

Global agri-food chains in times of COVID-19: The state, agribusiness, and agroecology in Argentina

Carla Gras^{1,3}  | Valeria Hernández^{2,3} 

¹National Council of Scientific and Technological Research (CONICET)

²UMR CESSMA, Institut de Recherche pour le Développement (IRD), Paris, France

³Escuela Interdisciplinaria de Altos Estudios Sociales, Universidad Nacional de San Martín (IDAES-UNSAM), Buenos Aires, Argentina

Correspondence

Carla Gras, National Council of Scientific and Technological Research (CONICET) and Escuela Interdisciplinaria de Altos Estudios Sociales, Universidad Nacional de San Martín (IDAES-UNSAM), Av. 25 de Mayo 1021, San Martín, Provincia de Buenos Aires, 1650, Argentina.

Email: carlagras@arnet.com.ar

Abstract

The issues posed by the unfolding impacts of COVID-19 are very uneven in the case of Argentina, a major global commodity exporter. As domestic food prices have continued to rise, worsening the living conditions of millions, and state policies seek to guarantee the population's access to food, the hegemonic agribusiness sector is fostering new alliances to strengthen its integration into global agri-food markets. A full understanding of agribusiness' strategies needs to address the changes brought about by the pandemic on peasant-like farmers and rural workers, the alternatives they have developed (mainly agroecology) in their struggle against the dominant food regime in recent years, and explore the extent to which local expressions of this antagonism are being reshaped. In doing so, we also pay attention to the role of the state.

KEYWORDS

agribusiness, agro-ecology, COVID-19, food regime, state

1 | INTRODUCTION

The global recession caused by the COVID-19 pandemic resulted in an estimated contraction of 4.3% in 2020, a slightly smaller drop than initially forecast (World Bank, 2021). This has thrown millions of people into poverty and unemployment, posing renewed challenges to conventional models of economic growth (Leach et al., 2020). For countries highly dependent on commodity exports, these challenges not only concern the implications of the pandemic for their integration into global agri-food markets but also have serious implications for entrenched issues of food insecurity and the various forms of inequality associated with agribusiness. The pandemic has reinforced contestations to this agricultural hegemonic pattern, reinvigorating debates about its future and the

role agroecology, peasant agriculture, and territorialized markets can play in post-COVID19 recovery (Altieri & Nicholls, 2020; van der Ploeg, 2020). The case of Argentina is particularly telling in this regard, given the structural weakness of its economy, which is greatly dependent on agri-food exports (Féliz, 2019; Wainer & Schorr, 2015). The country's GDP contracted by 10.6% in 2020, and, as in previous crises, many of the forecasts of rebounding growth are based on expectations of a recovery in agri-food exports. In this article, we analyse the strategies that are being deployed by the hegemonic agribusiness sector in Argentina to cope with the dilemmas the pandemic has posed to global agri-food markets. A full understanding of these strategies needs to address the changes brought about by the pandemic for peasant-like farmers and rural workers, the alternatives they have developed (mainly agroecology) in their struggle against the dominant food regime in recent years, and explore the extent to which local expressions of this antagonism are being reshaped. In doing so, we also pay attention to the role of the state.

The agribusiness sector in Argentina built its economic strength and political legitimacy through competitive integration into global commodity chains; it prompted Argentina's relatively diversified agri-food system to shift towards a few flex-crops in the 1990s (Borras et al., 2016). A major player in the world soybean market (accounting for 15% of world bean production and 27% of vegetable oils), Argentina's reliance on the exports of the soy complex is enormous: in 2019, they accounted for 26% of exports by value. The so-called "soy-ization" of Argentina's agriculture accelerated concentration, social differentiation, and dispossession, threatening the social reproduction of many small farms (Gras & Hernández, 2014; Lapegna, 2016), which nevertheless still represent 66% of total farms, according to the 2018 census.¹ Agroecology has been a significant component among the strategies developed by some small farmer organizations. Joining environmental and grassroots popular movements in their struggles against agribusiness, these organizations promote an alternative model based on environmentally sustainable and non-exploitative production, food sovereignty, and fair trading conditions.

