Dear Amanda,

On behalf of the floral industry, I'm writing regarding your Feb. 12, 2024, article, "Why giving roses on Valentine's Day is a bad idea". As CEO of the Society of American Florists, which represents the entire floral industry, from breeders and growers to distributors and retailers, I'm very familiar with the extensive work the industry has undertaken to make environmental and social sustainability a priority.

I appreciate the attention your article brings to the impact of air freight on carbon emissions. However, I would like to offer additional information to provide a more accurate perspective on the flower trade, especially concerning flowers grown in Colombia, where flower farms operate under strict guidelines that successfully minimize and mitigate carbon emissions.

Insights from a scientific study conducted by the Facultad de Agronomía, Universidad Nacional de Colombia, in collaboration with the Departamento de Ciencias Biológicas y Ambientales, Universidad Jorge Tadeo Lozano, provides valuable data on the carbon footprint in the supply chains of Colombian cut flowers, specifically roses and carnations, destined for international markets. The study's objective was to determine carbon footprint ranges using a life cycle analysis approach, with a functional unit of one kilogram of exportable rose and carnation stems produced in the Bogotá Savannah for the markets of England and the United States.

The results indicate that the carbon footprint for cut roses ranges between 0.61 and 2.30 kg CO2 -eq per functional unit, considering the entire production process, including raw material extraction to airplane delivery. When factoring in air transport to Miami, the carbon footprint ranges between 2.16 and 6.44 kg CO2 -eq per functional unit and between 0.127 and 0.26 kg CO2 -eq per exportable cut stem (see Table 1). These values are significantly lower than those cited in The Washington Post article (71 lbs. CO2e).

Table 1. Carbon footprint values (kg CO2-eq * UF-1 and kg CO_2-eq * stem) of the analyzed rose production farms

Escenario (Property)	kg CO_2 -eq * UF-1 (en el sistema productivo)	LONDRES kg CO_2-eq *UF-1	LONDRES kg CO_2-eq *tallo	MIAMI kg CO_2-eq *UF-1	MIAMI kg CO_2-eq *tallo
Finca 1	2,30	12,29	0,45	5,88	0,21
Finca 2	2,28	10,29	0,38	4,89	0,18
Finca 3	1,58	12,44	0,47	4,31	0,16
Finca 4	1,47	10,71	0,43	6,44	0,26
Finca 5	1,07	9,67	0,41	3,21	0,135
Finca 6	0,61	5,56	0,40	2,16	0,151
Finca 7	1,25	10,44	0,43	3,17	0,127
Finca 8	1,02	8,44	0,36	6,17	0,259

Measurement, Reduction, Removal and Compensation Strategy

The Colombian association of flower exporters, Asocolflores has championed a strategy for carbon footprint management across all its affiliates. This strategy comprises measurement, reduction, removal, and compensation, with an ambitious sector-wide goal to reduce emissions by 30% by 2030. Emissions of greenhouse gases (GHG) in flower and ornamental production are measured through an indicator system. This process identifies direct and indirect sources of GHG emissions and supports decision-making to minimize, remove, or compensate for emissions.

Asocolflores members are committed to utilizing renewable energy sources, improving energy efficiency, adopting environmentally friendly alternatives in cooling systems (such as natural refrigerants), and enhancing efficiency in local transportation. In just one year, Asocolflores and its members made significant strides in reducing their carbon footprint. Through the adoption of sustainable energy practices, such as the implementation of solar energy systems, **a total of 634 metric tons of CO2 equivalent emissions were successfully reduced across 12 floriculture farms in Colombia.** This substantial reduction is a testament to the efficacy of incorporating renewable energy sources into our production processes.

Furthermore, I would like to acknowledge the substantial challenges in finding sustainable alternatives for aviation fossil fuels in air logistics. In response to this challenge, the industry is actively searching for and implementing sustainable alternatives, such as Sustainable Aviation Fuels (SAF). Additionally, Colombian flower farms hold socio-environmental certifications, such as Florverde Sustainable Flowers. These certifications promote actions aimed at reducing greenhouse gas emissions throughout all processes. Since 2012, the measurement and registration of the carbon footprint in an indicator system have been initiated, accumulating over 1.5 million data points. This commitment to informed decision-making and continuous improvement enables flower farms to compare themselves with sectorial averages and evaluate daily decisions based on socio-environmental data.

Moreover, in an ongoing commitment to environmental stewardship, **Colombian farms have offset an additional 5,314 metric tons of CO2 equivalent in one year** through reforestation projects. These projects involve the planting of native flora, fostering biodiversity, and contributing to the conservation of local fauna. This holistic approach not only reduces the overall carbon footprint but also actively contributes to the preservation of ecosystems.

