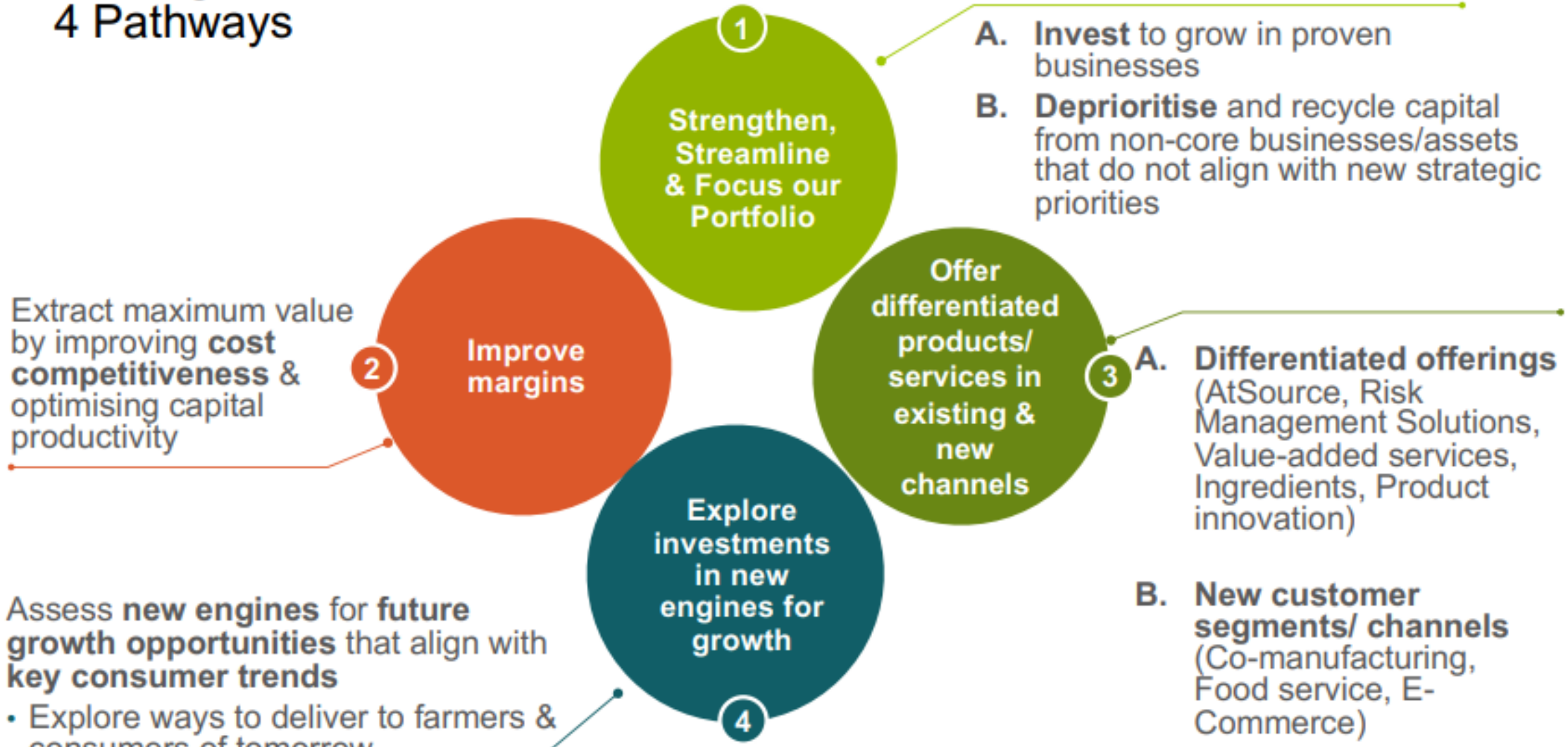
HELENA Marubeni — New Player (Trading)

Distribution; Private Label (Chemicals), Trading e International Logistics

Utilfertil by Agrium — New Player (Trading)

Source (citation): Elaborated by Markestrat (2013).