The state has played a fundamental role in the consolidation of agribusiness and the reinforcement of an economic model rooted in commodity production (Gras & Hernández, 2016). Neoliberal governments removed regulations on capital, land and labour markets, eliminated taxes on exports, and reduced farm subsidies and trade protections, paving the road for a renewed integration into the global food regime (Pechlaner & Otero, 2010). Left-wing governments relied on the rents produced by agri-export commodities to meet redistributive needs and did little to shift away from this model; in fact, during their administrations, the agri-export boom gained momentum (Gras & Hernández, 2016; Lapegna, 2017). However, they also created programmes and public agencies to support peasant-like farming. The recognition of what since then has been called "family agriculture" helped this sector's "participation in the public fora" (Lapegna, 2017, p. 321). This participation has been of decisive importance in advancing an agenda of transitioning towards agroecology.

Our hypothesis is that in response to the frictions and contradictions of global agri-food chains that have been exacerbated by the pandemic, agribusiness actors in Argentina have rapidly developed strategies clearly aimed at increasing their participation in global markets and strengthening their power at national level. We will also argue that the emerging scenario raises new questions regarding (i) the alliance of family agriculture and environmentalist organizations aiming to lead an alternative national agrarian model and (ii) the role of the state faced with various urgent needs. The latter include the need to avoid further financial instability, sustain programs to protect the most vulnerable, promote the incipient recovery of some economic activities (for which it largely relies on the incomes from agro-exports), and at the same time address concerns of family agriculture organizations, a part of the newly elected government's powerbase.

In what follows, we first address the main policies developed by the state to face the pandemic and analyse its impacts on agribusiness, farmers, and rural workers. We then focus on the strategies developed by agribusiness and family agriculture organizations to face the crisis and influence post-COVID-19 recovery paths. The concluding section highlights challenges posed by the major contradictions of the global food regime catalysed by the pandemic.

2 | AGRICULTURE AND COVID19: BETWEEN COMMODITIES AND FOOD

When the pandemic began, Argentina was already experiencing a long-term socio-economic crisis. Its GDP fell by 6% between 2018 and 2019 alone, while its debt amounted to 90% of GDP.² In 2019, domestic prices rose by 53.8%, the largest annual increase since 1991, mainly driven by food prices (+52%). Around 10 million people, 35.5% of the population, were poor, of whom 2.2 million were in extreme poverty. On taking office in December 2019, President Fernández's administration launched the *Argentina contra el Hambre* program (*Argentina Against Hunger*), a major initiative to relieve the condition of millions. A key mechanism of this program is the distribution of a "food card" to nearly 1.5 million households. Severe containment measures to limit the spread of COVID-19 were established through the *Aislamiento Social Preventivo y Obligatorio* (Preventive and Obligatory Social Isolation, ASPO) on March 20, 2020, worsening the crisis. Economic activity contracted by 11.3% during 2020, despite a moderate recovery in the industrial sector (mainly agri-food production) from October. Unemployment climbed to 11.7% while 23% of the employed population were seeking to work more hours per week, and poverty reached 41%. In the Buenos Aires Metropolitan Area (AMBA), where 29% of the population lives, 20% of households experienced food insecurity, a sharp increase compared with 2019 (7.4% of households) (ODSA, 2020).

The government developed a wide range of initiatives to mitigate the immediate effects of the ASPO. In total, the budget allocated to social programs during 2020 amounted to 3.5% of GDP.³ Public assistance covered a significant share of the population and mostly prevented extreme poverty from worsening (ODSA, 2020). However, high food inflation prices (+42% in 2020) hampered the effects of cash transfers, prompting poorer households to cut their spending via strategies such as further limiting their consumption of unprocessed food, which is more expensive (Craviotti, 2020). In this context, the collaboration between family agriculture organizations and popular movements led to the creation of a network of "comedores populares" (soup kitchens). Through this network, the Union of Land Workers (Unión de Trabajadores de la Tierra or UTT), one of the more active organizations, donated more than 130,000 kilos of fruit and vegetables in the AMBA's most vulnerable neighbourhoods.⁴ Market networks connecting family agriculture organizations, social movements, and middle- and high-income consumers in big cities have also expanded during the pandemic. Supported by urban groups and institutions who organize sales and logistics, they show the emergence of alternative market channels for family agriculture, favoured by consumers' increasing concern about what they eat. These networks mainly involve groups of organized farmers living near big cities (Craviotti, 2020). For farmers in less inhabited areas, lockdown restrictions constituted a hurdle to accessing local markets (González & Petz, 2020).

