

Ash variety, Diseases and Pests management in South Australia

Ash trees are a common and beloved part of South Australia's landscape, providing shade, aesthetic value, and ecological benefits. However, these trees are not immune to various diseases and pests that can significantly impact their health and longevity. This document outlines some of the most prevalent ash diseases and pests in South Australia, their symptoms, causes, and management strategies.

Ash Varieties in South Australia

South Australia hosts several varieties of ash trees, each with unique characteristics and growing requirements. Some prominent ash varieties include:

1. *Fraxinus excelsior* (European Ash)

Known for its tall, elegant stature and compound leaves, this ash variety is highly favored in landscapes for its aesthetic appeal.



2. *Fraxinus angustifolia* (Narrow-leaved Ash)

This variety is better suited for warmer climates and can be identified by its narrower leaves and faster growth rate.



3. *Fraxinus pennsylvanica* (Green Ash)

Green Ash is adaptable and resilient, making it a popular choice for urban environments and varied soil conditions.



Common Ash Diseases

1. Ash Dieback

Ash dieback, caused by the fungal pathogen *Hymenoscyphus fraxineus*, is one of the most serious threats to ash trees. The disease leads to leaf loss, crown dieback, and ultimately the death of the tree. Symptoms include:



- Dark lesions on the leaves
- Wilted shoots and leaves
- Dieback of twigs and branches



Understanding Ash Dieback

Ash Dieback, caused by the pathogen *Hymenoscyphus fraxineus*, is a serious disease affecting ash trees, leading to wilting leaves, dieback of shoots, and lesions on stems and branches. Often, it results in significant decline and death of the tree. Effective management of Ash Dieback involves a combination of cultural, chemical, and biological strategies.

Treatment Options

Cultural Practices

- **Sanitation:** Remove and dispose of infected branches properly to reduce the fungal inoculum and prevent spread.
- **Pruning:** Prune infected branches during the dormant season to minimize the spread of the pathogen. Ensure all pruning tools are sterilized before and after use.
- **Watering:** Maintain proper watering practices to enhance the tree's overall health and resistance to disease.
- **Fertilization:** Provide balanced fertilization to support tree vitality and recovery. Proper nutrition strengthens the tree's natural defenses.

Chemical Treatments

- **Fungicides:** Apply fungicides specifically formulated for ash dieback control. Common active ingredients include those designed for ash dieback, though their effectiveness can vary. Follow label instructions for application rates and timing.
- **Preventive Sprays:** Use preventive fungicide sprays before the growing season begins.

Biological Control

- **Beneficial Microorganisms:** Encourage the presence of beneficial microorganisms such as fungi that combat the pathogen.
- **Natural Predators:** Promote the presence of natural predators that feed on the fungal spores, reducing the disease incidence.

Resistant Varieties

- **Planting Resistant Trees:** Consider planting ash tree varieties known to be resistant to ash dieback. Research and select cultivars that have demonstrated reduced susceptibility to the disease.

Monitoring and Maintenance

- **Regular Inspections:** Monitor ash trees regularly for signs of ash dieback. Early detection and prompt treatment are crucial to managing the disease effectively.
- **Record Keeping:** Maintain detailed records of disease incidence and treatment applications. This information aids in assessing the effectiveness of management practices and adjusting strategies as needed.

Conclusion

Combating Ash Dieback requires a comprehensive approach that integrates cultural, chemical, and biological strategies. By implementing these treatment options, you can enhance the health and resilience of ash trees, ensuring their longevity and beauty for years to come.

2. Verticillium Wilt

Verticillium wilt is another fungal disease affecting ash trees, caused by *Verticillium dahliae*. It obstructs water flow in the tree, leading to wilting and yellowing of leaves, branch dieback, and stunted growth. Symptoms include:



- Yellowing or browning of leaves
- Wilted foliage
- Dark streaks in the wood

Treatment Methods

Removal and Disposal

- Prune and remove infected branches, ensuring to dispose of them properly to prevent the spread of the pathogen.
- Consider removing severely affected trees to prevent further contamination.

Fungicide Application

- Apply fungicides specifically designed to target Verticillium Wilt; however, these may have varying effectiveness.

Improving Tree Vitality

- Ensure proper watering, avoiding both overwatering and drought stress.
- Fertilize appropriately to enhance the tree's growth and resistance to diseases.

Monitoring and Timely Action

- Regularly inspect trees for signs of disease progression to take prompt and effective measures.

Biological Control

- Encourage the presence of natural predators and beneficial fungi that can help combat Verticillium Wilt.

Genetic Resistance

- Consider planting tree varieties known to be less susceptible to Verticillium Wilt.

Good Hygiene Practices

- Sterilize pruning tools to avoid cross-contamination between infected and healthy trees.