Strategic Priorities & Roadmap
4 Pathways



Source: Olam Strategic Plan 2019-2024

Trends: Tradings

- ✓Concentration/consolidation;
- ✓Stronger Chinese presence;
- ✓International logistics expertise as competitive advantage and value capturing;
- ✓Control of information loses power as a source of competitive advantage;
- ✓More scale;
- ✓From buying and selling to high vertical integration and domination of origination (grain supply);
- ✓Stronger presence in the input suppliers market as a origination strategy;
- ✓Global presence (geographical diversification) to minimize risks (default and others) and manage cash flow;
- ✓Strong traceability and product identity;
- ✓Some will focus on trading and others advancing as strong competitors of the food industry;
- ✓Credit as source of competitive advantage (international sources);
- ✓Increase in participation of input distribution market through merges and acquisitions.

Source: Neves et al. (2020)

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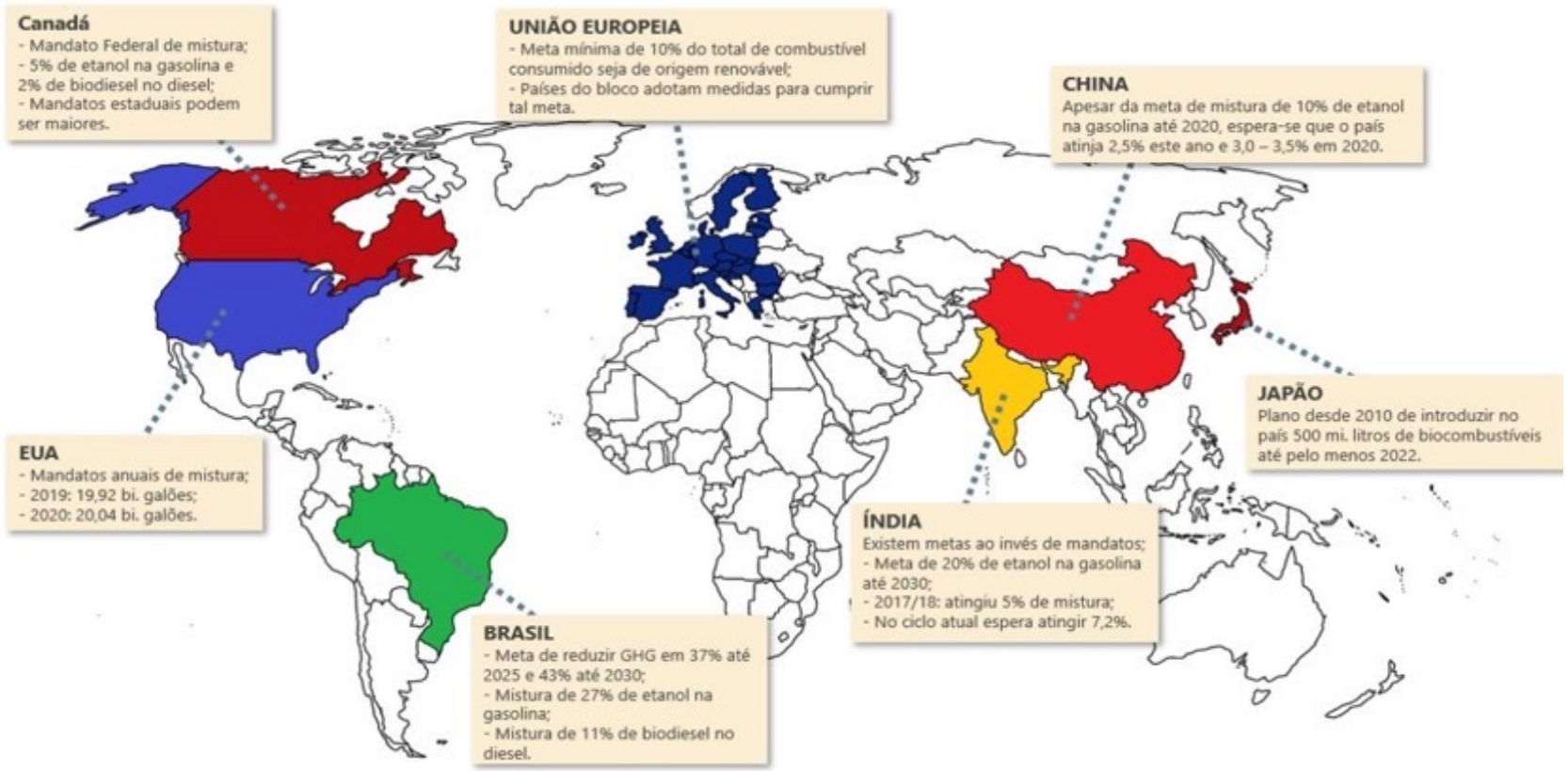
Source: Prof. Marcos Fava Neves