Several reports document an increase in the demand for production from family agriculture (Craviotti, 2020; INTA, 2020); they also highlight the various difficulties these farmers have had meeting this demand (i.e., lack of infrastructure and technical support). In many cases, this led to them overworking at the expense of their own welfare (González & Petz, 2020, p. 28). It is worth highlighting that the existing information on the number of farmers and organizations involved in these alternative markets and the quantity of fresh food they supply is scattered and incomplete, preventing us from forming an accurate picture of the impact of family agriculture. Based on the 2002 census, Obschatko et al. (2007) estimated that petty commodity farmers contributed 10% of national Agricultural Gross Product; data currently available from the 2018 census do not yet allow an updated estimate.

However, the pandemic has helped to further strengthen its social and political recognition, contributing to a greater acknowledgement in society of the food model they promote as opposed to that of agribusiness. As in other parts of the world, since the beginning of the 20th century, peasant resistance to agribusiness has converged with environmental struggles. Food sovereignty and environmental justice issues are conveyed in their actions and demands (Borras et al., 2018; Claeys & Edelman, 2019), and they frame policies for the transition to agroecology as a major component of alternatives to the dominant food regime. In Argentina, the political interaction between movements also elicited support from academic researchers, educators, unions, and political activists. The creation of the Forum for a National Agrarian Program in 2019 is a clear example of this.

President Fernández's government relied on these movements to come to power. Family agriculture organizations gained access to areas of the administration connected to their concerns (i.e., the Secretary of Family, Peasant and Indigenous Agriculture and the presidency of the Central Market of Buenos Aires, the main wholesale channel for fruit and vegetables in the country). Food and social development programs have incorporated family agriculture organizations as leading actors, and their participation in public purchases of food is promoted (although yet not implemented).

As the socio-economic crisis intensified with the unfolding of the pandemic and support measures increased, agribusiness outcomes became crucial for the government.⁵ Defined as “essential” activity, agri-food production continued without major disruption. Initial problems caused by a lack of imported inputs (fertilizers) and delays in transporting production to ports were quickly resolved.⁶ Between January and November 2020, agro-industrial exports increased by 5.2% in volume, and exports of products from the soybean, corn, wheat, and meat complexes contributed 53% of total exports by value.⁷

It is worth highlighting that these outcomes did not benefit workers. COVID-19 cases were reported among those employed in agri-food plants (Craviotti, 2020). Wage negotiations were suspended or postponed and raises scarcely compensated for inflation. Conflicts over wages have been reported in dairy, oil-processing, and grain export plants, while jobs were cut in meat production (Villulla, 2020). It should also be pointed out that despite the restrictions on mobility, the expansion of commodity frontiers and the “cleaning” of native forests continued in various areas of the Chaco region (González & Petz, 2020).

3 | RISK CAN MEAN BUSINESS OPPORTUNITIES (FOR AGRIBUSINESS CORPORATIONS)

As in many other parts of Latin America, agribusiness in Argentina wields a significant influence on economic and political agendas. Their influence and lobbying capacity operates through a complex web of associations, political party spokespersons, and allies in the media and sciences (Gras & Hernández, 2016). Agribusiness actors have thus managed to create acquiescence and confront contestations from environmentalists and family farmers.

