Explanation of plates

Plate I. Symtoms of seedlings, flag leaf sheaths and panicles of rice plants.

1 : Seedling rot under field conditions.

2 : Seedling rot occurrence after injecting inoculation.

3 : Dark green water-soaked lesion on a flag leaf sheath.

4 : Lesions on flag leaf sheaths and panicles inoculated at booting stage.

Plate II. Symptoms, and cell morphology of the causal bacterium.

1 : Non emerged panicle, and lesions on flag leaf sheaths and flag leaf.

2 : Symptoms on panicle; healthy(left), diseased(right).

3 : Brown necrosis lesions on raches; diseased(left), healthy(right).

4 : Rod with round ends and polar flagella of *Pseudomonas fuscovaginae* 6801 isolate.

Plate III. Ouchterlony gel-diffusion reactions.

1 : Reaction of *Pseudomonas fuscovaginae* antiserum to whole antigen.
Center well contains antiserum prepared against *P. fuscovaginae* whole antigen 6801. Outer wells contain heavy bacterial cell suspesions of *P. fuscovaginae* 6801, 7102 7103, 7105, 7107 and 7111 isolates respectively.

2 : Reaction of *P. fuscovaginae* antiserum to antigen heated 100°C 1 hour. Center well contains *P. fuscovaginae* antiserum. Outer wells contain the heated heavy bacterial cell suspensions as in plate 1.

3 : Reaction of *P. fuscovaginae* antiserum to the heated antigen of *Pseudomonas* spp. Center well contains *P. fuscovaginae* antiserum. Outer wells contain heated heavy bacterial cell suspensions of *P. fuscovaginae* 6801, 7102, 7103, *P. fluorescens* IAM 12022, *P. marginalis* IFO 3925, FN 31, isolates respectively.

4 : Reaction of *P. oryzicola* antiserum to the heated antigen of *Pseudomonas* spp. Center well contains antiserum prepared against *P. oryzicola* A309 antigen heated 100°C-1 hour. Outer wells contain heavy bacterial cell suspensions of *P. avenae* P38, *P. fuscovaginae* 6801, 7111, *P. syringae* pv. *syringae* AZ 25, 96, *P. oryzicola* A 309 isolates respectively.

Plate IV. Morphology and plaques of three strains of *Pseudomonas fuscovaginae* bacteriophage.

1 : (a) Electron micrograph of FP1(P1) phage particles showing polyhedral head with a contractile tail stained with 2% phosphotungstic acid (PTA).
(b) High magnification of plate(a).

2 : FP2(P33) phage particles showing polyhedral head with a noncontractile tail.

3 : High magnification of plate 2.

4 : FP3(P51) phage particles showing polyhedral head with a contractile tail.

5 : Plaques developed by phage FP1(P1) after 20 hours incubation at 25°C with *P. fuscovaginae* 7601 on 2.5 ml of top agar consisting of 1.0 % polypeptone, 0.5 % NaCl and 0.5 % agar.

6 : Plaques of phage FP2(P33) with *P. fuscovaginae* 7633 under the same cnditions as in plate 5.
7 : Plaques of phage FP3(P51) with *P. fuscovaginae* 101 under the same conditions as in plate 5.
Scale marks represent 100nm

Plate V. Transverse sections of flag leaf sheath tissues inoculated by spraying bacterial suspension at the booting stage of rice variety Yukara.
1 : Bacterial multiplication on the epidermis of the adaxial side of the leaf sheath.
2 : Magnification of bacterial multiplication in plate 1.
3 : Bacterial multiplication on the subsidiary cell(SC) of stoma on the adaxial epidermis.
4 : Bacterial entry through the front cavity(FC) and hinter cavity(HC) into respiratory cavity(RC) at the stoma on the adaxial epidermis.

Plate VI. Longitudinal sections of the adaxial epidermis of the flag leaf sheath inoculated at the booting stage.
1 : Section showing opened stoma.
2, 3 : Bacterial multiplication on the stomata and in the intercellular space of parenchyma.
4 : Bacterial multiplication on the adaxial epidermis, in the stomatal cavity and the intercellular space of parenchyma.
5, 6 : Bacterial multiplication in the intercellular space of parenchyma beneath the stoma.

Plate VII. Transverse sections of flag leaf sheaths and panicles showing water-soaked lesions at the booting stage of rice plants infected under field conditions.
1 : Bacterial multiplication in the lysigenous aerenchyma of the sheath.
2 : High magnification of plate 1.
3 : Bacterial mass in the lysigeneous aerenchyma, and transverse vascular bundle of the sheath.
4 : Section showing no bacteria in longitudinal vascular bundles of the sheath.
5 : Bacterial mass in the locking parts at the palea and lemma of unhulled rice.
6 : Bacterial mass on hollow parts of outer epidermis of unhulled rice.

Plate Ⅰ.

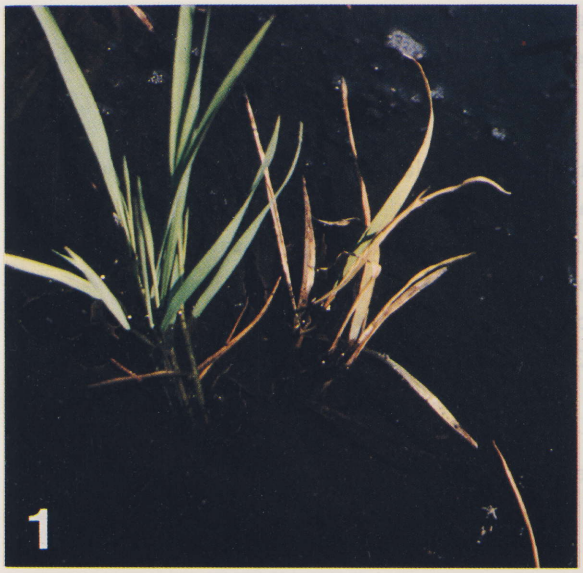

Plate II.