Soil Management

- Improve soil drainage to prevent waterlogged conditions, which favor the growth of Verticillium fungus.

- Consider soil solarization or fumigation in areas with high infection rates.

Mulching

- Apply mulch around the base of the tree to maintain moisture and temperature levels, reducing stress.

Alternative Planting

- In areas with persistent Verticillium Wilt problems, consider planting species that are resistant to the disease.

3. Ash Anthracnose

Ash anthracnose, caused by the fungus *Gnomoniella fraxini*, results in leaf and shoot blight, leading to premature leaf drop and twig dieback. Symptoms include:



- Brown or black blotches on leaves
- Curled or distorted leaves
- Dieback of shoots and small branches

Treatment Options

Cultural Practices

- Sanitation: Regularly remove and dispose of fallen leaves and twigs to reduce the fungal inoculum. This practice helps prevent the spread of the disease.
- Pruning: Prune and destroy infected branches during the dormant season to minimize the spread of the fungus. Ensure all pruning tools are sterilized before and after use.
- Watering: Maintain proper watering practices to enhance the tree's overall health and resistance to disease. Avoid overhead watering, which can facilitate fungal spread.

- **Fertilization:** Provide balanced fertilization to support tree vitality and recovery. Proper nutrition strengthens the tree's natural defenses.

Chemical Treatments

- **Fungicides:** Apply fungicides specifically formulated for anthracnose control. Common active ingredients include chlorothalonil, mancozeb, and propiconazole. Follow label instructions for application rates and timing.
- **Preventive Sprays:** Use preventive fungicide sprays in early spring before bud break, when the fungus is most active. Repeat applications as necessary during the growing season.

Biological Control

- **Beneficial Microorganisms:** Encourage the presence of beneficial microorganisms such as *Trichoderma* spp. that can outcompete the anthracnose pathogen and enhance tree health.
- **Natural Predators:** Promote the presence of natural predators that feed on the fungal spores, reducing the disease incidence.

Resistant Varieties

- **Planting Resistant Trees:** Consider planting ash tree varieties known to be resistant to anthracnose. Research and select cultivars that have demonstrated reduced susceptibility to the disease.

Monitoring and Maintenance

- **Regular Inspections:** Monitor ash trees regularly for signs of anthracnose. Early detection and prompt treatment are crucial to managing the disease effectively.
- **Record Keeping:** Maintain detailed records of disease incidence and treatment applications. This information aids in assessing the effectiveness of management practices and adjusting strategies as needed.

Conclusion

Combating Ash Anthracnose requires a comprehensive approach that integrates cultural, chemical, and biological strategies. By implementing these treatment options, you can enhance the health and resilience of ash trees, ensuring their longevity and beauty for years to come

4. Powdery Mildew

Powdery mildew, caused by the fungus *Phyllactinia guttata*, affects ash trees by covering leaves with a white, powdery substance. This disease can weaken the tree and reduce its growth. Symptoms include:





- White powdery spots on leaves and stems
- Distorted leaves
- Reduced vigor

Treatment Options

Cultural Practices

- **Sanitation:** Regularly remove and destroy infected leaves to reduce the fungal inoculum. This practice helps prevent the spread of the disease.
- **Proper Spacing:** Ensure adequate spacing between ash trees to promote air circulation, which reduces humidity and helps prevent fungal growth.
- **Watering:** Water trees at ground level to avoid wetting the foliage, as moisture on leaves can encourage fungal development.
- **Pruning:** Prune dense foliage to improve air flow and light penetration, which can help reduce the severity of Powdery Mildew.

Chemical Treatments

- **Fungicides:** Apply fungicides specifically formulated for Powdery Mildew control. Common active ingredients include sulfur, neem oil, and potassium bicarbonate. Follow label instructions for application rates and timing.
- **Preventive Sprays:** Use preventive fungicide sprays early in the season before the onset of symptoms. Repeat applications as necessary during the growing season.

Biological Control

- **Beneficial Microorganisms:** Encourage the presence of beneficial microorganisms such as *Bacillus subtilis* that can suppress the Powdery Mildew pathogen.
- **Natural Predators:** Promote the presence of natural predators like ladybugs that feed on powdery mildew spores, reducing the disease incidence.

Resistant Varieties

- **Planting Resistant Trees:** Consider planting ash tree varieties known to be resistant to Powdery Mildew. Research and select cultivars that have demonstrated reduced susceptibility to the disease.

Monitoring and Maintenance

- **Regular Inspections:** Monitor ash trees regularly for signs of Powdery Mildew. Early detection and prompt treatment are crucial to managing the disease effectively.
- **Record Keeping:** Maintain detailed records of disease incidence and treatment applications. This information aids in assessing the effectiveness of management practices and adjusting strategies as needed.

