सत्यमेव जयते

**GOVERNMENT OF MAHARASHTRA**
**MAHATMA PHULE KRISHI VIDYAPEETH,**
**AGRICULTURAL BACTERIOLOGY SECTION**
**BIOLOGICAL NITROGEN FIXATION SCHEME**
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**No. ACP/BNF/Testing/349/ 2021** **Date-** 07/12/2021

## TESTING REPORT

| | |
|---|---|
| 1. Name of product | : PSAP (Potassium salt of active phosphorus) |
| 2. Batch No. | : 011 |
| 3. Sample quantity | : 200 gm |
| 4. Date of sample collection | : 03/12/2020 |
| 5. Date of examination (Bacterial and Fungal) | : 13/01/2021 |
| 6. Date of observation | : 18/01/2021 |
| 7. Name of client | : Isha Agro Science Pvt. Ltd., Pune |

**Observations :**

i) Generally bacterial samples *viz.* (*Bacillus subtilis* and *Pseudomonas florescence*) start growing within 2-3 days.

ii) Bacterial samples *viz.* (*Bacillus subtilis* and *Pseudomonas florescence*) when mixed with PSAP delayed the growth of these two bio-inoculants (4-5 days).

iii) The both bacterial inoculants mixed with PSAP sample independently, the *CFU* count was slightly decreased however it's minor and not at all to be considered.

iv) *Trichoderma viride* requires 4-5 days to grow normally but when mixed with PSAP sample it required comparatively longer spell (6-8 days). *CFU* count was decreased to 40.82 %.

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Table 1. Compatibility of bio-inoculants with PSAP

| Sr. No. | Name of samples | pH | CFU count of bio-inoculant | Compatibility |
|---|---|---|---|---|
| 1 | Potassium salt of active phosphorus (PSAP) | 6.20 | Not applicable | Not applicable |
| 2 | *Bacillus subtilis* | 4.71 | $10^6$ =110<br>$10^7$ =102<br>$10^8$ =89 | Not applicable |
| 3 | *Bacillus subtilis* +PSPA | 3.98 | $10^6$ =101<br>$10^7$ =99<br>$10^8$ =82 | Compatible |
| 4 | *Pseudomonas fluorescence* | 5.12 | $10^6$ =118<br>$10^7$ =105<br>$10^8$ =92 | Not applicable |
| 5 | *Pseudomonas fluorescence* + PSAP | 4.22 | $10^6$ =110<br>$10^7$ =95<br>$10^8$ =87 | Compatible |
| 6 | *Trichoderma viride* | 4.23 | $512X10^7$ | Not applicable |
| 7 | *Trichoderma viride* + PSAP | 3.95 | $303X10^7$ | Compatible |

Table 2. Per cent reduction in CFU counton mixing of PSAP sample with bio-inoculants

| Sr. No. | Name of samples | CFU count of bio-inoculant | Per cent reduction in CFU count |
|---|---|---|---|
| 2 | *Bacillus subtilis* | $10^6$ =110<br>$10^7$ =102<br>$10^8$ =89 | - |
| 3 | *Bacillus subtilis* +PSPA | $10^6$ =101<br>$10^7$ =99<br>$10^8$ =82 | 8.18<br>2.94<br>7.87 |
| 4 | *Pseudomonas fluorescence* | $10^6$ =118<br>$10^7$ =105<br>$10^8$ =92 | - |
| 5 | *Pseudomonas fluorescence* + PSAP | $10^6$ =110<br>$10^7$ =95<br>$10^8$ =87 | 6.78<br>9.52<br>5.43 |
| 6 | *Trichoderma viride* | $512X10^7$ | - |
| 7 | *Trichoderma viride* + PSAP | $303X10^7$ | 40.82 |

