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Cheryl Laskowski, Ph. D.
Chief, Transportation Fuels Branch
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

Via electronic submission

Re: Potential Changes to the Low Carbon Fuel Standard

Dr. Laskowski:

Thank you for the opportunity to comment in response to the California Air Resources Board's (CARB) public workshop on February 22, 2023, on "Potential Changes to the Low Carbon Fuel Standard." The National Oilseed Processors Association ("NOPA") appreciates being able to share our observations. NOPA members have a vital interest in these issues.

Organized in 1930, NOPA represents the U.S. soybean, canola, flaxseed, safflower seed, and sunflower seed-crushing industries. NOPA's membership includes 12 members that are engaged in the processing of oilseeds for meal and oil that are utilized in the manufacturing of food, feed, renewable fuels, and industrial products. NOPA member companies operate a total of five softseed and 60 solvent extraction plants across 21 states. NOPA members crush approximately 95% of all soybeans processed in the U.S.

NOPA members' oilseed processing operations yield protein-rich meal for human and animal nutrition, as well as vegetable oil that is used as an ingredient in food manufacturing and as a feedstock for renewable fuels such as biodiesel, renewable diesel and sustainable aviation fuel (SAF). These sustainably produced biofuels help reduce carbon dioxide equivalent (CO₂e) greenhouse gas emissions and the carbon intensity of transportation fuels in use today. NOPA is uniquely qualified to respond to the concerns CARB staff raised during the public workshop about deforestation and food production given the number of markets that NOPA members serve, including the food, feed, fuel, and industrial markets.

NOPA supports California's Low Carbon Fuel Standard (LCFS) which drives demand for biodiesel, renewable diesel and SAF, and encourages investment in low carbon feedstocks and value-added agricultural opportunities. Biomass-Based Diesel (BBD) is the largest domestically produced and commercially available fuel to meet the U.S. EPA's definition of an advanced biofuel under the federal Renewable Fuel Standard (RFS) and provides one of the best carbon-reduction strategies for diesel engines available with today's vehicle technologies.

CARB's stated concerns about land use and food availability do not accurately or adequately reflect the oilseed processing industry's ability to meet and exceed expected food, feed, and industrial market demand. Any discussion about artificially limiting crop-based biofuels could significantly challenge food security and slow the growth trajectory for low-carbon, advanced biofuels and feedstocks and put into question the viability of investments the oilseed processing industry is making to increase supply – investments which

ultimately will be needed to achieve the necessary reduction of greenhouse gas emissions in California and the U.S.

NOPA members and their value-chain partners are making significant investments to produce the vegetable oil quantities needed to meet all the demands of biofuel, feed, and food customers. As critical feedstock suppliers to the renewable fuels industry, our industry has announced well over \$6 billion in soybean crushing capacity investments since 2021 encompassing some 20 or more expansions or new facilities. These projects are currently on track to increase soybean crush capacity by over 30% between 2023-2026. Collectively, these projects will provide enough additional feedstock to support a 1 billion gallon increase in BBD capacity over the next several years, **without impacting food or land use**.

By way of background, soybeans are divided into meal and oil when crushed. Soybean meal (approximately 80% of the bean) is primarily used as a high-protein animal feed and in plant-based foods, but it is also an ingredient in plastic composites, synthetic fiber, paper coatings, adhesives, and more. Soybean oil (the remaining 20%) is the only part of the soybean used in biodiesel and renewable diesel, though its versatility affords many uses in addition to edible oil.

This increased capacity will be largely supported by improving the yields from existing acreage already farmed with oilseed crops, increasing the amount of oil produced by such crops and regenerative farming practices, such as cover crops, which reduce the carbon intensity of agricultural practices and, in some cases, utilizing soybeans that are destined to export markets.

In addition to the impact of anticipated increases to soybean crush capacity, data presented at CARB's workshop does not account for increased canola oil production. Since early 2021, more than \$1.5 billion of additional canola processing capacity has been announced in Canada¹. Several of these announced capacity enhancements are already under construction and, by 2026, processing capacity is forecast to grow by over 50%. This translates into more than 650 million gallons of additional canola oil that will be available for both food and low carbon fuel markets.

In short, there will be more than enough feedstock available for increased BBD production as well as other market segments through 2025 and beyond. And this will continue to be accomplished without impacting food or land use.

