



# A Journey Towards Sustainable Ag... The Power of the Black Soldier Fly

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January 30, 2025



Changing the world,  
One sustainable ingredient at a time.



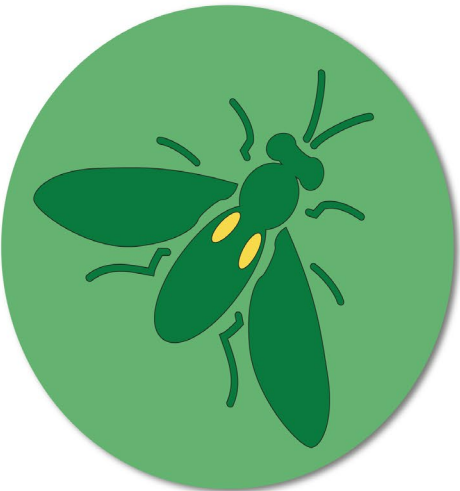
# Why Black Soldier Fly Larvae?

- Not considered pests
- Native worldwide
- Do not bite, sting or carry zoonotic diseases
- Rapid lifecycle vs other insects



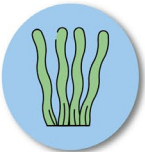
# Why Black Soldier Fly Larvae?

- + Short lifecycle
- + Vertical farming
- + 100% edible
- = Incredible yield potential