Doutor Agro

Major Ethanol Mandates in the World




The Digest's Biofuels Mandates Around the World 2022

biofuelsdigest.com/bdigest/2022/01/03/the-digests-biofuels-mandates-around-the-world-2022/

Jim Lane — January 3, 2022

The Digest's Biofuels Mandates Around the World 2022

65 countries have targets or mandates — but how much where, and when, and what?

The bulk of mandates continue to come from the EU-27. 14 countries in the Americas have mandates or targets in place or under consideration, 12 in Asia-Pac, 11 in Africa and the Indian Ocean, and 4 from non-EU countries in Europe.

Besides the EU, the major blending mandates that will drive global demand are those set in the US. India, Brazil with Malaysia and Indonesia becoming major players on the diesel side. – each of which has set targets – or, in the case of Brazil, is already there. Who's Got What, exactly? Here's your up to date guide!

A **Digest** special report

Source: FCStone

Trends: Biofuels Industry

- ✓Growth of bio-economy (mass, plastic, fuel, electricity) based chains;
- ✓Energy sources (solar power and others much more accessible).
- ✓Energy generation technologies are expected to become cheaper;
- ✓Public policies for decarbonization;
- ✓Payment for environmental services.

Source: Neves et al. (2020)

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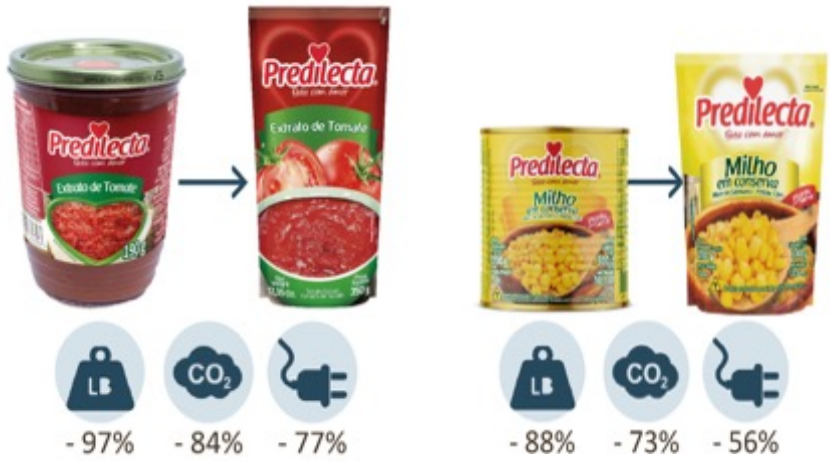
Source: Prof. Marcos Fava Neves

Doutor Agro

Predilecta: A Case of Adding Value in Agribusiness

Some numbers:

- Beginning of activities in 1991
- World's largest red guava processor
- Largest national company of tomato products and vegetables
- “Agricultural Partnership” model
- Area used: 20 thousand hectares / year
- Direct employees: 4,000
- Approximate revenue: R $ 1.7 billion
- Payroll and annual benefits: R $ 150 millionT
- axes paid per year: R $ 80 million (average)
- Exports to 66 countries



Source: Prof. Marcos Fava Neves based on Predilcta


DUNKIN' DONUTS
COLOMBIAN
GROUND COFFEE
DUNKIN' DONUTS
WHOLE BEAN
STARBUCKS
HOUSE BLEND
Rich & Lively
MEDIUM
WHOLE BEAN
100% ARABICA COFFEE
McCafé
PREMIUM ROAST
SMOOTH & BALANCED
100% ARABICA BEANS
GROUND
PEET'S
PEETS HOLIDAY 10OZ
9.39
TARGET-DFD
PEET'S
GRD FRENCH ROAST 12OZ
9.39
PEET'S
9.39

