INTRODUCTION:
Tomato (Solanum lycopersicum L.) is native to Western South America, belongs to family Solanaceae. It is one of the most common fruit and vegetable cultivated worldwide (Sato et al. 2010). It is a rich source of vitamins B, C, E and K (Ball, 2006). Tomato (Solanum lycopersicum L.) along with other fruit vegetables is considered to be a rich source of carbohydrates, sugars, dietary fibre, fats, proteins also with magnesium, manganese minerals (Weaver and Heaney, 2006). Tomato is severely affected by the various fungal, bacterial, and viral diseases. The early blight of tomato caused by Alternaria solani. Now a day’s disease management is made necessary for high yield of vegetables. Each microorganism requires proper nutritional source for their growth. The earlier workers studied the growth of various plant pathogens in different food sources, the present study deals with the effect of different phosphate sources on the growth of Alternaria solani to know the nutritional requirement will help to control the growth of the pathogen.

MATERIALS AND METHODS:
The infected material of tomato (Leaf spot) were collected from the different localities of Renapur area during the period of 2014 to 2015. The infected plant material were brought to the Botany laboratory and isolated the pathogen on Czapek Dox Agar (CDA) medium, the pathogen is identified with the help of standard mycological literature (Subramanian, 1971), pure culture was maintained at 23 ± 2°C in BOD incubator for further study. For the study three phosphates sources like ammonium dihydrogen orthophosphate, potassium dihydrogen orthophosphate and sodium dihydrogen orthophosphate were used at 0.1% in Czapek Dox Agar (CDA) medium, 4mm freshly growing 8 days old pure culture of Alternaria solani grown on agar medium and incubated at 28 ± 2°C The plates without source treated as control. After the 8 days of incubation linear growth of mycelium was measured at different intervals for five days.

RESULTS AND DISCUSSION:
For the present investigation three phosphate sources like ammonium dihydrogen orthophosphate, potassium dihydrogen orthophosphate and sodium dihydrogen orthophosphate were used. In the present study it was found that 0.1% concentration of ammonium dihydrogen orthophosphate, and sodium dihydrogen orthophosphate reduced the growth while potassium dihydrogen orthophosphate stimulated the growth of Alternaria solani.

ABSTRACT
Each microorganism requires proper nutritional source for their growth. The present investigation deals with the effect of three phosphate sources on the growth of Alternaria solani causes the early blight of tomato (Solanum lycopersicum L.) belongs to family solanaceae. The nutritional source (phosphate sources) like ammonium dihydrogen orthophosphate, potassium dihydrogen orthophosphate and sodium dihydrogen orthophosphate were used against the pathogen. In the result it was found that 0.1% concentration of ammonium dihydrogen orthophosphate and sodium dihydrogen orthophosphate reduced the growth while potassium dihydrogen orthophosphate stimulated the growth of Alternaria solani.

KEYWORDS
Alternaria solani, phosphate sources, Solanum lycopersicum L.

CONCLUSION:
For the management of Alternaria solani causing early blight of tomato, use of 0.1% concentration of Ammonium dihydrogen orthophosphate and Sodium dihydrogen orthophosphate is effective.

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REFERENCES:

Table 1 Effect of Phosphates sources on the linear growth (mm) of Alternaria solani causing early blight of tomato on CDA medium.

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Phosphate source</th>
<th>Days of radial growth of pathogen in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Potassium dihydrogen orthophosphate</td>
<td>48.18</td>
</tr>
<tr>
<td>2</td>
<td>Sodium dihydrogen orthophosphate</td>
<td>16.30</td>
</tr>
<tr>
<td>3</td>
<td>Ammonium dihydrogen orthophosphate</td>
<td>13.10</td>
</tr>
<tr>
<td>4</td>
<td>Control</td>
<td>21.36</td>
</tr>
</tbody>
</table>

Days and radial growth of pathogen in mm

2  | 4    | 6    | 8    | 10   |
48.18 | 27.64 | 46.32 | 62.10 | 72.12 |

4 International Journal of Scientific Research