Conclusion

Managing Powdery Mildew in ash trees requires a comprehensive approach that integrates cultural, chemical, and biological strategies. By implementing these treatment options, you can enhance the health and resilience of ash trees, ensuring their longevity and beauty for years to come.

5. Ash Leaf Rust

Ash leaf rust, caused by the fungus *Puccinia sparganioides*, results in yellow or orange spots on the leaves, which can lead to premature leaf drop. Symptoms include:



- Yellow or orange pustules on leaves
- Early leaf drop
- Stunted growth

Treatment Options

Cultural Practices

- **Sanitation:** Regularly remove and destroy infected leaves and twigs to reduce the fungal inoculum. This practice helps prevent the spread of the disease.
- **Proper Spacing:** Ensure adequate spacing between ash trees to promote air circulation, which reduces humidity and helps prevent fungal growth.
- **Watering:** Water trees at ground level to avoid wetting the foliage, as moisture on leaves can encourage fungal development.
- **Pruning:** Prune dense foliage to improve air flow and light penetration, which can help reduce the severity of Ash Leaf Rust.

Chemical Treatments

- **Fungicides:** Apply fungicides specifically formulated for Ash Leaf Rust control. Common active ingredients include myclobutanil, azoxystrobin, and mancozeb. Follow label instructions for application rates and timing.
- **Preventive Sprays:** Use preventive fungicide sprays early in the season before the onset of symptoms. Repeat applications as necessary during the growing season.

Biological Control

- **Beneficial Microorganisms:** Encourage the presence of beneficial microorganisms such as *Trichoderma* spp. that can suppress the Ash Leaf Rust pathogen.
- **Natural Predators:** Promote the presence of natural predators that feed on rust spores, reducing the disease incidence.

Resistant Varieties

- **Planting Resistant Trees:** Consider planting ash tree varieties known to be resistant to Ash Leaf Rust. Research and select cultivars that have demonstrated reduced susceptibility to the disease.

Monitoring and Maintenance

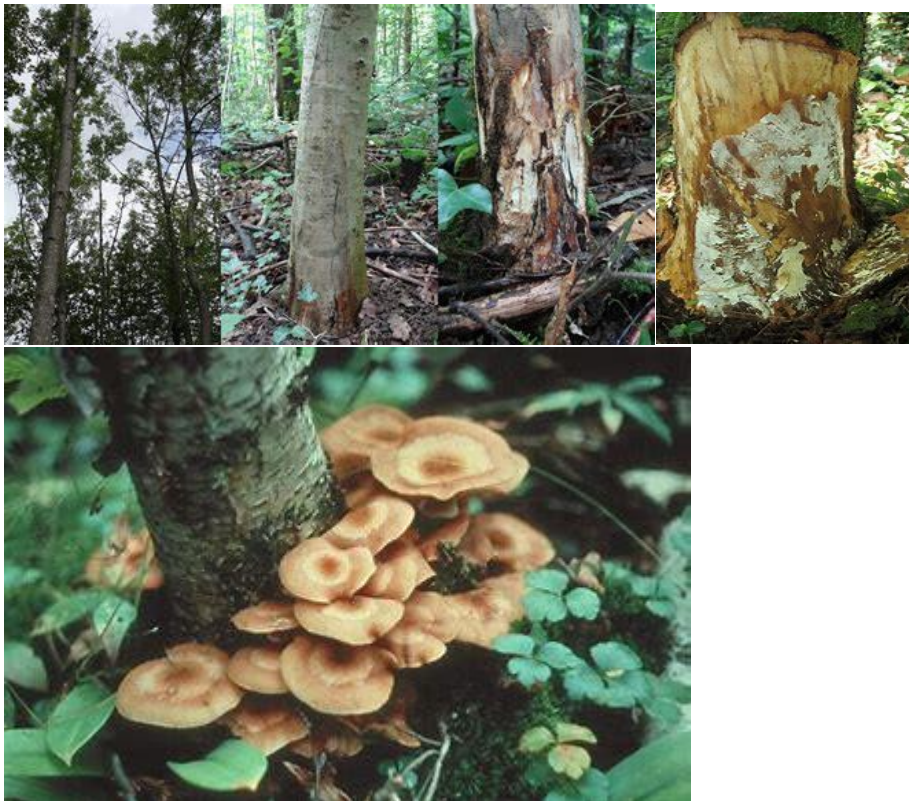
- **Regular Inspections:** Monitor ash trees regularly for signs of Ash Leaf Rust. Early detection and prompt treatment are crucial to managing the disease effectively.
- **Record Keeping:** Maintain detailed records of disease incidence and treatment applications. This information aids in assessing the effectiveness of management practices and adjusting strategies as needed.

Conclusion

Combating Ash Leaf Rust requires a comprehensive approach that integrates cultural, chemical, and biological strategies. By implementing these treatment options, you can enhance the health and resilience of ash trees, ensuring their longevity and beauty for years to come.

