Recognize the problem
Citrus greening disease or Huanglongbing (HLB) is one of the major diseases of citrus in Vietnam that can destroy entire fields. HLB causes a patchy yellowing of the leaf between the veins. Manganese and Zinc deficiency can also cause a similar yellowing between the veins. The yellow pattern caused by nutrient deficiencies differs from HLB in that the yellow pattern is frequently identical on the left and right sides of the leaf, where the middle leaf vein divides the leaf in half. The patterns caused by HLB infection are random. HLB-infected plants produce smaller leaves and the branches tend to grow upright. Sometimes the leaf veins of infected leaves become raised and ‘corky’ (Image 1). Infected fruits have a bitter taste and when cut in half are irregular with one half bigger than the other (Image 2). The branches of infected plants start to die back and eventually the whole plant will die.

Background
This disease is caused by a bacterium that lives in the plant. The disease is spread through grafting and by a small insect that can hardly be seen. Newly infected plants show no symptoms. Once infected, the plant cannot be cured and must be removed to avoid spreading the infection. Guava plants are known to produce chemicals that repel the insect that transmits the disease and can be used to help prevent infection. The guava plants need to be planted in the field before planting the “sanh orange” (green orange).

Management
• Remove all HLB-infected plants
• Plant guava 6 months before growing “sanh orange” using the formula of 1 guava tree: 2 orange trees
• Use only disease-free seedlings bought from trusted institutions such as SOFRI
• Spray Imidacloprid, Clothianidin, Thiamethoxam and/or mineral oil to protect young shoots from attack by the insect vector. Follow the rate recommended by the manufacturers.
• Check the field regularly and remove any plants showing typical HLB symptoms.

Scientific name(s) > Candidatus liberibacter asiaticus

When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval.