



3 QUESTIONS TO

PROF. YOSRA AHMED SOLTAN

Alexandria University (Egypt)



**WINNER OF THE PRIMA WOMAN
GREENING FOOD SYSTEMS AWARD**



Co-funded by
the European Union



Professor of Animal Nutrition at Alexandria University, Prof. Soltan was recognized for her project “**Mitigating Livestock Greenhouse Gas Emissions: Innovations and Impacts**” (MLGHG).

Her team has developed natural solutions to reduce methane emissions from livestock, including modified clays that cut methane production by up to 60% and biochar supplements that reduce emissions by 20% while increasing milk yield by 12%.

These innovations particularly benefit women smallholder farmers by enabling safer and more productive livestock management.



What led you to focus on methane emissions from livestock, and how do your natural solutions address this issue?

“Livestock methane emissions are a major source of greenhouse gases in agriculture, contributing to climate change. However, reducing them must not come at the expense of animal productivity or farmer livelihoods.

*We have developed innovative feeding systems that utilize **Mediterranean-adapted plants—such as Acacia, Leucaena, Moringa, Atriplex, and Prosopis—**as sustainable alternatives to conventional feed.*

These plants thrive in saline soils and harsh climates while being rich in phytochemicals that naturally suppress methane emissions.

Additionally, we are pioneering natural alternatives to antibiotic feed additives, including plant extracts, modified clays, biochar from agricultural waste, indigenous yeast-based prebiotics, and green-synthesized metal oxides. These solutions enhance rumen fermentation, reduce methane and CO₂ emissions, and support climate-smart livestock production, aligning with global sustainability goals.”



How have the innovations in your project helped women smallholder farmers achieve more sustainable and productive livestock management?

“Women smallholder farmers are at the heart of livestock production in the southern Mediterranean, yet they often face limited access to affordable and sustainable feed solutions.

Our research provides climate-resilient feeding strategies using Mediterranean-adapted plants—such as Acacia, Leucaena, Moringa, Atriplex, and Prosopis—that thrive in harsh conditions while naturally reducing methane emissions. These alternatives lower feed costs, improve animal health, and enhance productivity.

Additionally, our work introduces natural, cost-effective additives—including biochar, clays, yeast prebiotics, and green-synthesized metal oxides—as sustainable replacements for synthetic feed additives. By improving feed efficiency, increasing animal production (meat, milk), and reducing environmental impact, these innovations empower women farmers to adopt climate-smart livestock management, ensuring greater resilience and economic stability in their communities.”





What message do you have for other women striving to transform food systems?

“Women are key drivers of change in Mediterranean food systems, and their contributions to sustainable agriculture and climate resilience are more critical than ever.

By embracing nature-based solutions—such as climate-adapted plants and natural feed additives—we can reduce environmental impact, enhance livestock productivity, and build more resilient food systems.

My message to women in science, farming, and innovation: Believe in the power of research, embrace challenges, and never stop exploring new solutions. Agriculture needs bold ideas and sustainable practices, and women are leading the way in transforming livestock production for a greener future.”



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