Trends: Food Industry

- ✓More concentration/consolidation;
- ✓Global competitors x local and specialized companies;
- ✓Squeezed by retailers buying power and buying groups;
- ✓Strong sustainability package, from ecological packages, use of byproducts, water consumption, carbon emissions;
- ✓Diversification/merging with other industries (Nutraceutics and Nutricosmetics);
- ✓Trend for nutrition and consumer experience;
- ✓Channels optimization (gate-to-gate and others);
- ✓Strong cost control over all processes;
- ✓Attractive to the youth and global talents;
- ✓Space for gourmet, premium and hand-made products;
- ✓Circular economy and chain integration (by-products);
- ✓Alterantive sources of ingredients (planted based, meat substitutes, insects, algae, hemp and others);
- ✓Small brands empowerment;
- ✓Growth of niche products (to vegetarian, allergics and other groups with dietary restrictions);
- ✓Growth in the supply of superfood (with high level of proteins, mineral, and others).

Source: Prof. Marcos Fava Neves

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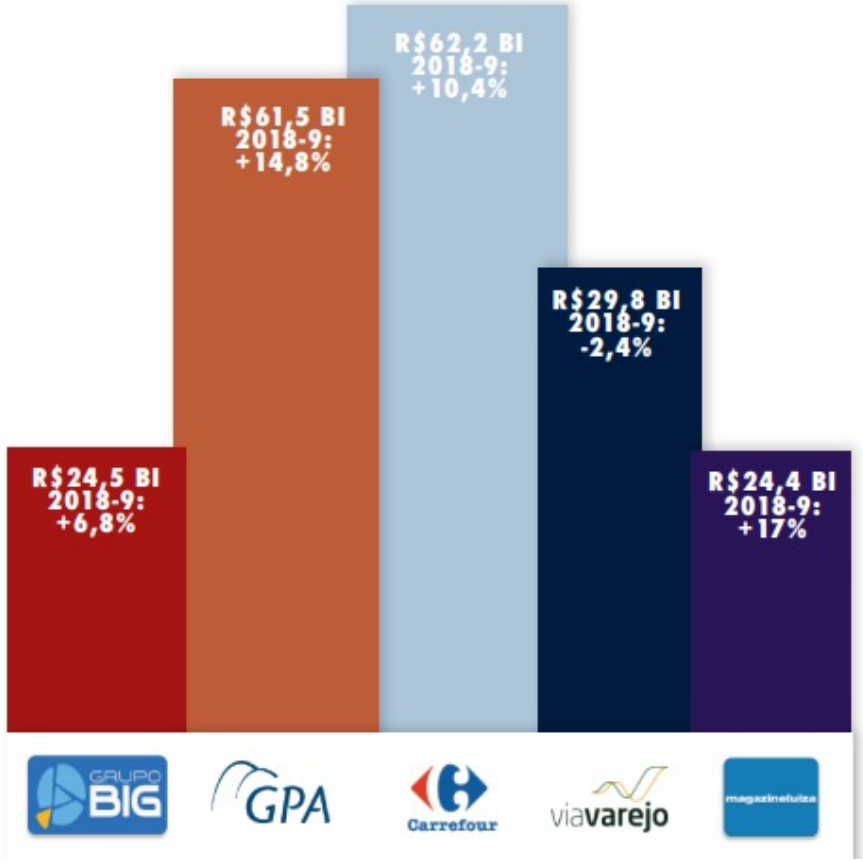
Source: Prof. Marcos Fava Neves

Doutor Agro

Top Retailers in the Brazilian Market 2020

TOP RETAILERS IN SALES ALL CATEGORIES

In billion R$



TOP SUPERMARKETS IN SALES

In R$

1º **GRUPO CARREFOUR** R$62,220,000,000

2º **GPA-ALIMENTAR** R$ 61,543,000,000

3º **GRUPO BIG** R$ 24,500,000,000 *ESTIMADO*

4º **CENCOSUD BRASIL COMERCIAL** R$ 8,596,000,624

5º **IRMÃOS MUFFATO & CIA** R$ 7,518,000,000

6º **MATEUS SUPERMERCADOS** R$ 7,337,000,000

7º **SDB COMÉRCIO DE ALIMENTOS** R$ 7,296,000,000

8º **DIA BRASIL** R$ 7,000,000,000 *ESTIMADO*

9º **SUPERMERCADOS BH** R$ 6,994,000,000

10º **CIA ZAFFARI COM & IND** R$ 5,490,000,000

Source: IBEVAR 2020


oba INAUGURAÇÃO 15·02
oba
HORTIFRUTI
A FAZENDA DENTRO DA CIDADE


oba
Seleção

Introducing Amazon Go and the world's most advanced shopping technology

Amazon Go Video (click here)