In the workshop presentation, CARB staff asked, "what indicators or resources should CARB monitor to understand if our programs are not having adverse impacts on land use or food availability?" NOPA continues to remind CARB staff that it has already adequately accounted for land use and food price impacts in the development of the LCFS through the incorporation of indirect land use change penalties (iLUC) – values which we would argue continue to be significantly overestimated. Nevertheless, there are several data points and resources which are important for CARB to note.

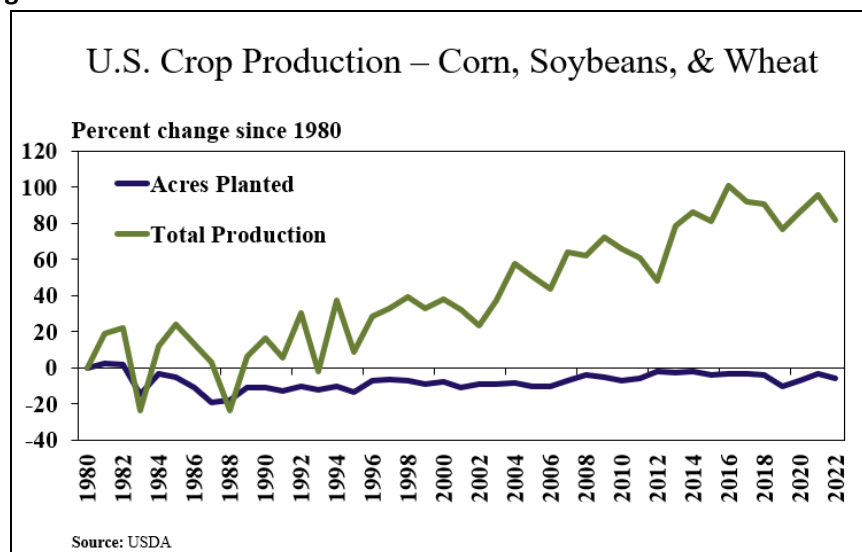
For example, under the RFS, cropland which was not in production by 2007 is not eligible for biofuel production. Due to the economic incentive to capture the value of a Renewable Identification Number (RIN) under the RFS and a credit under the LCFS, virtually every gallon produced under the LCFS qualifies under the RFS and must maintain those land use requirements. Further, EPA established a baseline number of acres for U.S. agricultural land in 2007 and determined that as long as this baseline number of acres is not exceeded, it is "unlikely, based on our assessment of historical trends and economic considerations, that new land outside

¹ <https://www.canolacouncil.org/about-canola/processing-industry/>

of the 2007 baseline is being devoted to crop production.” EPA annually reviews this determination and based on data provided by the USDA Farm Service Agency (FSA) and Natural Resources Conservation Service (NRCS), EPA estimated that U.S. agricultural land reached approximately 382.6 million acres in 2021 and thus did not exceed the 2007 baseline acreage of 402 million acres.

Stated more directly, and as noted in Figure 1, total U.S. agricultural land use today is lower than it was in 1980; lower than it was when the RFS was created; and lower than it was when the LCFS was created. And total crop production has increased on roughly the same amount of land by over 80%.

Figure 1



With respect to iLUC, CARB staff noted during the workshop its particular scientific uncertainty. Indeed, there is some inherent uncertainty in iLUC models, which assume direct relationships between agricultural production, economics, and land conversion. In reality, a wide range of factors affect land use decisions, including international and national policies, armed conflicts, technology disruptions, weather events, energy commodity prices, urbanization, development, and immigration/emigration trends.

Yet as the iLUC value modeling graphs illustrate, values over time show a clear downward trend and convergence around a narrow range that is approximately *two to four times lower* than original estimates. Furthermore, CARB’s most recent modeling of iLUC in 2015 resulted in a value for BBD of 29.1 gCO₂/MJ, which utilized a “shock” for new soy biomass-based diesel production of 812 million gallons of new production – a level almost four times greater than increases seen in the market today. In that modeling, CARB estimated that almost 680,000 acres would be converted in the U.S. and principally from crop and pastureland – an amount, as previously noted, which has not materialized.

Further, according to CARB data, in 2021, soybean oil represented only 2% of biodiesel feedstocks and 16% of renewable diesel feedstocks. Canola oil represented only 1% of biodiesel feedstocks and was not utilized for renewable diesel.

