## Brood Booster Nutritional Panel

## Protein and 'Fat Bees'

Just like humans, nutrition is important in every aspect of a bee's life. Whether a bee is nursing or foraging or preparing for winter, they require a complex profile of protein, carbohydrates, fats, vitamins and minerals. Brood rearing is a very resource intensive task for a hive, so as brood production begins to decline leading into winter, bees take the opportunity to ingest any excess food to fatten themselves up for coming months. This extra food is stored in complex molecules called vitellogenin. Vitellogenin is produced from protein in the bee's diet and acts as a food reserve during cold periods. These well-fed, healthy bees packed with protein rich vitellogenin are often referred to as 'fat bees' and are believed to survive better over winter. Protein intake is just as important over the warmer summer months and plays a key role in almost all of a bee's biological functions; from larval development and foraging behavior to honey production.

|               | Average per 100 mL |   |                  |
|---------------|--------------------|---|------------------|
|               | Brood Booster      | Seaweed Solution<br>(with essential oils) | Seaweed Solution |
| Energy        | 1000 kJ            | 174 kJ                                    | 25 kJ            |
| Protein       | 42.52 g            | 0.01 g                                    | 0.07 g           |
| Carbohydrates | 13.3 g             | 4.8 g                                     | 1.4 g            |
| Fat           | 1.4 g              | 2.5 g                                     | 0.1 g            |
| Ash           | 0.7 g              | 0.2 g                                     | 0.7 g            |
| Total solids  | 57.9 g             | 7.52 g                                    | 2.2 g            |

## The Results

Protein Content of Brood Booster against Leading Competitors



## The Study

We wanted to understand the nutritional composition of **Brood Booster** and its effectiveness in meeting the dietary requirement of bees all year round. We also wanted to compare the nutritional composition of **Brood Booster** against other leading sugar syrup supplements to analyze their effect on hive health.

In tests completed by an independent, accredited laboratory, **Brood Booster** had a protein content over 500 times that of seaweed based supplements. **Brood Booster** also has a scientifically validated profile of amino acids which meets all protein requirements of a strong, healthy hive. This makes **Brood Booster** ideal for use during autumn feeding to strengthen over-wintering hives, or in late winter and early spring to help break winter dormancy, for a faster build-up and a stronger colony sooner.

**Brood Booster** also includes a unique blend of thymol, lemongrass and spearmint oil which may aid digestion and reduce fermentation through natural antifungal and antibacterial properties.

Ash content within **Brood Booster** has also been optimised to include the ideal level of vitamins and minerals for maximum brood rearing (the ideal range is 0.5 - 1 g/100mL). Most vitamins and minerals cannot be synthesised by bees and must be included in their diet. Levels of ash outside this range have been shown to inhibit brood rearing so we pay close attention to the dosing and blending of these ingredients during manufacturing.



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