



Willows Ingredients Ltd

CRICKETONE

Feeding the Future



Product Specifications



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PRODUCT SPECIFICATIONS

Table 1. NUTRITIONAL FACTS FOR DOGFOOD LABELING

Analyte	Amount	Unit
Metabolizable Energy (*)	3530	kcal/kg
Crude Protein (N*6.25)	74,40	g/100g
Total Carbohydrate	5,00	%wt
Total Sugar	<0,10	g/100g
Fat Content (hydrolysis)	9,41	g/100g
Saturated Fat (*)	3,85	%wt
Unsaturated Fat (*)	5,40	%wt
Polyunsaturated Fat (*)	3,74	%wt
Monounsaturated Fat (*)	1,49	%wt
Myristic acid (*)	0,07	%wt
Palmitic acid (*)	2,99	%wt
Palmitoleic acid (*)	0,09	%wt
Stearic acid (*)	1,36	%wt
Oleic acid (*)	1,70	%wt
Linoleic acid (*)	4,63	%wt
Alpha Linolenic acid (*)	0,09	%wt
Arachidic acid (*)	0,09	%wt
Eicosenoic acid (*)	0,04	%wt
Omega 3 (*)	0,16	%wt
Omega 6 (*)	4,70	%wt
Trans fat (*)	ND	%wt
Peroxite value	ND	meqO ₂ /kg
Free fatty acids	1,73	%wt
Total Minerals	5,52	g/100g
Moisture	5,67	g/100g
pH	6,57	-
Aw (25°C)	0,27	-
Total volatile basic nitrogen (TVB _N)	69,70	mg/100g
Linoleic Acid (Omega 6)	3,64	%wt
Alpha- Linolenic Acid (Omega 3)	0,1	%wt
Zinc	228,00	mg/kg
Magnesium	1102	mg/kg
Iron	8,12	mg/100g
Vitamin E	26,00	mg/kg
Vitamin C	10	mg/kg
Vitamin B1	335	µg/kg
Vitamin B2	1212	µg/kg
Calcium	235	mg/kg
Phosphorus	0,94	%wt
Vitamin B12	7,9	µg/100g

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PRODUCT SPECIFICATIONS

Table 2: ESSENTIAL AMINO ACIDS MANDATORY TO DOG'S GROWTH & IMMUNITY

Analyte	Amount	Unit
Arginine (*)	5,45	%wt
Histidine (*)	1,08	%wt
Isoleucine (*)	4,26	%wt
Leucine (*)	4,42	%wt
Lysine (*)	4,12	%wt
Methionine (*)	1,02	%wt
Phenylalanine (*)	2,4	%wt
Threonine (*)	2,55	%wt
Tryptophan (*)	0,64	%wt
Taurine	0.33	%wt
Valine (*)	4,58	%wt

*All datas mentioned in this Product Specifications are from actual randomly samples of 3 colonies taken and analyzed at INTERTEK laboratories.

Table 3: BENEFITS OF CRICKET-BASED DOGFOOD THAT CAN'T FIND IN BSF (BLACK SOLDIER FLIES)

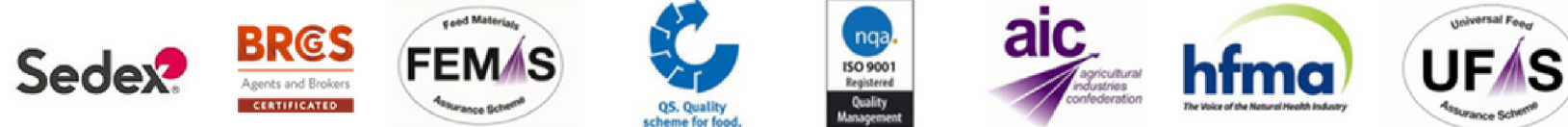
Criteria	Cricket Performance & Features	Source
Food Allergy Chronic Ear Inflammation Gastrointestinal Chronic Diarrhea and gas Licking Feet Itchy Rear end	<ul style="list-style-type: none"> Cricket protein may serve a similar purpose as hydrolyzed protein, a type of protein that is predigested and does not spark a reaction in the immune system. Insect protein-based dog foods are a promising alternative for dogs with food intolerances 	US - National Center for Biotechnology Information Netherlands - Wageningen University
Complete Amino Acid Profile Lean Label with Natural Ingredient	<ul style="list-style-type: none"> Crickets are one of the most protein-rich sources available. Cricket protein is a considered a complete protein, meaning it contains all nine essential amino acids that dogs require. Crickets are a very clean source of protein and do not contain antibiotics, pesticides, GMOs and heavy metals. Because they're often raised in controlled, chemical-free environments with free-range access to food and water, they remain healthy until they're harvested 	Food & Agricultural Organization – FAO