Looking forward, CARB’s modeling framework presented during the Workshop projects a fuel mix with decreasing amounts of biofuel use by 2045 - including a reduction in the use of biodiesel and renewable diesel. While we believe that increasing amounts of low-cost, low-carbon biofuels are necessary to achieve

carbon reduction targets in the transportation sector, if CARB anticipates a downward trend in utilization of biofuels in the future, then concerns about increased demand for vegetable oil feedstocks are unjustified.

While soybean oil is a substantial share of the cost for renewable fuels, the same is not true for food. As a result, the latter is much less vulnerable to the cost of soybean oil since it is generally a small share of the overall cost. As an industry which serves many market segments, including many important food customers, NOPA has a unique perspective – one which our members take very seriously.

It's important to understand the more complex and changing landscape for food, fuel, and feed to fully comprehend the current state of play in our industry. All told, these factors have led to a misplaced perception that positions food, fuel and the environment as zero-sum competing interests.

As market demand for soybean oil increases, the price for soybean meal used in feed and food has consistently remained lower than it would be otherwise. It is important to note that this lowering of price trends for meal means the soybean meal used for livestock animal feed translates to a parallel lowering of price trends experienced by consumers purchasing animal-based proteins as well as plant-based proteins.

In addition, some of the crushing plants are adding the ability to produce refined, bleached and deodorized (RBD) soybean oil, and multiple renewable diesel plants are putting in feedstock pretreatment to eliminate their need for the RBD oil that the food sector uses. Simply put, the processing industry is growing to provide soybean oil for steady food use and expanding fuel use.

The discussion around the substitutability of vegetable oils also overestimates the marketplace elasticity for oils and does not account for factors such as the phaseout of partially hydrogenated vegetable oil, which reduced demand for soybean oil in food applications and caused manufacturers to seek alternative formulations. The food industry has adjusted and is formulating with other oils such as coconut, high oleic soy and high oleic canola, and through other processes like interesterification. New BBD feedstock sources are also being commercialized including jatropha, cottonseed, carinata and pennycress.

U.S. food consumers are also largely insulated from the variations in soybean oil prices. A 2021 analysis by Dr. Jayson Lusk, Director of the Center for Food Demand Analysis and Sustainability at Purdue University,² found that a 1% increase in the price of crude soybean oil would be associated with only a 0.0034% increase in the price of bread, a 0.0048% increase in the price of pasta and a .0154% increase in the price of American cheese. In other words, a doubling of soybean oil prices would only increase the retail price of bread by about one-third of one percent. For comparison, the year over year increase in overall food inflation between June 2022 and June 2021 was 10.4%.

Dr. Lusk found that the net impact of a 10% increase in soybean oil used in biofuels was a mere 0.05% increase in the Consumer Price Index (CPI) “food at home” category. While the soybean oil food changes were small to begin with, they are almost entirely offset by the reductions in meat prices that make up a larger share of the food CPI.

² Lusk, J. L. (2021). *Soybean Oil Prices and Retail Food Costs*. Center for Food Demand Analysis and Sustainability, Purdue University, for the United Soybean Board

Nevertheless, it is also important to note that the Food and Agriculture Organization of the United Nations (FAO) Vegetable Oil Price Index averaged 135.9 points in February, down 4.5 points (3.2%) from January and marking the lowest level since the beginning of 2021.

Conclusion

The body of CARB analysis, and market and scientific data collectively demonstrate that consideration of a cap or limitation on crop-based oil feedstocks is unwarranted. Further, doing so at this point would undercut the investments that are being made and are needed for low carbon feedstocks from the industry expansion. If CARB wishes to spur advancements in reducing emissions from the fuel supply, then it must continue to provide dependable policy signals to stimulate these and other critical private sector investments in clean energy.

A vibrant U.S. oilseed sector, and the advanced biofuels produced from oilseeds, are critically important to lowering the GHG emissions in the United States' and California's fuel supply. Efforts to undercut current policies regarding eligible feedstocks will significantly and negatively impact investments being made in lower carbon feedstocks and fuels.

NOPA is eager to continue working with CARB to support the role of agriculture in diversifying the fuel supply through more sustainable feedstocks and thereby supporting cleaner fuel options in California and beyond. On behalf of America's soybean processors, we appreciate this opportunity to comment, and look forward to collaborating with CARB and other relevant stakeholders to enact policies that will address climate change while expanding the use of soy-based biofuels and market opportunities for soybean farmers.

Sincerely,

A handwritten signature in black ink, reading "Tom Hammer". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Thomas A. Hammer
President
NOPA