



Improving our food system  
**one fly at a time**

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The background of the entire page is a photograph of a lush green field, possibly a vegetable or crop field, stretching towards a horizon. The sky is filled with soft, golden light from a setting or rising sun, with scattered white clouds. A white, rounded rectangular text box is positioned on the right side of the image, containing the text.

## Intro

The world's population is growing. The rate of consumption continues to rise.

The human race is still progressing and thriving but the amount of food waste generated has increased. Our ecosystem is under threat due to unsustainable practices in our food system.

We need to work in harmony with nature and apply sustainability in animal feed production.

A factory that consumes less land has fewer environmental consequences and emits fewer greenhouse gasses.



### **Black Soldier Fly Larvae:**

- Natural bio-converter
- Sustainable innovation for the feed industry

“  
BSF meal addresses  
**several of the  
sustainability  
concerns** that  
face the aquaculture  
industry”

Said Dr. Kevin Fitzsimmons,  
Department of Environmental Science,  
University of Arizona.



# About us

Flylab is an Agritech company built with an experienced team that has years of proven track in the Insect industry. We harness the bioconversion power of the Black Soldier Fly Larvae (BSFL) to recycle agricultural waste into Food for Animals and Plants. We want to disrupt the use of very unsustainable protein ingredients

such as fishmeal and soybean meal and replace it with a more sustainable, more natural and more nutritious protein: BSFL Meal. We are the future of sustainable animal feed.

FL's plan is to improve our broken food system one fly at a time.