Their power to do so becomes evident when analysing the present conjuncture. Right after the ASPO was established, agribusiness' main organizations made public their “Strategy for the Reactivation of Inclusive, Sustainable and Federal Agro-industrial Exports,” elaborated by the recently created Argentine Agro-industrial Council (CAA). The CAA also includes entities from finance and related services. The strategy proposed by the CAA outlines a series of measures regarding market regulation, taxes, and financial and technological support to promote exports. In July 2020, the government was presented with a bill sketched by the CAA based on this initiative. The bill also assembles postulates from the Inter-American Development Bank's “technological agriculture” (AgTech)⁸ agenda. Led by knowledge-economy actors, this paradigm stands on the social and territorial embeddedness of market technologies (blockchain, genetic editing, digitalization of ecosystems, and automation of physical processes); the “cartelization” of AgTechs (Grupo ETC, 2013) has not only allowed a few firms to control what and how to produce but also has convinced farmers that these technologies are essential and desirable (Hernández, 2015). AgTech is the Inter-American Development Bank's offshoot of Gates Foundation's AgOne, described by Shiva et al. as “the ultimate monoculture of the mind which has already devastated agriculture around the world through the extinction of species and the extinction of knowledge and cultures” (2020, p. 16). AgTechs have been the subject of critical discussions due to the negative consequences of glyphosate-spraying on human health, the loss of biodiversity caused by the expansion of commodity production and deforestation, and the emergence of diseases associated with intensive meat production on large-scale farms (Altieri & Nicholls, 2020).

While the agro-industrial development bill awaits discussion in Congress, the Fernández administration and the CAA launched the so-called Memorandum of Understanding with China, the first agro-export project elaborated during the peak of the pandemic. Following AgTech's premises, the Memorandum establishes an agreement to produce

900,000 tons of pork in 25 large-scale farms in Argentina, financed by Chinese partner companies. Supporters of the initiative deploy arguments of economic development for pork producers, who are mainly small-scale farmers, and job creation.⁹ Opponents, on the other hand, underline the following environmental impacts: in order to produce 900,000 tons of pork, the current stock of swine would have to be increased by almost 10 million, while livestock feed would demand additional production of “more than 2,200,000 tons of corn and around 750,000 tons of soybeans” and the use of large amounts of water (FARN, 2020, p. 3). GHG emissions would double compared with present levels (FARN, 2020).

Although there are still uncertainties about how this initiative will evolve, we propose that the memorandum is a key example that helps us to unravel the effects of the pandemic on the global food system and the interrelated nation-state level. It reveals the ways in which global food geopolitics—now not only driven by food, energy, and financial issues but by health and environmental concerns as well—affect the contours of national historical antagonisms and political processes, creating new dilemmas for the state, agribusiness, and peasant-like farmers. The implications of these ongoing changes need attentive investigation. Here, we sketch the main frictions and contradictions that may characterize “back to normal” scenarios.

The projected Chinese investment in pork production in Argentina can be understood as an offshore food production strategy. South America, and particularly Argentina, is a major target for China's food security policies. Argentina has been free of swine fever since 2018 and has considerable grain production and water availability. Until 2019, China produced animal proteins, importing grains for feed. But after repeated health crises (Altieri & Nicholls, 2020) that led to the elimination of 50% of its swine stock, the Chinese government fostered pork firms to search for new markets to meet its demand for pork meat (GRAIN, 2020). With this shift, China expects to meet domestic needs by developing strategies to control production in countries with high productive potential. China could provide its population with cheaper animal proteins (the cost of domestic meat production is US\$2.00/kg, while it is estimated that in Argentina that cost could be as low as US\$0.70/kg) and also outsource the environmental and health impacts of intensive pork farms.

In Argentina, the government and agribusiness welcomed China's offshore food production strategy as a business opportunity (for the latter) that would foster local economic development. It is also a threat to existing calls for a transition to agro-ecology as well as to the political alliance between the government and environmental and family agriculture organizations. As mentioned before, alternative food production systems are far from widespread in Argentina and their expansion demands strong and decisive state support. Within this type of large-scale agro-export initiative, the hurdles for such a transition come to the fore.

At a global scale, offshore food production—as exemplified by China's intention of “outsourcing” pork production—offers insight on how the relocation of production, the introduction of AgTech innovations and renewed mechanisms of farm financialization are being touted as solutions not only to food shortages but also to health and environmental issues. Thus, the idea of “one health” (human and environmental), which emerged from critical responses to agribusiness, could, surprisingly, become the best strategy for reinforcing “business-as-usual” (IPES, 2020).

