Table 1  Effects of IAA and GA<sub>3</sub> on the akinete formation of P. oedogonia.

<table>
<thead>
<tr>
<th>Hormone</th>
<th>Observation</th>
<th>0 (Control)</th>
<th>0.01</th>
<th>0.1</th>
<th>1</th>
<th>10</th>
<th>100</th>
<th>500</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAA</td>
<td>Initiation (days)</td>
<td>5</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>25</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Maturation (days)</td>
<td>15</td>
<td>26</td>
<td>26</td>
<td>28</td>
<td>30</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Akinete (*) formation</td>
<td>99</td>
<td>18.5</td>
<td>5.5</td>
<td>2.7</td>
<td>1.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>GA&lt;sub&gt;3&lt;/sub&gt;</td>
<td>Initiation (days)</td>
<td>5</td>
<td>18</td>
<td>19</td>
<td>21</td>
<td>22</td>
<td>29</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Maturation (days)</td>
<td>15</td>
<td>24</td>
<td>25</td>
<td>27</td>
<td>29</td>
<td>37</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Akinete (*) formation</td>
<td>99</td>
<td>26</td>
<td>20</td>
<td>19</td>
<td>16.3</td>
<td>10.5</td>
<td>3.5</td>
</tr>
</tbody>
</table>

formation was reduced as compared to control, showing 10 days interval between the two events.

2 August 1983; Revised 10 October 1983


**OCCURRENCE OF BACTERIOPHAGES IN THE GANGA**

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The river Ganga is now considered to be one of the most polluted rivers of the world. Pasricha and de Monte suggested the use of bacteriophages as an index of water contamination and observed that Ganga water in the Calcutta region had bacteriophages of *Salmonella typhimurium*, *Shigella dysenteriae* and *Vibrio cholerae*. We have examined the occurrence of bacteriophages in 48 samples of Ganga water collected from various places extending from Hardwar to Haldia on the Bay of Bengal.

The results show that all the 48 samples tested possessed bacteriophages. Thirty-eight samples harboured bacteriophages capable of lysing *E. coli* SA500 but only 19 showed the presence of bacteriophages for *E. coli* K12. The corresponding values for *Salmonella* and *Klebsiella* were 27 and 25 respectively. No bac-
TIP ROT AND LEAF BLIGHT—
A NEW FUNGAL DISEASE OF JUTE
FROM WEST BENGAL

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JUTE crop in the Institute’s farm and in the neighbouring cultivator’s fields suffered from a fungal disease during 1979 to 1982. The loss was estimated between 14 and 26%. Most of the commercially cultivated varieties of both Corchorus capsularis L. and C. olitorius L. species of jute were affected. The disease was visible in a severe form during late summer to rainy seasons between late July and early September.

Symptomatological studies revealed that the leaf tips of the crown of the affected plants started rotting first characterized by brownish discoloration. The affected tip drooped, decayed and turned black. Whitish fungal mycelium sporulated profusely as numerous blackish brown pin heads. Leaves later suffered from chlorosis and ultimately blighted. In the case of most severe attack, infection from the leaves spread to the stems and the entire plant dried up. The pin-head like sporulation was easily visible in the field during the morning hours, especially on bright sunny days followed by cloudy and rainy days.

Laboratory investigations revealed that the epidermis and outer cortex were affected and got disintegrated. The pathogen was identified as Choanephora cucurbitarum (Berk and Lav.) Thaxter. From the existing literature1–3, it appears that this is the first record of tiprot and leaf blight disease of jute.

Isolation from the affected plant parts and the transfer from hyphal tips grew very fast on PDA, at 28°C. Mycelium was slightly creamy, fluffy with profusely branched coenocytic hyphae. Hyaline to blackish brown fruiting bodies appeared after seven days on PDA. Pathogenicity test confirmed C. cucurbitarum as a primary pathogen of jute and inoculation studies showed that the fungus was pathogenic to sunhemp species—Crotalaria juncea L.

The same species of the fungus is destructive to capsicum causing wetrot, fruit rot and dieback4,5 to amaranthus causing young shoot blight and wet rot6,7 and to potato causing leaf blight8. Soyabean, cowpea, sweet potato, squash, cucurbits etc. are also reported to be attacked with C. cucurbitarum and also with other species of the same fungus8,9.