\*Scan QR code for our VDO



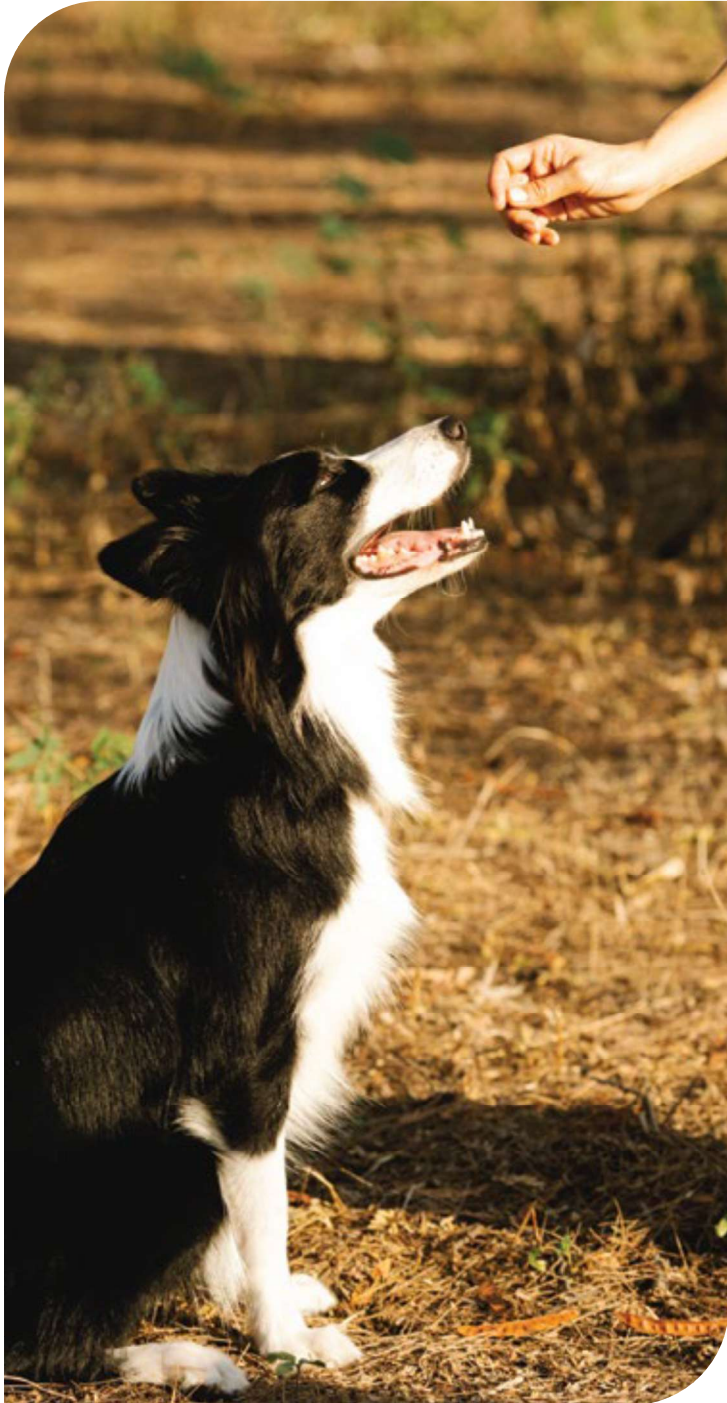


## Our Goal

Our Goal is to make our food system more sustainable in the long term. With BSF we can reduce our negative impact on the planet.

We can make our supply chains stronger and more efficient by recycling waste and producing new animal feed locally. We use modern technology to achieve a neutral footprint in our factories. And we provide better quality feed for animals and for plants.





## Our Mission

The animal feed industry (aqua, poultry, cattle, pet food) uses very unsustainable sources of protein currently such as Soybean and Fishmeal which contributes to loss of biodiversity and damages the environment.

Flylab's plan is to fix our broken Food system by bringing a more sustainable option that also contributes to a better animal health.





# Partners

We work with leaders in Insect Technology and Industrial Development.





# Our Products

Proteins used today in the animal industry are not sustainable. Soy proteins caused deforestation and loss of biodiversity. Fishmeal and Fish oils are harvested from small fish and are depleting oceans.

BSFL can eat any organic matter and is an insect that can be found anywhere in the world. Our food waste is increasing at large scale and we need a solution to treat it. BSF can recycle that waste into food again and that can be used in Animal Feed.

We will have to create multiple plants close to sources of food waste all over the planet to be able to make an impact at a large scale. Therefore creating jobs and positively impacting local economies.

Today we feed animal grains, but Insects are actually a natural food for a lot of animals. In terms of nutrition performance, BSF meal and oils provide similar results to fish meal for example but it also provides a

boost in immune response in animals. Thus we can have the same nutritional values but also have healthier animals and less mortality in production.

We have to source large amounts of different types of Agri waste to feed our BSFL. We feed that waste to our larvae and wait for them to fatten up. We use vertical farming, climate controlled chambers and an array of technology to have the best performance possible as well as the lowest footprint possible.

Once they are ready for harvest, we separate them from Frass, a mix of excrements and leftover feed.

The larvae will go through a multiple step of processing to sterilize and dehydrate them, then separate the protein from the lipids. All this following food safety standards.





# FLMeal:

Dry BSF Powder

## Product Benefits

# BSF Meal

### Aquaculture

- Tested with multiple species (whiteleg shrimp, Atlantic Salmon, Trout, sturgeons, grouper, prawns, ...)
- Well balanced amino acid profile, palatable, highly digestible and meets the requirements of fish and crustacean
- Replacement of FM and SBM in fish and shrimp diets show positive impact on growth and performance
- Improves gut microbiota, immune response and disease resistance (chitin & anti-microbial peptides)
- Improves profitability (study on sturgeon)

### Pet Food

- Proteins from BSF contain all essential amino acids that carnivores like dogs and cats need : calcium, iron, B-complex vitamins and more
- The antioxidant profile of BSF protein have a health-promoting effect when included in Pet Food
- BSF protein helps to sustain immune system in ageing pets
- BSF meal is filled with digestible lipids and antimicrobial components
- Mars and Nestle pet food divisions have begun selling dog and cat food including insect protein



# FLMeal

<b>Analytical Composition:</b>	<b>g/100g</b>
Crude Protein (min).....	60
Crude Fibre (max).....	15
Crude Fat (max).....	10
Ash (max).....	10
Moisture (max).....	10

**20 kg**  
Net Weight

*Composition*

**100%**

Black Soldier Fly Larvae  
(Hermetia Illucens)

### **Product Description:**

FLMeal is a free flowing Defatted Black Soldier Fly Larvae meal. Characterized by: Highly Digestible Amino Acids, Rich in Antimicrobial Peptides (enhance animal's immunity and better disease resistance), High Palatability, Low Environmental Footprint