Introducing AmazonFresh Pickup: Groceries delivered to your trunk

Amazon Fresh Video (click here)

Distribution Retail

- ✓Concentration of groups;
- ✓More information about consumer;
- ✓Offer ambience;
- ✓Express check-outs;
- ✓Complete solutions;
- ✓Digital retail (e-commerce) and delivery strategies;
- ✓Home Meal Replacement;
- ✓Tasting/trying;
- ✓Relationships programs;
- ✓Buying groups;
- ✓Price comparisons (price transparency);
- ✓Private labels;
- ✓Sustainable strategies and sourcing;
- ✓Ethnic food;
- ✓Franchises;
- ✓Internationalization;
- ✓Food service brands gaining space on retail shelves;
- ✓Physical stores with embedded technology;
- ✓Store concept of “on the go”;
- ✓Green footprint and attention to sustainable suppliers;
- ✓Buy local movement and communication;
- ✓Low cost / hard discount models;
- ✓Propensity to bulk.

Source: Neves et al. (2020)

Convenience: The Delivery Model Rising

Trends: Food Service

- ✓“Gourmetization” and dishes signed by influencers;
- ✓“On the go” concepts for restaurants, events, food machines and kiosk;
- ✓Function robotization and automation;
- ✓New online channels for delivering;
- ✓Physical stores with embedded technology.

Source: Neves et al. (2020)

Prof. Dr. Marcos Fava Neves

- Nascido em Lins (SP), é professor em tempo parcial das Faculdades de Administração da Universidade de São Paulo em Ribeirão Preto e da FGV em São Paulo. Engenheiro Agrônomo formado pela Escola Superior de Agricultura Luiz de Queiroz (Esalq/USP) em 1991 e fez toda a carreira de pós graduação (mestrado, doutorado e livre-docência) em estratégias empresariais e chegou a professor titular da USP aos 40 anos, tendo sido Chefe do Departamento de Administração da USP em duas gestões. Complementou sua pós graduação em marketing de alimentos e planejamento do agronegócio na França (1995 – no IGIA) e na Holanda (1999 – na Universidade de Wageningen). Desde 2006 é Professor Visitante Internacional da Universidade de Buenos Aires, desde 2013 da Purdue University, Indiana, EUA, onde deu aulas durante todo o ano de 2013 e desde 2020 da Universidade de Pretória, África do Sul.

- É especializado em planejamento e gestão estratégica, tendo realizado mais de 250 projetos de planejamento no agronegócio brasileiro e mundial. Trabalhou ou foi membro de Conselhos das seguintes organizações: Botucatu Citrus, Vallée, Lagoa da Serra; Renk Zanini, Inova, Embrapa, Associação Mundial de Agronegócios, Cooperativa Coplana, Cooperativa Holambra, Ouro Fino, Canaoeste e Orplana (Organização dos Plantadores de Cana). Ajudou a montar e é acionista de 5 empresas, sendo 3 start-ups.

- É autor e organizador de 80 livros no Brasil, Argentina, Estados Unidos, África do Sul, Uruguai, Inglaterra, Cingapura, Holanda e China, por 10 editoras. Escreveu casos para o Pensa, a Universidade de Harvard (2009/2010) e Purdue University (2013/2019/2021). Publicou mais de 200 artigos indexados em periódicos científicos internacionais e nacionais, tendo recebido 5.000 citações no Google Acadêmico. Foi articulista do jornal China Daily de Pequim e da Folha de S. Paulo, além de escrever artigos para Estadão e Valor, tendo mais de 600 artigos de análises de conjunta publicados. Na formação de talentos humanos orientou 9 teses de Doutorado, 27 de Mestrado e 150 Monografias. Ajudou a formar mais de 1.500 administradores de empresas com 140 disciplinas de graduação e 30 cursos de Mestrado e Doutorado na USP e na FGV. Realizou 1.500 palestras em 22 países, sendo um dos brasileiros mais respeitados internacionalmente na área de agronegócios.

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Obrigado a todos!