

INCREASING THE QUANTITY AND QUALITY OF ROYAL JELLY IN APIARIES USING WAX HONEYCOMB CUPS

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Abstract

Royal jelly production is a vital aspect of apiculture, yet achieving high yields while maintaining the health of bee colonies remains a challenge in industrial apiaries. This study addresses the need to enhance royal jelly production without compromising the production of other beekeeping products. The aim of this research was to compare the most effective technology for the formation of a nursery family for obtaining royal jelly in the field and to compare the queen cell acceptance by showing the type of material used in our experiment. The study outlines a comprehensive technology for obtaining royal jelly, encompassing key operations such as cup preparation, larval inoculation, colony preparation, jelly collection, and transportation. Emphasis is placed on the fundamental principles of royal jelly production in an industrial setting, with particular attention to stimulating queen cell formation and intensive larval rearing.

Two variants of nursery family formation were investigated: one with complete orphanage and the other without orphanhood.

The non-orphanhood method exhibited superior results, boasting a 33% larval adoption rate and 25% more mature queen cells compared to the complete orphanhood approach. Furthermore, this method yielded larger mother liquors and maintained colony productivity without interruption, addressing key concerns in royal jelly production.

This study presents an innovative approach to royal jelly production that prioritizes both yield and colony health. The non-orphanhood method, coupled with the use of wax cups and silicone molds for larval transfer, offers a promising solution to enhance royal jelly production on an industrial scale, while preserving its biological value.

Key words: *Beekeeping, Royal jelly, Honeycomb cups, Larvae grafting.*