In the case of the memorandum, the Argentine government foresees it as an opportunity to boost the country's fragile economy. For the agribusiness lobby, the benefits are sound: besides developing new export markets for pork, grain production would be processed into animal feed locally, considerably increasing grain producers' incomes¹⁰ while helping to absorb commodity market shocks. Spill-over arguments are also put forward, mainly the creation of 9500 jobs in rural areas, benefitting local economies and preventing rural–urban migration.

There are significant questions about the distributive effects of agribusiness. In Argentina, agribusiness expansion has increased wealth concentration and inequality (Gras & Hernández, 2016): it is worth recalling that between 1988 and 2018, the total number of farms decreased by 40% while the average farm size rose from 469 to 689 ha. As regards swine production, breeding is concentrated in a small group of farms with over 50 sows, which represent 3.6% of the total farms and control 44.4% of total sow stock. Slaughter is also dominated by a few establishments (5% account for 67% of slaughtered animals), while five companies control 82% of exports.¹¹ The pork megafactory

project will increase concentration: the outlined technological model will probably exclude small-scale farms while greater capital requirements in the operation of farms will affect the price of pork for domestic consumption. In addition, even when this type of large-scale export project could provide much-needed fiscal resources, the environmental clean-up and public health costs derived from soil and water contamination would erode them. The key role of finance in shaping such offshore food production platforms should also be stressed. In the case of the memorandum, the swap line that China made available to Argentina (US\$18,700 million) in 2008 has been periodically renewed, most recently in August 2020, which coincidentally is when the Memorandum was being discussed. The question becomes: under what conditions could the Argentine state eventually renegotiate the agreement with its Central Bank's major backer?

The way agribusiness is using Argentina's crisis (and the COVID-19 crisis) to accelerate business-as-usual solutions challenges the political alliance of family agriculture organizations and the Fernández government. This alliance was crystallized in the electoral promise of promoting "a system of food sovereignty that supports sustainable agriculture,"¹² which for family agriculture organizations meant developing policies to foster the transition to agroecology. Initiatives such as the mega-pork farms not only threaten this promise, they also create new dilemmas for these organizations regarding the government's support for peasant-like farmers. Agrarian and environmental issues have been the object of the political action of these organizations; these kinds of initiatives alter the political construction of this convergence (built over recent years) in ways that need further investigation. In fact, the Chinese project elicited different positions within family agriculture organizations. Some have proposed switching from 25 mega-farms to a scheme based on small-scale farms, cooperative work, environmentally sustainable technologies, and state participation in key links of the agro-industrial chain.¹³

Nevertheless, most have firmly opposed the government's agreement with China. The campaign they led together with environmental movements against the Memorandum was intense, preventing it from entering into force for the time being. Faced with confrontation from part of its powerbase, the government seems to have opted for secrecy, and it is local administrations who have taken steps to close business deals with Chinese firms. The government of Chaco was the first to do so; with one of the highest poverty rates in Argentina and a significant concentration of small-scale farms, this province has large areas of woodlands, dry forests and wetlands that are considered major reservoirs of biodiversity. Three mega-pork factories are planned here: it is estimated that 36,000 sows will be produced, with each farm requiring 32,000 tons of soy and 87,400 tons of corn for feed, and employing 360 people.¹⁴

The mega-pork factories are an example of how agribusiness is reinventing its way forward. As announced by the Argentine Foreign Ministry, similar agreements are also being analysed for poultry and fish production. A post-COVID-19 agro-export-based economic recovery seems to entail accepting further ecological sacrifice and assuming health risks.

4 | CONCLUDING REMARKS

The pandemic has unleashed concerns about the occurrence of more frequent and dangerous health crises in future. In this context, offshore food production appears as a plausible strategy both for agribusiness corporations to increase their profits and for governments to ensure their populations' food security. Nonetheless, for states and economic actors in the Global South, such a strategy further narrows their scant capacity to negotiate fairer terms of exchange and limit the environmental and health impacts of the activities carried out within their borders. In the case of Latin America, concentration, dispossession and environmental and climate crisis increased during the golden years of rocketing international commodity prices, even when the "pink tide" of leftwing leaders swept the region (Kay & Vergara-Camus, 2018). Hence, it is not much of a stretch to assume that in the current crisis, reinvented solutions such as those addressed here will only worsen these situations dramatically. Moreover, the World Bank (2021) estimates that recoveries in export-oriented countries will be subdued in the coming years.