### **Main Application Areas:**

Pet Food • Aquafeed • Poultry  
• Swine

### **Storage:**

• Dry & Shaded area  
• Room Temperature



# FLOil:

Lipids





## Product Benefits

# BSF Oil

### Aquaculture

- Rich in saturated fatty acid, in particular Lauric Acid with beneficial health effects on fish and shrimp. Reduce mortality rate
- Partial replacement of FO improved immunity of barramundi and did not alter the flesh quality (source)

### Poultry

- BSF Oil showed comparable results on growth performance, meat quality, and sensory properties
- It is an energy substitute as a dietary fat source in the broiler diet

### Swine

- Nutritional profile of BSF Oil fits very well with pigs requirement
- Lauric acid, helps improve the intestinal health of animals, especially piglets
- BSF Oil linearly increased pig body weight and average daily gain

### Pet Food

- Healthy fat replacement for kibble coating
- High in beneficial omega 6 & 9 fatty acids, BSFOil boosts pet's health



# FLOil

<b>Analytical Composition:</b>	<b>g/100g</b>
Crude Fat (min).....	23.75
<b>Fatty Acid Content:</b>	
Lauric Acid.....	18.2
Linoleic Acid.....	23.7
Palmitic Acid.....	17.7
Oleic Acid.....	14.0
Omega 3.....	2.8
Omega 6.....	24.1
Total SFA.....	
Total MUFA.....	
Total PUFA.....	

Calories. 832 Kcal Per 100g • Metabolic Energy 31.05 MJ per Kg

**25 kg**  
Net Weight

*Composition*

**100%**

Black Soldier Fly Larvae  
(Hermetia Illucens)

**Usage Instructions:**

FLOil is a sustainable source of energy for Animals. Inclusion in feeds improves animal's health.

Characterized by: Highly Digestible Fatty Acids, High Palatability, High SFA and Lauric Acid content (antimicrobial properties)

**Main Application Areas:**

- Pet Food • Aquafeed • Poultry
- Swine

**Storage:**

- Dry & Shaded area
- Room Temperature



# FLDried:

Dehydrated



## Product Benefits

# Dried BSF

### Nutrients

1. FLDried is made from highly nutritious dried Black Soldier Fly larvae that are processed in the best conditions to preserve all the nutrients and nutraceutical benefits.
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### Rich Protein

2. FLDried is protein-rich and contains naturally high levels of Calcium and Phosphorous.
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### Boosts The Immune Systems

3. The combination of Lauric Acid, Antimicrobial peptides and chitin content of the dried larvae boosts the immune systems and promotes a better health.
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### Animal Feeds

4. Recommended as feed supplement for pets, poultry and pigs.
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# FLDried

## Analytical Composition:

g/100g

Crude Protein (min).....	35
Crude Fibre (max).....	10
Crude Fat (max).....	25
Ash (max).....	10
Moisture (max).....	10

**10 kg**  
Net Weight

## Composition

**100%**

Black Soldier Fly Larvae  
(Hermetia Illucens)

## Product Description:

FLDried larvae are High in Protein, Lipids, Calcium, Minerals and Free from Preservatives or Additives. Great source of Amino Acids and Lauric Acid for a Boosted Animal Health and Immune System. FLDried is the perfect Sustainable Naturally Nutritious Supplement.

## Main Application Areas:

Pet Food • Aquafeed • Poultry  
• Swine

## Storage:

• Dry & Shaded area  
• Room Temperature







# FLFrass:

Organic Fertilizer

## Product Benefits

# BSF Frass

- 1. Nutrients**  
Natural organic fertilizer, providing nutrients and minerals easily assimilated by the plants

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- 2. Stimulate Microorganisms**  
Boost soil organic carbon content and stimulates beneficial microorganisms

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- 3. Protect**  
Increases plant tolerance to abiotic stresses and resistance to pathogens

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# FLFrass

## Analytical Composition:

Organic Matter.....	20%
N.....	3.2%
P.....	2.9%
K.....	1%

**25 kg**  
Net Weight

*Composition*

**100%**

Natural Fertilizer

## Product Description:

Natural mix of larvae residues and chitin-rich exoskeleton, FLFrass is nutrient dense in N-P-K and other minerals. Chitin enhances plant natural defenses against pathogens and stimulates growth. FLFrass can be applied as a soil conditioner for all type of plants and crops

## Storage:

- Dry & Shaded area
- Room Temperature

# Our Operation:

## Harvest of larvae from our farm



