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NAKAMURA Tiemi, Nobuhiro HIGUCHI & Eizo MAEDA (Faculty of Agriculture, Nagoya University) : STRUCTURE OF RICE CALLUS TISSUES. In the present investigation, experiments have been conducted on the callus obtained from the rice (*Oryza sativa* L.) seeds to study the process of development in details. Objective of this study is to analyse morphological changes in rice callus cultured in callus induction medium and regeneration medium. The use of scanning electron microscopy (SEM) has given the fine visualization of rice callus structure.

Materials and Methods: Initial callus obtained from rice (*Oryza sativa* L. var. Aichi Asahi) seeds was cultured in Maeda's medium containing 10^{-5} M 2,4-D and maintained at 28 C under continuous light (ca.3,000 lux) condition. Medium for shoot formation was the same above differing only in phytohormone 10^{-7} M 2,4-D and 5×10^{-5} M Kinetin. For SEM observation, specimens were fixed in 3% glutaraldehyde and 1.5% paraformaldehyde in 0.1 M cacodylate buffer. The specimens were dehydrated in alcohol and n-Amyl Acetate series, dried with a critical point dryer (HITACHI,HCP-1) and coated with gold in an ion coater(EIKO,IB-3). The surface ultrastructure was observed by SEM (HITACHI,S-415). Results and Discussion: In the 7 days old callus of rice seeds inoculated in callus inducing medium, we could observe a tissue enlargement and proliferation in the scutellum part. The observation done with SEM revealed various types and sizes at surface of callus proliferated in the one scutellum. Fig.1 shows small (knob-like) structure of callus and Fig.2 shows large aggregated structure in the same callus tissues. Fig.1: A surface view of rice callus 10 days old (300x). Fig.2: A surface view of the same callus tissues of Fig.1 (300x).

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