

Development of Measurement System on Surface Potential Generated by Silkworm Body

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When a silkworm is in the different growing phases and behaviors, the existing status and acting power of interior tissues and organs of a silkworm is different. In this study, we try to measure surface potential from a silkworm body to know the body information about a silkworm. A measurement system has been established to test the output voltage from the surface of a silkworm body, and this voltage signal is certified to be a silkworm's certainly. In addition, it is suggested that this voltage signal could be derived from the contracting and expanding of muscles of dorsal vessel and alimentary canal of a silkworm, when it is in the rest and the electrodes are attached on the mid-back of a silkworm body. Furthermore, it is clear that this voltage signal is connected with the expanding and contracting of the dorsal vessel of a silkworm, and it is much bigger when a silkworm walks with shrinking and stretching its body than a silkworm is in the rest.