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Complete Minerals (Zinc, Mg, Phosphorus) and Vitamins needed daily in DogFood	<ul style="list-style-type: none"> Crickets are a great source of vitamins, minerals, Omega 3 and 6 fatty acids, and they actually provide more iron, vitamin B12 and magnesium than beef does. All these nutrients help contribute to the health and longevity of dogs 	Food & Agricultural Organization - FAO
Prebiotics	<ul style="list-style-type: none"> The cricket's exoskeleton is a good source of prebiotic fiber, which contributes to a healthy digestive system that won't be found in traditional sources of animal protein. Cricket protein itself is also loaded with fiber. The impact of cricket protein's fiber on the dog's gut. Fiber is a benefit not normally seen in a protein from other animal proteins but cricket protein is loaded with it. This fiber supports a healthy, balanced level of gut bacteria diversity in dogs. 	Jiminy's & AnimalBiome - US
Back to Basic – Cricket is natural instinct food source of Dog	<ul style="list-style-type: none"> Insects were likely part of the ancestral diet of dogs, as we can see in the eating habits of dogs' close relatives like wolves, coyotes, and foxes. 	FAO
Increasing Appetite	Cricket is packed with good fat (Unsaturated Fat & Omega 3.6.9) which stimulates the taste, and flavor of the finished product. Together with the exoskeleton which enhance the chewing motion effects. Most common application is in dog treat which crickets are processed to coarse particle size.	Internal experiment & DogFood manufacturers' feedback
Mouth Hygiene	Cricket-based Petfood is not recorded with bad smell of the mouth caused by type of protein, natural enzyme and fat existing in the ingredients	DogFood manufacturers' feedback

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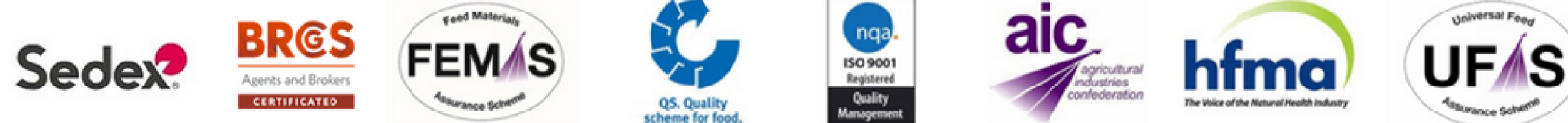


PRODUCT SPECIFICATIONS

Table 1. NUTRITIONAL FACTS FOR CATFOOD LABELING

Analyte	Amount	Unit
Metabolizable Energy (*)	3530	kcal/kg
Crude Protein (N*6.25)	74,40	g/100g
Total Carbohydrate	5,00	%wt
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Zinc	228,00	mg/kg
Magnesium	1102	mg/kg
Potassium	1094	mg/100g
Manganese	103	mg/kg
Selenium	0,6	mg/kg
Iodine	53,2	µg/100g
Iron	8,12	mg/100g
Vitamin E	26,00	mg/kg
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Vitamin B12	7.9	µg/100g
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Table 3: BENEFITS OF CRICKET-BASED CATFOOD THAT CAN'T FIND IN BSF (BLACK SOLDIER FLIES)

Criteria	Cricket Performance & Features	Source
High Digestibility	<ul style="list-style-type: none"> Cricket protein may serve a similar purpose as hydrolyzed protein, a type of protein that is predigested and does not spark a reaction in the immune system. Insect protein-based Cat foods are a promising alternative for Cats with food intolerances 	US - National Center for Biotechnology Information Netherlands - Wageningen University
Blindness & Heart Disease	<ul style="list-style-type: none"> Cricket contains substantial amount of digestible Taurine needed for Cat daily to prevent the deficiency of Taurine. Especially in dried food, or Cat fed with plant-based protein food. 	
FOOD – GRADE & Complete Amino Acid Profile Lean Label with Natural Ingredient	<ul style="list-style-type: none"> Crickets are one of the most protein-rich sources available. Cricket protein is a considered a complete protein, 	Food & Agricultural Organization – FAO

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	<p>meaning it contains all 11 essential amino acids that Cats require.</p> <ul style="list-style-type: none"> • Crickets are a very clean source of protein and do not contain antibiotics, pesticides, GMOs and heavy metals. Because they're often raised in controlled, chemical-free environments with free-range access to food and water, they remain healthy until they're harvested 	
Complete Minerals (Zinc, Mg, Phosphorus) and Vitamins needed daily in CatFood – NO MORE ORGANS & SYNTHETIC INGREDIENTS IN DRIED FOOD	<ul style="list-style-type: none"> • Crickets are a great source of vitamins, minerals, Omega 3 and 6 fatty acids, and they actually provide more iron, vitamin B12 and magnesium than beef does. All these nutrients help contribute to the health and longevity of Cats 	Food & Agricultural Organization - FAO
Prebiotics	<ul style="list-style-type: none"> • The cricket's exoskeleton is a good source of prebiotic fiber, which contributes to a healthy digestive system that won't be found in traditional sources of animal protein. • Cricket protein itself is also loaded with fiber. • The impact of cricket protein's fiber on the Cat's gut. Fiber is a benefit not normally seen in a protein from other animal proteins but cricket protein is loaded with it. This fiber supports a healthy, balanced level of gut bacteria diversity in Cats. 	Jiminy's & AnimalBiome - US
Increasing Appetite	Cricket is packed with good fat (Unsaturated Fat & Omega 3.6.9) which stimulates the taste, and flavor of the finished product. Together with the exoskeleton which enhance the chewing motion effects. Most common application is in Cat treat which crickets are processed to coarse particle size.	Internal experiment & CatFood manufacturers' feedback
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