RENEWABLE CARBON INITIATIVE
INTERVIEW

ADM

ADM is a global human and animal nutrition company, and one of the biggest processors of food crops worldwide.

Besides food and feed their product portfolio also includes plant-based ingredients to the chemicals and materials industry, which enables formulators to replace petrochemical ingredients and product development engineers to increase plant-based content in their products.

Interview

with **Jan Weernink**
Global Marketing Director – BioSolutions
ADM, USA

Jan Weernink has an extensive background in the (specialty) chemical industry with companies like Dow Chemical, Elementis and Zeneca Specialties and is currently Global Marketing Director with ADM BioSolutions.

Together with the ADM BioSolutions team, he is focused on bringing plant-based ingredients and solutions to the chemical and material science value chain to help address the increasing urgency to tackle and resolve sustainability challenges.

Why should the chemical industry defossilise and shift away from fossil to plant-based feedstock in general?

In simple terms the chemical industry and associated material value chain needs to find ways to reduce and preferably eliminate the emissions of fossil fuel derived CO_2 to address the global climate change. Renewable carbon as feedstock include plant-based, recycling and CO_2 utilisation (CCU).

Do your plant-based ingredients meet the same standards as those based on fossil feedstock? Do you offer solutions that even perform better than the conventional ingredients?

ADM is focused on transforming annual crop into a range of starches, saccharides and other basic ingredients. These typically do not compete with fossil fuel derived feedstock like ethylene, methanol and others.

Our feedstocks enable new catalytic conversion or fermentation process that yield the exact same molecular building blocks compared to the fossil fuel derived building blocks. In essence, the molecule is the same but the pathway is either plant-based or generated through petrochemical processes.

In 2023, the world faces a global hunger crisis with more people facing food-insecurity compared to pre-COVID-19 pandemic levels.

As a producer of food and feed crops for bio-based materials and chemicals, how do you argue that the use of biomass for industrial applications in order to replace fossil feedstock does not necessarily exacerbate food insecurity?

The utilisation of biomass in industrial contexts presents an opportunity to supplant conventional fossil resources, thereby contributing significantly to the imperative reduction of carbon emissions from fossil fuels in our atmosphere, which is crucial for addressing climate change.

While acknowledging the pressing need to address global hunger, employing food and feed crops for the production of chemicals and materials may not necessarily exacerbate food insecurity. In fact, it has the potential to yield numerous benefits for both local and global food security, climate mitigation, and other related aspects. Afterall, we need a healthy environment to continue producing food.

At the EU level, the European Commission has decided to cap biofuels based on food-crops by 2030.

As a major producer of biofuels, how do you see the role of biofuels for decarbonising the transport sector in comparison to e-mobility?

Both bio-fuels and electrification are solutions to help decarbonise and defossilise the transportation sector, as well as trends like low-emission hydrogen and synthetic fuels. Supporting the reduction of CO_2 emissions in shipping, aviation, and heavy-duty land transport is feasible with enhancements in production processes and cost-effectiveness.

Sustainable biofuels can provide further emissions mitigation advantages for terrestrial transportation in the near and intermediate future.

In your sustainability strategy "Strive35" ADM sets reduction goals for energy, emissions, water and waste; ADM aims at reducing scope 1, 2 and 3 GHG emissions by 25 % by 2035 and reach net zero emissions by 2050. ADM has their own transportation fleet which they currently replace with alternative fuel vehicles (running with biodiesel and liquefied natural gas).

Which technologies do you use or are you currently developing to reduce emissions of your products and of scope 3 emissions?

ADM is working with farmers to embrace regenerative agricultural principles to reduce CO_2 emissions and we are continuing to invest in process optimisations leading to reduced emissions. In addition, ADM is

deploying CCS to support reduction of CO_2 emissions as it is a relative short-term impactful solution.

Many of ADM's plant-based solutions are based on soy grown in South America.

How can you guarantee that the biomass for chemicals and materials is sustainably grown and does neither affect ecosystems nor native communities?

Is your soy supply chain fully traceable?

ADM takes pride in its responsible sourcing programs which ensures traceability and supports local practices. ADM has set a goal to be deforestation-free in all of our supply chains by 2025. Improving traceability allows us to monitor our supply chain for deforestation.

For soy in South America, we achieved 100 % traceability in 2022. We have mapped the field boundaries (polygons) of our direct suppliers to the farm. Indirect suppliers are traced to the first aggregation point. We then assess the location of the aggregation point for deforestation within a 50 km radius. Satellite monitoring of the polygons and engagement with growers in our supply chains enable identification of deforestation incidences as well as opportunities for reforestation efforts.

Using our map of direct suppliers' farms and satellite imaging, we measured our deforestation-free volumes in Brazil and priority regions of the Cerrado at 99 % using a 2015 baseline, the year we launched our No-Deforestation Policy. To increase transparency and credibility, the results were verified by a third party. By the end of 2023, we will complete this exercise for our indirect suppliers in Brazil and all suppliers in Argentina and Paraguay.

How does the RCI profit from your membership and where do you see your own role within the RCI?

Given that ADM is a global responsible company and some of our products act as feedstock for the chemical industry. Being part of the RCI helps us to gain a better understanding of the opportunities that are emerging as well as actively support the growth of bio-based materials through renewable carbon principles.