

Testimony of Thomas Croghan in Support of House Bill 0395  
Prepared February 6, 2020

Dear Chairman Davis and Members of the Economic Matters Committee,

I am writing today in support of HB395 that proposes to use proceeds from the Regional Greenhouse Gas Initiative to fund the Maryland Healthy Soils Program. I'm sorry that I cannot be with you to provide oral testimony and answer your questions. I will be out of the country at the time of the hearing.

I am co-owner and winemaker at The Vineyards at Dodon, 391 Dodon Rd, in Davidsonville. The vineyards are one part of a larger agricultural operation at a family farm that also includes 400 acres of undeveloped woodland, 120 acres of pasture and hay production, 10 acres of riparian buffer and wetland, and 25 acres of farmstead. I am a member of the eighth generation of my family to live and work at the farm. My family hopes this legacy continues for another eight generations.

Viticulture at Dodon has always been at the forefront of sustainability, but 2019 is the year we hastened the pace of Dodon's ecological approach to farming. Like other Maryland farmers, we are confronting the challenges of changing weather patterns that are the result of carbon pollution and warmer temperatures. Following heavy rain in September 2018, more than in the previous five Septembers combined, our production was less than half of the usual production, in part because we were unable to produce *any* red wine.

For the past year and a half, we've focused on understanding why 2018 was so damaging and on how we can be bettered prepared for the future. Based on our analysis, we have invested heavily in a set of practices that focus on improving soil, enhancing biodiversity and ecosystem services, and enriching the health, vitality, and resilience of the plants. Many of the techniques that we've adopted are the natural extension of our past effort to mimic natural processes, but our new focus centers primarily on soil and soil biology.

Soil with structural integrity, a diverse microbiome, and high levels of organic matter carries out many vital functions. It provides essential support for plants, protects against both draught and flood, removes environmental toxins, and improves water quality.

Healthy soil also prevents erosion and loss of agricultural land. In the five years between 2012 and 2017, Maryland lost 2% of its farmland, a seemingly modest rate that will result in loss of one third of the state's farmland by the turn of this century, when global population is expected to reach 11.5 billion people.

Particularly important in today's world, soil stores large quantities of carbon – more than twice the amount found in the atmosphere. Putting more carbon in soil will thus play a crucial role in addressing the underlying cause of climate change. The National Academy of Sciences has conservatively estimated that improved agricultural land management could result in removal of 250 million metric tons of carbon dioxide per year in the United States, nearly 20% of the total greenhouse gas emissions each year.

The devil, of course, is in the details. While the general principles are well known, soil enhancing methods must be adapted to specific places and crops, and this need for customization complicates implementation. Despite the magnitude of our investment at Dodon, I don't know whether the methods that we have adopted will be successful.

To address these challenges, the General Assembly established a healthy soils program in 2017, but this program has not been funded. In response to the legislation, the Maryland Department of Agriculture (MDA) created the Healthy Soils Consortium to learn more about healthy soils. The Consortium's only tangible deliverable is a draft report prepared by University of Maryland Professor and Climate Extension Specialist Sara Via, PhD, who volunteered hundreds of hours of her time without research or salary support.

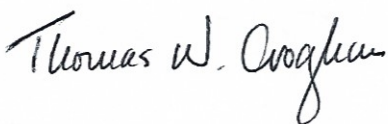
In December 2019, MDA created the Healthy Soils Advisory Committee to assist the Department in creating programs that will incentivize farming practices that will improve the health of Maryland soils. This important effort, critical to the state's response to climate change, will not be successful unless it is funded. The Committee should be adequately staffed. Background reports should be prepared on the current status of soil health practices in Maryland, incentive programs that have been developed in other states, methods to assess soil health and carbon sequestration, and the costs and benefits of alternative practices.

In the long run, education and technical assistance will be needed for farmers motivated to adopt new soil health practices. The success of the program will need to be evaluated, and mid-stream course corrections made. Farmers will require incentives to adopt new practices that may not immediately enhance farm revenues, and they will rightly wish to be paid to clean up carbon pollution from non-farm sources.

By funding the Healthy Soils Program, HB395 represents a crucial step toward better farm resilience and reducing the detrimental consequences of climate change.

Thank you very much for your time and attention. I ask for your favorable report on HB395.

With best regards,

A handwritten signature in black ink that reads "Thomas W. Croghan". The signature is written in a cursive, flowing style.

Thomas W. Croghan, MD