In addition, I would like to bring attention to a comparative study by Our World in Data, which assesses CO2 equivalent emissions across various agro-industrial products. Emissions from cut flowers (2.16 and 6.44 kg CO2 -eq per functional unit) are *significantly* lower than most foods, including beef, which was cited in your article.

I hope this additional information provides a comprehensive picture of the industry's dedication to sustainability and the ongoing efforts to minimize its environmental impact.

I would be delighted to provide further details, studies, or discuss this matter further. Your consideration of this scientific perspective would contribute significantly to the ongoing dialogue on sustainable practices within the floral industry.

Thank you for your time and consideration. I look forward to the possibility of engaging in constructive dialogue.

Sincerely,

Kate Penn

CEO, Society of American Florists

Dear Ms. Renkl,

On behalf of the floral industry, I'm writing to you regarding your opinion piece for the New York Times about the floral industry. As the CEO of the Society of American Florists, I am very familiar with the work the industry has undertaken in the past three decades to minimize its impact on the environment. Therefore, I'd like to share a different perspective not represented in your pieces.

Much of the information shared in the Feb. 14, 2024 piece titled, "Please, Don't Buy Flowers for Valentine's Day," is outdated. Cultivating unblemished flowers no longer requires "liberal applications of insecticides and herbicides," as you stated. Hundreds of flower farms recognized by independent, international certification labels around the globe employ natural ways to control pests and disease, such as biological controls (good bugs eating bad bugs), beneficial fungus and bacteria to enhance soil, or plant extracts that deter bugs.

For instance, in Colombia and Ecuador, about 11,000 acres of the cut flower crops are certified through Florverde Sustainable Flowers, a third party certification accredited through the ANSI National Accreditation Board in the U.S.

Farms with the certification are prohibited from using 107 active ingredients for pesticides, going beyond what is required by the EPA and the European Union Commission. In fact, in the past 25 years, Floraverde farms have **reduced the consumption of highly toxic pesticides by 99.7%**, while **increasing biological controls by 600%** in the past 10 years.

Not only are the farms caring of the environment, they take great care of their workers. In Colombia and Ecuador, Florverde farms employ nearly 46,000 workers, the majority of whom are female heads of households. They provide a living wage and follow social standards that include labor rights, education and training and health and safety management. Many farms voluntarily provide on-site schools for employees' children, wellness breaks, meals, matched savings accounts, laundry services and much more.

Your most recent piece also omitted the strides the floral industry has made finding alternatives to air transportation (by the way, flowers don't travel by refrigerated jets — there is no need for refrigeration at 36,000 feet). The industry is actively searching for and implementing sustainable alternatives, such as Sustainable Aviation Fuels (SAF). And, thanks to scientific discoveries and innovative breeding, the floral industry has made huge strides in shipping flowers by sea. **The number of TEUs (20-foot-equivalent units) of flowers imported by sea to PortMiami increased from 2018 to 2022 by 1,044%,** according to the port. One Colombian chrysanthemum grower, Flores El Capiro, began investing in sea shipping in 2008, when 87 % of its shipments were sent by air. In 2022, 88% of its shipments were sent by sea. The company estimates that each container saves 57 tons of CO2, equivalent to growing six mature trees.

Energy reduction is another significant component of the Florverde Sustainable Flowers certification and others. Certified farms must document their efforts to improve energy efficiency and replace non-renewable energy with renewable energy sources; monitor and reduce greenhouse gas emissions and substitute cooling equipment that operates with HCFC

refrigerants for other equipment which operates with natural refrigerants. Not to mention the many farms that voluntarily go above and beyond to offset their carbon emissions; I can think of one that financially supports a forestry project, and another that supports a wind power facility in India, to name a few. This industry is blessed with hundreds of growers who understand that you can do well, by doing good.

Lastly, claims of floral foam toxic leaching are not accurate, and there are degradable foams available in the marketplace. If you are interested in seeing how floral foam manufactures follow government regulations, you can request a Safety Data Sheet from those manufacturers. One manufacturer, OASIS® Floral Products, the inventor and largest global manufacturer of floral foam, has a website addressing misinformation about floral foam.

Major U.S. retailers continuously inspect and audit their cut flower and hard good suppliers to ensure that they meet their high social and environmental standards — and they have no problem finding farms who can meet them.

Should you ever have an interest in visiting farms in the United States or abroad to get an accurate portrayal of the floral industry globally, we would be happy to put you in touch with growers to provide the expertise you need. I can assure you, it is an experience you won't soon forget.

Cordially,

Kate Penn, CEO

Society of American Florists