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## Management options for common rice diseases

Disease management should be integrated into the crop production system using diverse approaches (Tables 1-3).

**Table 1. Management options for common viral diseases on rice**

DISEASES	MANAGEMENT OPTIONS
<b>Tungro</b>	<ul style="list-style-type: none"> <li>• Rogue or pull out diseased plants during the first six weeks of crop growth and properly dispose of immediately to remove the source of inoculums</li> <li>• Plant resistant varieties in tungro hot spot (e.g. Matatag)</li> </ul>
<b>Grassy stunt</b>	<ul style="list-style-type: none"> <li>• Plant in synchrony with neighboring farmers</li> <li>• Practice rice-free period for at least a month between rice croppings</li> <li>• Dry the field to destroy weeds and stubbles</li> </ul>
<b>Ragged stunt</b>	<ul style="list-style-type: none"> <li>• Plow under rice stubbles immediately after harvest to prevent ratoon growth, which is a disease source and breeding place for insect transmitters</li> <li>• Manage insect vector. Apply insecticide if needed.</li> </ul>

**Table 2. Management options for bacterial diseases on rice**

DISEASES	MANAGEMENT OPTIONS
<b>Bacterial blight</b>	<ul style="list-style-type: none"> <li>• Plant resistant varieties</li> <li>• Reduce plant injury during transplanting</li> <li>• Avoid high Nitrogen fertilization</li> <li>• Destroy infected plant residues</li> </ul>
<b>Bacterial leaf streak</b>	<ul style="list-style-type: none"> <li>• Plant resistant varieties</li> <li>• Avoid high Nitrogen fertilization</li> <li>• Destroy infected plant residues</li> </ul>

**Table 3. Management options for fungal diseases on rice**

DISEASES	MANAGEMENT OPTIONS
<b>Blast</b>	<ul style="list-style-type: none"> <li>• Plant resistant varieties</li> <li>• Avoid high nitrogen fertilization</li> <li>• Plow under rice stubbles immediately after harvest</li> <li>• Apply soil amendment material such as silicate fertilizer with compost</li> <li>• Apply fungicides at the right time if necessary</li> <li>• Use healthy seeds</li> </ul>

<b>Sheath blight</b>	<ul style="list-style-type: none"> <li>• Avoid high N fertilization</li> <li>• Plow deeply to bury infected stubbles and weeds</li> <li>• Expose soil to intense sunlight in between plowings</li> <li>• Avoid dense stands</li> <li>• Use healthy seeds</li> </ul>
<b>Bakanae</b>	<ul style="list-style-type: none"> <li>• Treat seeds with systemic fungicide</li> <li>• Plant resistant variety</li> <li>• Use healthy seeds</li> </ul>
<b>Brown spot</b>	<ul style="list-style-type: none"> <li>• Plant resistant varieties</li> <li>• Practice proper agronomic practices such as balanced fertilization, field sanitation, good water management, soil amendments good soil preparation, land leveling, and other cultural practices</li> <li>• Apply calcium silicate and compost</li> <li>• Destroy stubbles and weeds that act as sources of inoculums</li> <li>• Correct stress conditions in the field</li> <li>• Apply appropriate seed treatment fungicide</li> </ul>
<b>Sheath rot</b>	<ul style="list-style-type: none"> <li>• Use healthy seeds</li> <li>• Avoid dense planting</li> <li>• Do not apply excessive N fertilizer</li> <li>• Plow under diseased stubbles and weeds</li> </ul>
<b>Stem rot</b>	<ul style="list-style-type: none"> <li>• Plant lodging-resistant and early maturing varieties</li> <li>• Avoid high N and P fertilizers</li> <li>• Add potash, sodium silicate, and compost</li> <li>• Plow until one foot deep and expose soil to intense sunlight in between plowings</li> <li>• Drain and dry the field at tillering and early jointing stages of growth</li> <li>• Destroy or plow under stubbles and crop residues after harvest</li> <li>• Practice crop rotation using non-host crop</li> <li>• Apply fungicide if necessary at the plant stems before maximum tillering</li> </ul>

Source: Field Operations Manual. 2007. Philippine Rice Research Institute.