The logic underlying the memorandum with China can also be found among the strategies developed by global corporations in various other parts of the world, as is shown by a wide range of examples from Danish mega-farms in Eastern Europe to those of the Brazilian giant JBS in several continents (GRAIN, 2020). The socio-economic and environmental impacts of intensive animal production systems are bound to be deepened by the offshoring of risks and the use of AgTech's artificial intelligence.

Contestations from peasant organizations, environmental and feminist movements, political activists, and other civil society groups demand that *sustainability be built from below* (Fossa Riglos et al., 2020). Among the necessary steps on this path, agroecology emerges as a major component for the shift from industrial agriculture and agribusiness to sustainable food systems that can make our societies “stronger and more resilient in the face of pandemic, recession, and climate emergency” (Altieri & Nicholls, 2020, p. 7). Unmasking the rhetoric of AgTech, Shiva et al. advocate for an agriculture based on the “multiple and diverse intelligence in nature and society [...] the intelligence in nature and her diverse living beings, the intelligence in the soil food web, the ecological intelligence of farmers and women” (2020, p. 12).

As the COVID-19 crisis unfolds, awareness of the socio-ecological weaknesses of industrial agriculture has increased around the world. However, as discussed here, responses to the crisis create new dilemmas for the re-founding of food systems that have implications for both research and political action (Borras et al., 2018). Our analysis suggests that these dilemmas demonstrate the urgent need not only to overcome the socio-ecological weaknesses of industrial agriculture exposed by the pandemic (Altieri & Nicholls, 2020; IPES, 2020), but also to confront the ideological hegemony of market-led technological solutions to environmental crises (Gras & Cáceres, 2020). A *planned* transition carried out *from below* is needed to change the deadly trajectory that humanity is on at present (Jappe, 2019). Collaboration between state and social forces will become crucial to consolidating agro-ecological food systems and fair cooperation dynamics in a new food regime.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study were derived from resources available in the public domain (listed in footnotes in main document).

ORCID

Carla Gras  <https://orcid.org/0000-0002-4426-1849>

Valeria Hernández  <https://orcid.org/0000-0003-4890-3519>

ENDNOTES

- ¹ Farms up to 200 ha, usually associated with family farming in Argentina, control just 5% of the nation's agricultural land. Meanwhile, farms of over 10,000 hectares represent 1% of total farms and control 36% of the nation's agricultural land.
- ² <https://www.argentina.gob.ar/economia/finanzas/presentaciongraficadeudapublica>
- ³ <https://www.opc.gob.ar/covid-19/impacto-financiero-del-covid-19-al-5-de-octubre-2020/>. Accessed on 01-19-2021.
- ⁴ <https://uniondetrabajadoresdelatierra.com.ar/2021/01/09/lo-que-el-2020-nos-dejo/>. Accessed on 01-19-2021.
- ⁵ Agribusiness production helped to mitigate the decline in economic activity. Between January and September 2020, economic activity dropped by 11.8% year-on-year, but that figure climbs to 12.3% if agriculture is excluded (<http://www.economia-geres.com/img/showcase/dic2020.pdf>). Accessed on 01-21-2021.
- ⁶ <https://news.agrofy.com.ar/noticia/186352/cosecha-se-recupera-ingreso-camiones-puerto-y-descartan-rumores-cierre>
- ⁷ https://www.indec.gob.ar/uploads/informesdeprensa/complejos_09_2019EFF155A1.pdf
- ⁸ Microsoft, Bayer, Corveta, and the Inter-American Development Bank, among other companies and institutions, are part of the AgTech plan. <http://www.biodiversidadla.org/Documentos/El-socio-menos-pensado-Bill-Gates-desembarca-en-el-sistema-agroalimentario-argentino>
- ⁹ <https://www.telam.com.ar/notas/202008/498399-el-acuerdo-con-china-para-producir-carne-de-cerdo-preve-inversion-de-us-3800-millones.html>