**INSECTS:**  
74,000 lb per acre

## Edible Protein Production (lb protein/acre)



**Algae:**  
7,700 lb per acre



**Soy:**  
1,500 lb per acre



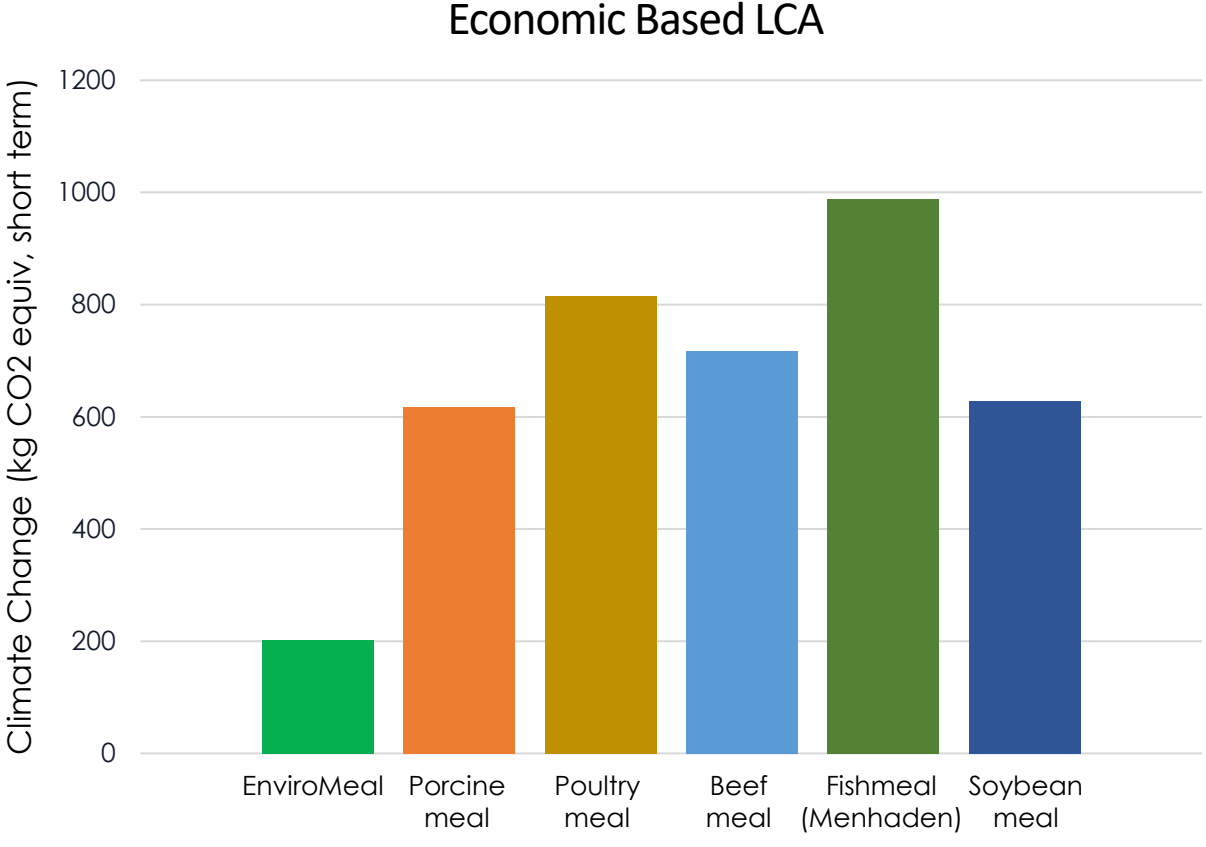
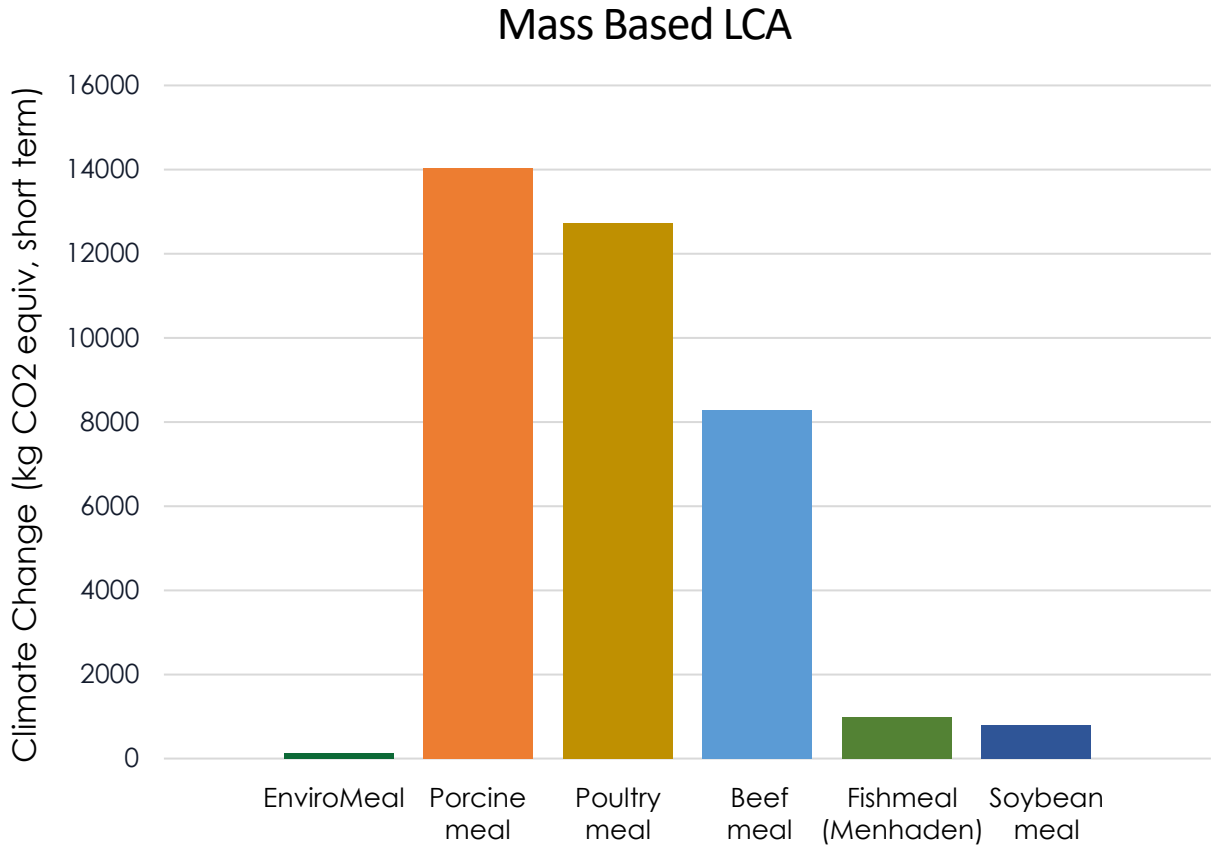
**Poultry:**  
265 lb per acre