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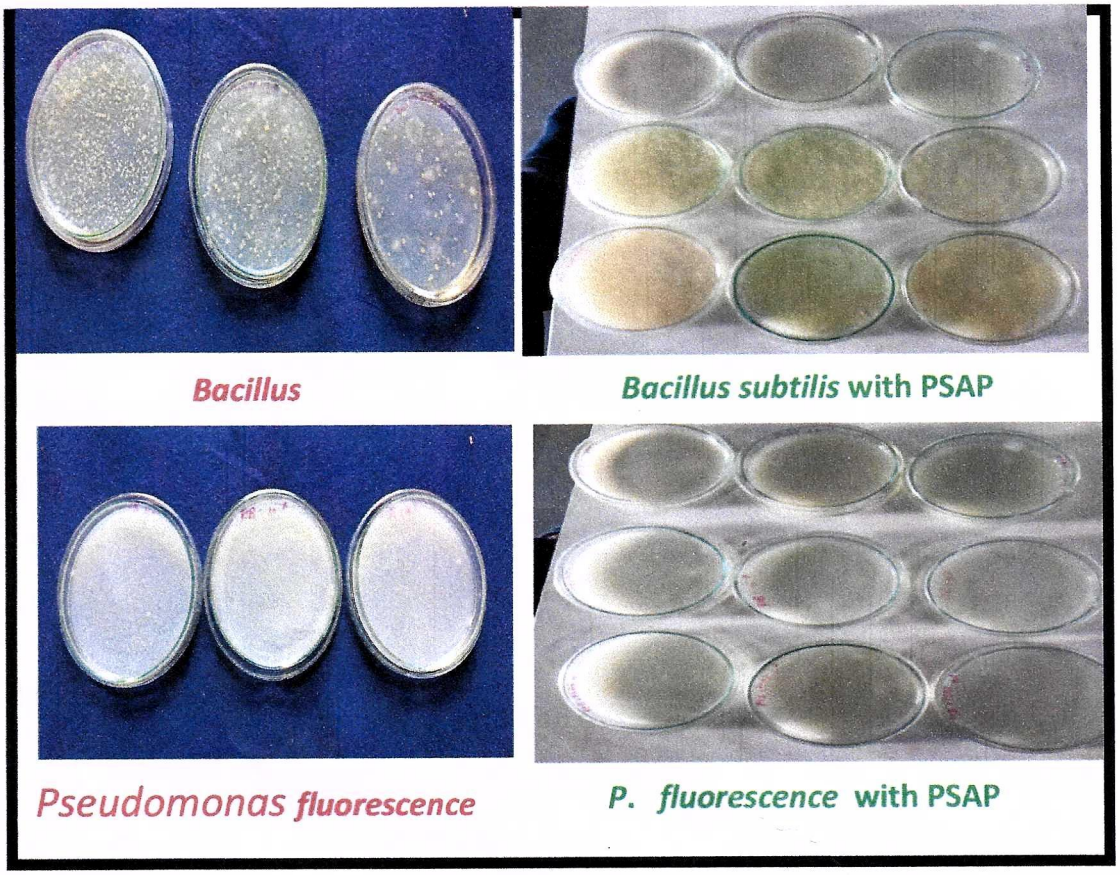


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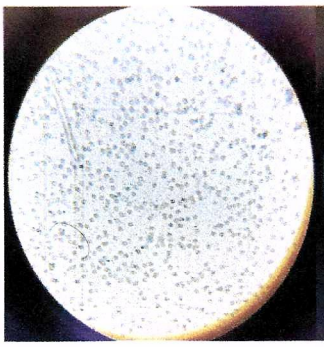
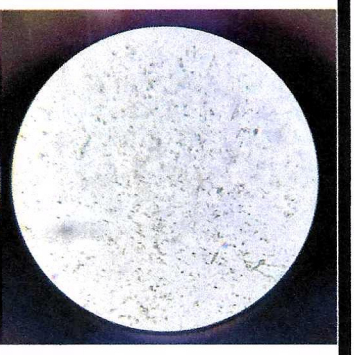
*Trichoderma viridae*

*Trichoderma viridae with PSAP*

*T. viridae & T. Viridae with PSAP*



*T. viridae with PSAP spore initiation*



*T. viridae with PSAP mature spores*

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