- ¹⁰ It is estimated that while corn FOB price is approximately US\$150/ton, pork FOB price amounts to US\$2000/ton (producing one ton of pork requires three tons of corn).
- ¹¹ https://www.magyp.gob.ar/sitio/areas/porcinos/estadistica/_archivos//000005-Anuario/180000-Anuario%202018.pdf
- ¹² <https://www.frentedetodos.org/plataforma>
- ¹³ <https://www.resumenlatinoamericano.org/2020/12/22/argentina-por-que-hay-que-temerle-a-las-megagranjas-porcinas/> Accessed on 01/31/2021.
- ¹⁴ <https://www.tn24.com.ar/2020/10/chaco-pondra-en-marcha-complejos-productivos-porcinos-de-exportacion/>. Accessed on 01/25/2021.

REFERENCES

- Altieri, M., & Nicholls, C. (2020). Agroecology and the reconstruction of a post-COVID-19 agriculture. *The Journal of Peasant Studies*, 47, 881–898. <https://doi.org/10.1080/03066150.2020.1782891>
- Borras, S. Jr., Franco, J., Isakson, S. R., Levidow, L., & Vervest, P. (2016). The rise of flex crops and commodities: Implications for research. *The Journal of Peasant Studies*, 43(1), 93–115. <https://doi.org/10.1080/03066150.2015.1036417>
- Borras, S. Jr., Moreda, T., Fradejas, A., & Brent, Z. (2018). Converging social justice issues and movements: Implications for political actions and research. *Third World Quarterly*, 39(7), 1227–1246. <https://doi.org/10.1080/01436597.2018.1491301>
- Claeys, P., & Edelman, M. (2019). The United Nations declaration on the rights of peasants and other people working in rural areas. *The Journal of Peasant Studies*, 47(1), 1–68. <https://doi.org/10.1080/03066150.2019.1672665>
- Craviotti, C. (2020). Réflexions sur l'impact de la pandémie en Argentine et la possibilité de renforcer les systèmes alimentaires locaux. To be published in <https://www.rmt-alimentation-locale.org/eclairages>
- FARN. (2020). ¿Cerdos para China made in Argentina? Acerca del posible acuerdo de producción y exportación de carne porcina a la República Popular China. <https://farn.org.ar/cerdos-para-china-made-in-argentina/>
- Féliz, M. (2019). Neo-developmentalism and dependency in twenty-first-century Argentina insights from the work of Ruy Mauro Marini. *Latin American Perspectives*, 46(1), 105–121. <https://doi.org/10.1177/0094582X18806588>
- Fossa Riglos, F., Serpe, P., Spinoso, N., & Hernández, V. (2020). Sustainability as a social encounter. In B. Pattnaik (Ed.), *Environmental and ecological sustainability through indigenous traditions*. Singapore: Springer Nature. (Forthcoming)
- González, L. & Petz, I. (2020). Argentina. Impacto de la pandemia COVID-19 en los mundos rurales. *Latino América rural frente a la pandemia*, Boletines Grupos de Trabajo, CLACSO.
- GRAIN. (2020). Building a factory farmed future, one pandemic at a time. <https://www.grain.org/en/article/6418-building-a-factory-farmed-future-one-pandemic-at-a-time>
- Gras, C., & Cáceres, D. M. (2020). Technology, nature's appropriation and capital accumulation in modern agriculture. *Current Opinion in Environmental Sustainability*, 45, 1–9. <https://doi.org/10.1016/j.cosust.2020.04.001>
- Gras, C., & Hernández, V. (2014). Agribusiness and large-scale farming: Capitalist globalisation in argentine agriculture. *Canadian Journal of Development Studies*, 35(3), 339–357. <https://doi.org/10.1080/02255189.2014.933702>
- Gras, C., & Hernández, V. (2016). *Radiografía del nuevo campo argentino: del terrateniente al empresario transnacional*. Buenos Aires, Argentina: Siglo XXI. pp 280.
- Grupo ETC. (2013). El carro delante del caballo: los cárteles de la agricultura transforman el mundo. <http://www.etcgroup.org/es/content/el-carrodelante-del-caballo-los-c%C3%A1rteles-de-la-agricultura-trastornan-el-mundo>
- Hernández, V. (2015). Empresas, innovaciones y mercado de agroinsumos: del producto al consumidor. *Revista de Ciencias Sociales*, 28(36), 99–120.
- INTA (2020). La agricultura familiar y el abastecimiento de alimentos en el contexto de pandemia y la emergencia alimentaria. INTA'S Webinars. <https://youtu.be/Xfns1iNKM-o>
- IPES-FOOD. (2020). COVID-19 and the crisis in food systems: Symptoms, causes, and potential solutions. http://www.ipes-food.org/_img/upload/files/COVID-19_CommuniqueEN.pdf
- Jappe, A. (2019). La sociedad autófaga. In *Capitalismo, desmesura y autodestrucción*. La Rioja, Spain: Pepitas de Calabaza. pp 336.
- Kay, C., & Vergara-Camus, L. (2018). *La cuestión agraria y los gobiernos de izquierda en América Latina: Campesinos, agronegocio y neodesarrollismo*. Buenos Aires, Argentina: CLACSO, pp 402. <https://doi.org/10.2307/j.ctvn96g0z>
- Lapeña, P. (2016). *Soybeans and power. Genetically modified crops, environmental politics and social movements in Argentina*. New York, USA: Oxford University Press, pp 237. <https://doi.org/10.1093/acprof:oso/9780190215132.001.0001>
- Lapeña, P. (2017). The political economy of the agro-export boom under the Kirchners: Hegemony and passive revolution in Argentina. *Journal of Agrarian Change*, 17(2), 323–329.