**Beef:**  
192 lb per acre

# Why Black Soldier Fly Larvae?

- BSFL ingredients can improve sustainability metrics for animal feed



# Why Black Soldier Fly Larvae?

- Can consume a wide range of feedstocks
  - Current US Regulatory approval requires AAFCO-Defined or GRAS status
  - Some approved ingredients may require further safety studies (e.g., manure)
- Feedstock can influence composition
  - Fatty acid profile
  - Vitamin content (esp. Vit E, D, pigments)
  - Mineral & heavy metal content
- Insects can bioremediate – mycotoxins, antibiotics, pathogens



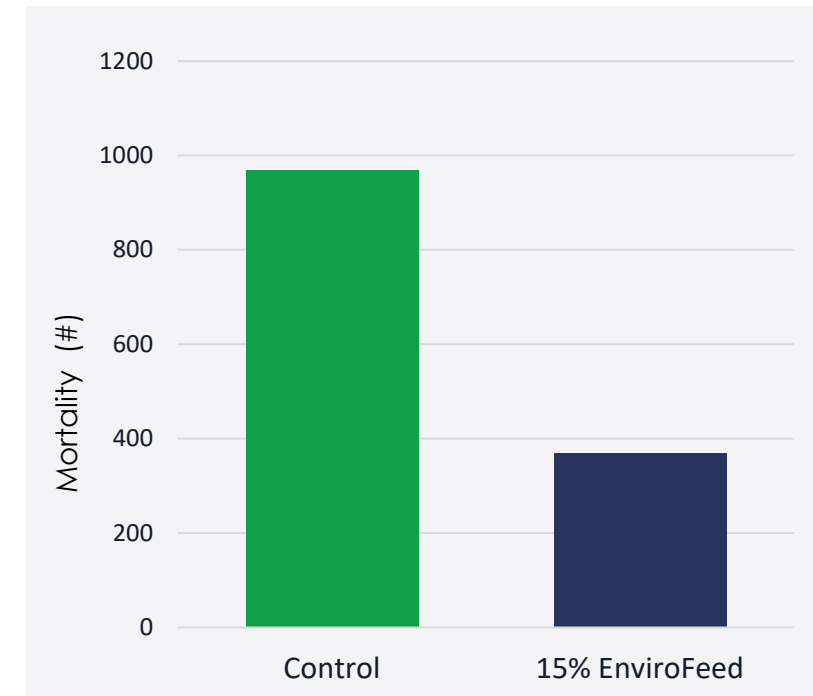
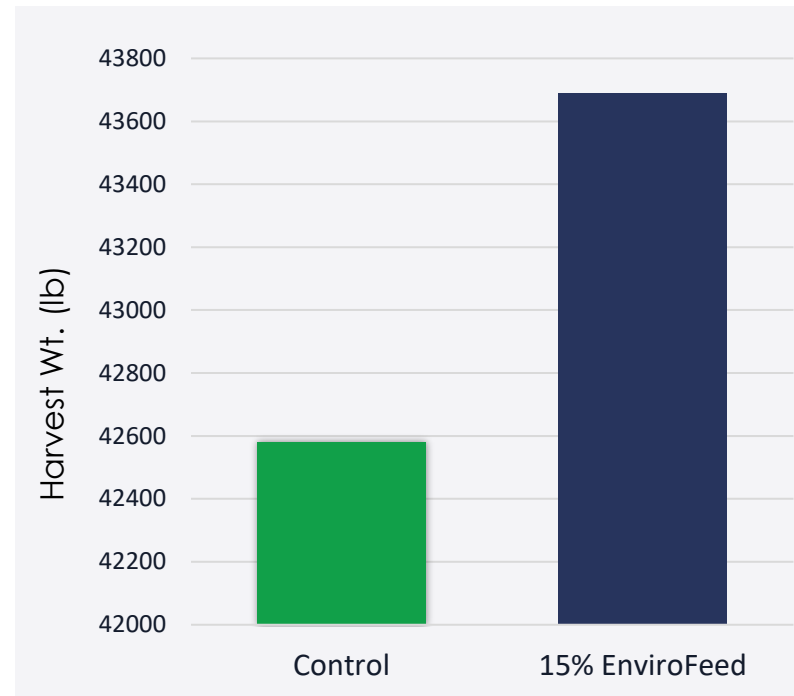
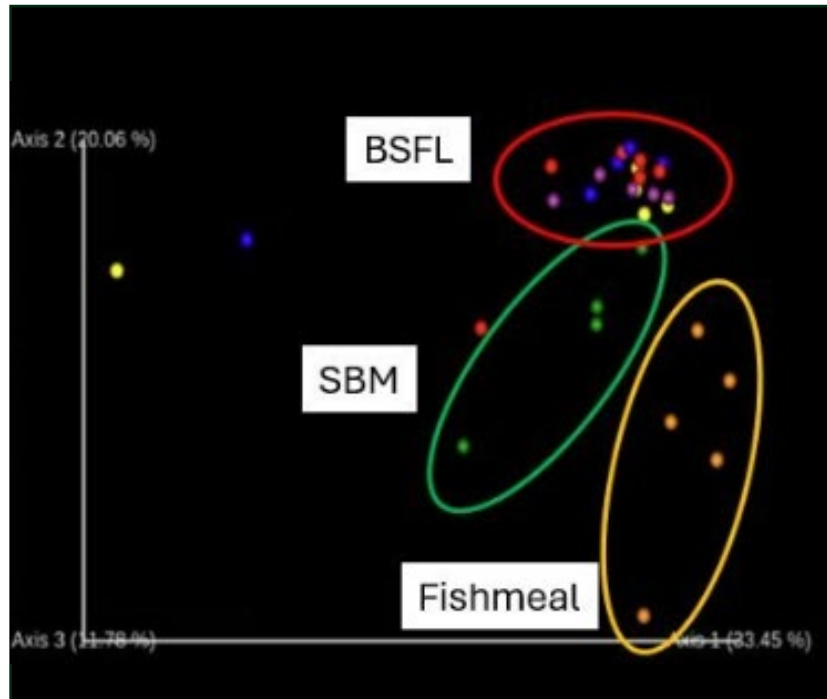


