

## Certificate

of germ culture that is present in the fertilizer Bioplant Flora deposited at the collection of All-Russian Research Institute for Agricultural Microbiology of the Russian Academy of Agricultural Sciences.

- 1. Generic and specific name, number:** *Pseudomonas putida* sp. strain (SV-90).
- 2. Institution, organization, address:** Department for microbiology of Moscow Agricultural Academy: Timiryazevskaya street 50, educational building 8.
- 3. The strain was found in the wild:** secured from soil of Vietnam under rice and pea-bush, Hanoi, province Dien Bien, 1989, author: Oleg Dmitrievitch Sidorenko.
- 4. The culture is identified under** Krieg N.R. ed Bergey, Manual of Systematic Bacteriology, 1984, vol. 1 Williams and Wilkins, Baltimore, 9<sup>th</sup> edition.
- 5. Reasons for deposition:** decomposes phosphates, arrests fungal and bacterial diseases of agricultural crops, raises gather of potatoes, herbaceous, vegetable and grain crops after inoculation.
- 6. Cultural, morphological, physiological and biochemical patterns of culture:** rod shaped mobile cells, size circa 0,6=2-3 micron, colonies in agar medium (L medium), round, flat or flattish, integripallial, white (grayish in the King's medium), mucous. After 24 hours of cultivation at 25-28°C the colony size reaches 1.5-2.0 mm. Does not sporulate, cells are gram-negative. In the King's medium produces Nile-green fluorescent pigment that is defusing to agar. The culture is an obligate aerobe, which is able to progress at hindered aeration (microaerophil). Uses fructose, sucrose and glycerin as carbon source. Uses nitrogen in the form of ammonium salts and nitrates. Does not require accessory growth factors. Produces catalase and oxidase. Does not produce hydrogen sulphide. Cells are acid-resistant. The culture grows at 28-30°C (optimal growth temperature). Optimal pH value 7.0-7.6.
- 7. Storage conditions and techniques:** reseeded culture – King's nutrient medium. **Cultivation period** – 24 hours, incubation temperature – 28-30°C; **storage temperature:** refrigerated storage at +5...+8°C. Reseeding to fresh nutrient medium – no less than 4-5 times yearly; purity test – absence of extraneous microbial flora and Nile green pigment.
- 8. Culture dissociation – not observed.**

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*of the Russian Federation*  
*Moscow Agricultural Academy*  
*named after K.A. Timiryazev*