

Soil Microorganisms Comparison that Exist to Around of Upland and Wild *Codonopsis lanceolata* and Microorganism Investigation Affecting to Aromatic Substances

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We investigated the microbial populations and viable cell counts of *Codonopsis lanceolata* from uncultivated and cultivated soil in the spring. The microbial populations and viable cell counts from both types of soils were also investigated simultaneously. It had existed 10 more kinds of microorganisms in uncultivated than those in cultivated. The total viable cell counts of *C. lanceolata* from uncultivated soil, especially in the upper zone, were 9.7×10^6 CFU/g. However, the *C. lanceolata* from cultivated soil was 4.2×10^6 CFU/g. As a results, upper of *C. lanceolata* in uncultivated soil was considered to harbour approximately 3 fold higher number of microorganisms than those in cultivated soil. Otherwise, no differences of total viable cell counts between the two soil habitat, that is, 1.2×10^7 CFU/g from uncultivated and 1.0×10^7 CFU/g from cultivated, was detected. At last, some examinations were done in the soil extract broth including 25% *C. lanceolata* juice to confirm the unique perfume produced by each microorganism. Ultimately only one microorganism, which is detected in uncultivated soil and simultaneously in the *C. lanceolata* from uncultivated soil only, labelled as no. 6, caused the characteristic perfume of *C. lanceolata* and this was confirmed as actinomyces by microscopic works.

Key words: *Codonopsis lanceolata*, soil bacteria, actinomyces