# BSFL Ingredients Provide Essential Nutrition



Nutrients	EnviroBug	EnviroMeal	EnviroOil	EnviroFeed
Protein	34%	50-55%	--	20%
Fat	26%	9 – 15%	98%	6%
Calcium	2%	2%	--	2%
Additional Benefits: lauric acid, chitin, antimicrobial peptides (AMPs)				

# BSFL Ingredients Optimize Gut and Systemic Health





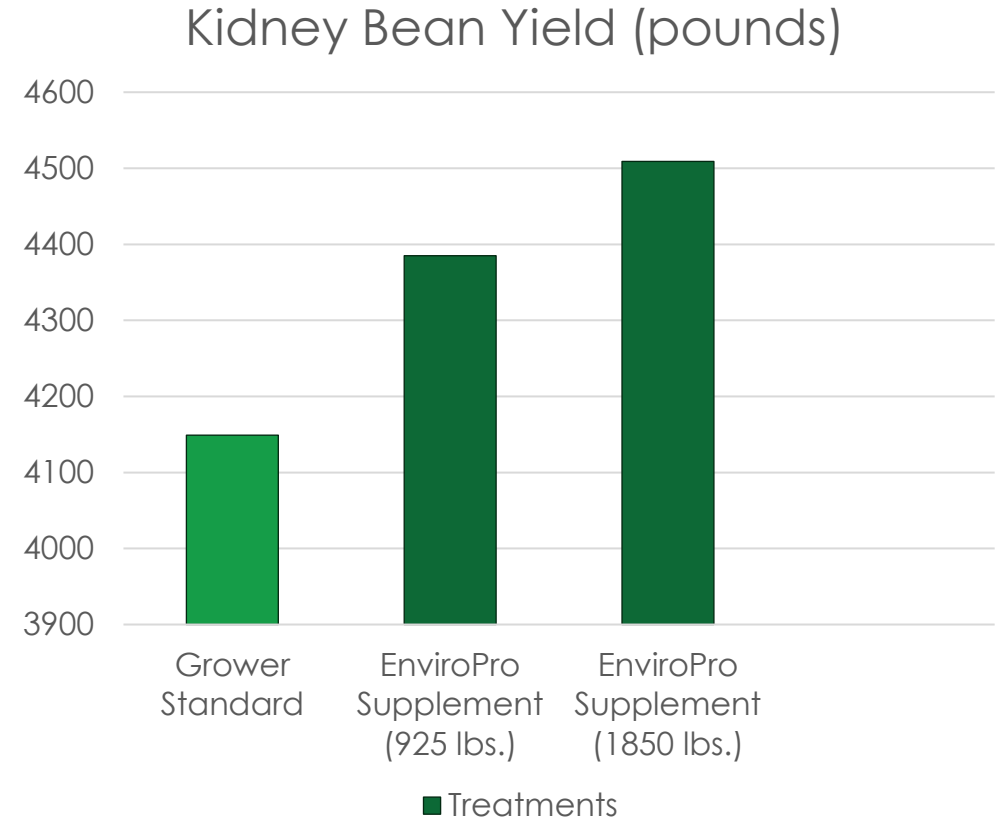
# BSFL Ingredients Optimize Soil and Plant Health

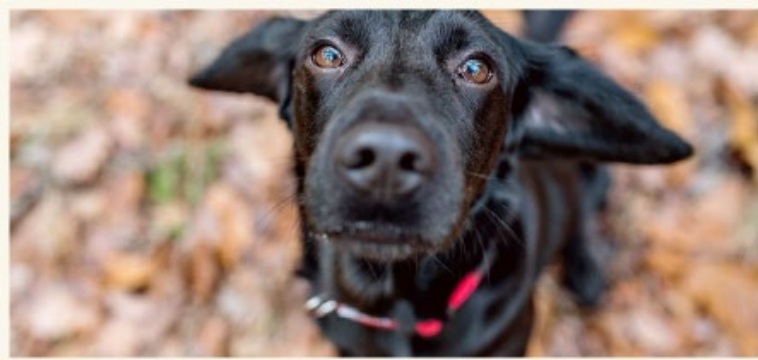


No Frass



Frass Applied





# US regulatory status of BSFL

## Definition Status

as of October 2024

Markets	EnviroBug/EnviroMeal	EnviroOil	EnviroFeed
Dogs	All life stages (Exclusive*) Official – Adult dog (AAFCO)	All life stages (Exclusive*) Official – Adult dog (AAFCO)	Official (AAFCO)
Cats	All life stages (Exclusive*) Tentative – Adult cat (AAFCO**)	All life stages (Exclusive*) Tentative – Adult cat (AAFCO**)	Official (AAFCO)
Poultry	Official (AAFCO)	All life stages (Exclusive*) Under FDA review (AAFCO***)	Official (AAFCO)
Swine	Official (AAFCO)	Official (AAFCO)	Official (AAFCO)
Aquaculture	Official – Salmon Tentative – Finfish (AAFCO**)	Official (AAFCO)	Official (AAFCO)

\*EnviroFlight exclusive – Self-determined GRAS

\*\*Official vote expected Jan 2025

\*\*\*Official vote expected Aug 2025







Think  
different

