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## Development of Apis cerana District Extractor with innovation of Machinery and Pest control in Kumelembuai Village

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Abstract : This study aims to: 1). Knowing the development of Apis Cerana Honey BeesF.with extractor engine innovation 2). Control of pests that attack honey bees 3). Obtain products from honeybees Apis Cerana F.produced 4). Predict to what extent the quantity and quality of royal jelly products Apis cerana F.produced in the development of beekeeping in North Sulawesi, especially Kumelembuai Village, South Minahasa Regency. This research is expected to develop beekeeping in North Sulawesi, specifically the local bee Apis cerana in Kumelembuai Village. The benefits obtained from beekeeping development activities include increasing the income and nutritional quality of the community from beekeeping products such as honey, pollen, royal jelly, beeswax, propolis, bee venom. Conservation of natural resources, honey bees play an important role in helping the process of pollinating plants, in addition to beekeeping activities can also increase public awareness to participate in conservation efforts. North Sulawesi, especially in the village of Kumelembuai, can be developed using the methodqueen rearing best because it has bright prospects for cultivation in North Sulawesi. Honey bee cultivation is very profitable, in addition to increasing agricultural production (crop yields) and producing products from beesApis cerana namely honey, royal jelly, tepung sari, propolis, wax, bee venom which can all be utilized for human welfare. A number of studies have been carried out by various parties who feel an interest in the development of beekeeping, but the research conducted is still partial and limited to one or two environmental components, not integrated yet. It is hoped that this research can produce the best methods for developing beekeeping in the North Sulawesi kumelembu village. The research location will be conducted in the village of Kumelembuai, South Minahasa regency, North Sulawesi.

Laboratory analysis is focused on the content of royal jelly products produced by honey bees *Apis cerana* F. Based on the results of data analysis and discussion in this study are as follows.

1. Research of the four methods namely *Supersedure*, *Emergency cell*, *Miller* and *Doolittle* produce superior methods, namely the method *Emergency cell*.

2. In the method*emergency cell* artificial feeds provide queen cell formation and production*royal jelly* with a composition of 100 grams of sugar and 200 grams of water both cane sugar and palm sugar are higher than other treatments, although not significantly different.

3. Artificial feed with a composition of 200 grams of cane sugar and 200 grams of water gives a good effect on the fat content of *royal jelly Apis cerana* in the method *emergency cell*.

4. Product of *royal jelly as a* result of panelist evaluation this study showed that the preferred odor was not pungent, slightly acidic and sticky taste on the tongue and the white color of the product of *royal jelly* honey bee *Apis cerana*.

Keywords : Apis cerana Extractor, machine innovation, Kumelembuai.

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