Technology& Honeybee Nutrition, Science

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New non soy diet named Feedbee® was developed based on investigating more than 255 potential feed ingredients incorporating advanced knowledge of animal and insect nutrition has resulted in a feed formulation with excellent potential. To estimate efficiency of Feedbee® on honeybees compared with two soy based diets and bee collected pollen, four feeding trials were preformed in commercial and experimental colonies. The first patty feeding trial was done with experimental colonies of Feedbee®, pollen, or soy-yeast-sugar (SYS) in fall. The feed intake for Feedbee® and pollen was 589g and 600g, respectively significantly ($P<0.05$) higher than for SYS (27g).The second trial was done with experimental colonies in early spring, when feed intake for Feedbee® and pollen was 1103g and 1195g respectively which were significantly higher than 295g for SYS. In second patty feeding trial the capped brood area (1338.1cm2 and 1344.4m2), population of bees (3.9kg and 3.7kg) and honey yield (71.1kg and 71.3kg) for Feedbee® and pollen were significantly higher than for SYS and control non-fed groups with 577.9cm2 and 627.2cm2 capped brood area, 2.7kg and 2.6kg bee population, and 33.1kg and 39.4kg honey production respectively.The third patty feeding trial was done with commercial colonies in two independent yards in which the bees received Feedbee®, SYS and a soy-sugar diet (TLS) in fall. The mean feed intake for Feedbee® was 1873g, compared with 28g and 19g for SYS and TLS respectively. The forth powder feeding was done in commercial colonies in spring by two methods of No-choice-feeding (bees received only one of the feeds), Choice-feeding, (bees received all three feeds). The mean feed intake for Feedbee® was 960g and 883g for the first and second methods, respectively. These amounts were significantly greater than for SYS (224g and 106g) and TLS (115g and 52g) in the first and second methods, respectively. These results indicate that Feedbee® and pollen are equally accepted by bees, enhance brood rearing, population of the bees, and honey yield.

Key words: substitute diet, feed, bees, palatability, brood, population, honey