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Ag 1110
10/23/24

Global Agricultural Transportation

As many of us are unaware of the process of how food is grown, harvested, processed, and transported to the grocery stores, the Youtube video “Agriculture: How Transportation Keeps U.S. Farmers Competitive in a Global Market” explains just as the name implies. Focussing on the soybean agriculture production, the video shows the process of how farmers depend on a multi-modal transportation network in order to stay efficient and competitive in the business. The wide range of transportation modes and vehicles used include trains, trucks, barges, and ships. The variety of transport systems allow the farmers to ship and remain competitive globally, with one of the largest international markets for soybeans being Asia. Although the different means of transport are what allow advantages and efficiency when transporting within the market, challenges such as deteriorating infrastructure are a constant obstacle that these farmers face. Deteriorating infrastructure can cause shipment delays which in turn puts the profitability and competitiveness of the crops at risk, this can be due to a plethora of things, but very commonly is due to aging bridges. “Aging infrastructure can drive up shipping costs even more. Most farmers ship their products in bulky freight trucks that need smooth, wide roads.Crumbling roads and collapsed bridges often force farmers to divert their shipments on less-than-ideal routes, increasing fuel expenses” (Marsh, 2023). Another aspect to consider is that alternative routes may be longer, which would require trucking companies to pay their driver more. As shipping costs increase for farmers, this leaves less profit per harvest to be able to put towards the next season's crops.

Not only are consumers unaware of the transportation of their produce, most are also probably unaware of the negative impacts to the environment that farming has. Transportation alone increases the shipping costs for farmers, but it also contributes to a considerable amount of fossil fuel dependency. “While our food system can provide more food, it is now more dependent than ever on finite resources and inexpensive fossil fuel energy” (Earth Overshoot Day, n.d.). Not only does the agriculture processing of the produce rely on fossil fuels, but the transportation does as well. “In industrial agriculture, crops are dependent on large amounts of nitrogen fertilizers, petroleum-based agricultural chemicals, pumps that run irrigation, diesel for machinery, and oil for food distribution across the world” (Earth Overshoot Day, n.d.). But there are also hidden ways that agriculture is heavily reliant on fossil fuels as “Pesticides are also produced from fossil fuels. The most important pesticides until recently were organochlorines such as DDT” (Tauger, 2020, 171). Pesticides play a significant role in effectively killing insects, however this also increased the cancer rates as DDT residues were found on imported foods. Many fertilizers are also fossil fuel dependent, this came about as soil fertility declined over time. Through the use of fertilizers, there had been a huge increase to the yield of crops. This amount has made it possible for over two billion people to survive than what was thought to be possible. Although this is needed in order to continue growing crops, fertilizer has been estimated to be responsible for about 5 percent of the global emissions. “Manufacturing fertilizer requires immense energy input, primarily from power plants that burn fossil fuels and emit carbon dioxide (CO2); scientists have even estimated that producing the ammonia needed for fertilizer generates more CO2 than any other industrial chemical reaction. (Union of Concerned Scientists, 2023). As such a high number of the food consumed in the world has had fertilizers, pesticides, been processed, and or transported in some way, the amount of fossil fuels used solely

for agricultural production is so significant. This is typically something consumers would not give a thought towards, but it is a very important thought to keep in mind.

References

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