- Leach, M., MacGregor, H., Scoones, I., & Wilkinson, A. (2020). Post-pandemic transformations: How and why COVID-19 requires us to rethink development. *World Development*, 138(2021), 105233. <https://doi.org/10.1016/j.worlddev.2020.105233>
- Obschatko, E., Foti, P. & Román, M. (2007). Los pequeños productores en la República Argentina Importancia en la producción agropecuaria y en el empleo en base al Censo Nacional Agropecuario 2002. PROINDER-IICA.
- ODSA. (2020). *Crisis en las ocupaciones, inseguridad alimentaria y caída en los ingresos familiares en contexto COVID-19 en el AMBA*. Buenos Aires, Argentina: Universidad Católica Argentina.
- Pechlaner, G., & Otero, G. (2010). The neoliberal food regime: Neoregulation and the new division of labour in North America. *Rural Sociology*, 75(2), 179–208. <https://doi.org/10.1111/j.1549-0831.2009.00006.x>
- Shiva, V., Anilkumar, P., & Ahluwalia, V. (2020). *Ag-one: Recolonisation of agriculture*. New Delhi, India: Navdanya/RESTE. pp 32.
- van der Ploeg, J. (2020). From biomedical to politic-economic crisis: The food system in times of Covid-19. *The Journal of Peasant Studies*, 47, 944–972. <https://doi.org/10.1080/03066150.2020.1794843>
- Villulla, J. M. (2020). *La crisis del COVID-19 y el mundo del trabajo en las cadenas agroindustriales argentinas. Trabajo agrario y ruralidades en transformación*. Buenos Aires, Argentina: Boletines Grupos de Trabajo, CLACSO.
- Wainer, A., & Schorr, M. (2015). Algunos determinantes de la restricción externa en la Argentina. *Márgenes, Revista de Economía Política*, 1(1), 33–54.
- World Bank. (2021). Global economic prospects. January. World Bank Group. <https://doi.org/10.1596/978-1-4648-1612-3>

How to cite this article: Gras C, Hernández V. Global agri-food chains in times of COVID-19: The state, agribusiness, and agroecology in Argentina. *J Agrar Change*. 2021;21:629–637. <https://doi.org/10.1111/joac.12418>