6. Armillaria Root Rot

Armillaria root rot, caused by the *Armillaria* species of fungi, affects the roots and lower trunks of ash trees, leading to decay and tree death. Symptoms include:





- Honey-colored mushrooms at the base of the tree
- Decayed roots
- Wilting and dieback of branches

Treatment Options

Cultural Practices

- **Sanitation:** Remove and destroy infected stumps and roots to reduce the fungal inoculum. This practice helps prevent the spread of the disease.
- **Mulching:** Apply mulch around the base of the tree to improve soil health and reduce stress on the roots. Avoid excessive mulching, which can create favorable conditions for the fungus.
- **Watering:** Ensure proper watering to enhance the tree's overall health and resistance to disease. Avoid waterlogging, which can exacerbate root rot.
- **Pruning:** Prune infected roots and branches to minimize the spread of the fungus. Ensure all pruning tools are sterilized before and after use.

Chemical Treatments

- **Fungicides:** Apply fungicides specifically formulated for Armillaria Root Rot control. Common active ingredients include thiophanate-methyl and propiconazole. Follow label instructions for application rates and timing.
- **Preventive Sprays:** Use preventive fungicide treatments in areas known to be susceptible to Armillaria Root Rot. Repeat applications as necessary during the growing season.

Biological Control

- **Beneficial Microorganisms:** Encourage the presence of beneficial microorganisms such as Trichoderma spp. that can suppress the Armillaria fungus.
- **Natural Predators:** Promote the presence of natural predators that feed on fungal spores, reducing the disease incidence.

Resistant Varieties

- **Planting Resistant Trees:** Consider planting ash tree varieties known to be resistant to Armillaria Root Rot. Research and select cultivars that have demonstrated reduced susceptibility to the disease.

Monitoring and Maintenance

- **Regular Inspections:** Monitor ash trees regularly for signs of Armillaria Root Rot. Early detection and prompt treatment are crucial to managing the disease effectively.
- **Record Keeping:** Maintain detailed records of disease incidence and treatment applications. This information aids in assessing the effectiveness of management practices and adjusting strategies as needed.

Conclusion

Combating Armillaria Root Rot requires a comprehensive approach that integrates cultural, chemical, and biological strategies. By implementing these treatment options, you can enhance the health and resilience of ash trees, ensuring their longevity and beauty for years to come.

7. Botryosphaeria Canker

Botryosphaeria canker, caused by the Botryosphaeria fungi, results in cankers on the branches and trunk of ash trees, leading to dieback. Symptoms include:



- Sunken, dark cankers on stems and branches
- Dieback of affected areas
- Wilted foliage

Treatment Options

Cultural Practices

- Sanitation: Regularly remove and destroy infected branches and twigs to reduce the fungal inoculum. This practice helps prevent the spread of the disease.
- Pruning: Prune and destroy infected branches during the dormant season to minimize the spread of the fungus. Ensure all pruning tools are sterilized before and after use.
- Watering: Maintain proper watering practices to enhance the tree's overall health and resistance to disease. Avoid overhead watering, which can facilitate fungal spread.
- Fertilization: Provide balanced fertilization to support tree vitality and recovery. Proper nutrition strengthens the tree's natural defenses.

Chemical Treatments

- Fungicides: Apply fungicides specifically formulated for Botryosphaeria Canker control. Common active ingredients include thiophanate-methyl and propiconazole. Follow label instructions for application rates and timing.
- Preventive Sprays: Use preventive fungicide sprays in early spring before bud break, when the fungus is most active. Repeat applications as necessary during the growing season.

Biological Control

- Beneficial Microorganisms: Encourage the presence of beneficial microorganisms such as Trichoderma spp. that can outcompete the Botryosphaeria pathogen and enhance tree health.
- Natural Predators: Promote the presence of natural predators that feed on the fungal spores, reducing the disease incidence.

Resistant Varieties

- **Planting Resistant Trees:** Consider planting ash tree varieties known to be resistant to Botryosphaeria Canker. Research and select cultivars that have demonstrated reduced susceptibility to the disease.

Monitoring and Maintenance

- **Regular Inspections:** Monitor ash trees regularly for signs of Botryosphaeria Canker. Early detection and prompt treatment are crucial to managing the disease effectively.
- **Record Keeping:** Maintain detailed records of disease incidence and treatment applications. This information aids in assessing the effectiveness of management practices and adjusting strategies as needed.

Conclusion

Combating Botryosphaeria Canker requires a comprehensive approach that integrates cultural, chemical, and biological strategies. By implementing these treatment options, you can enhance the health and resilience of ash trees, ensuring their longevity and beauty for years to come.

8. Ash Yellows

Ash yellows, caused by a phytoplasma, leads to yellowing and slow decline of ash trees. Symptoms include:



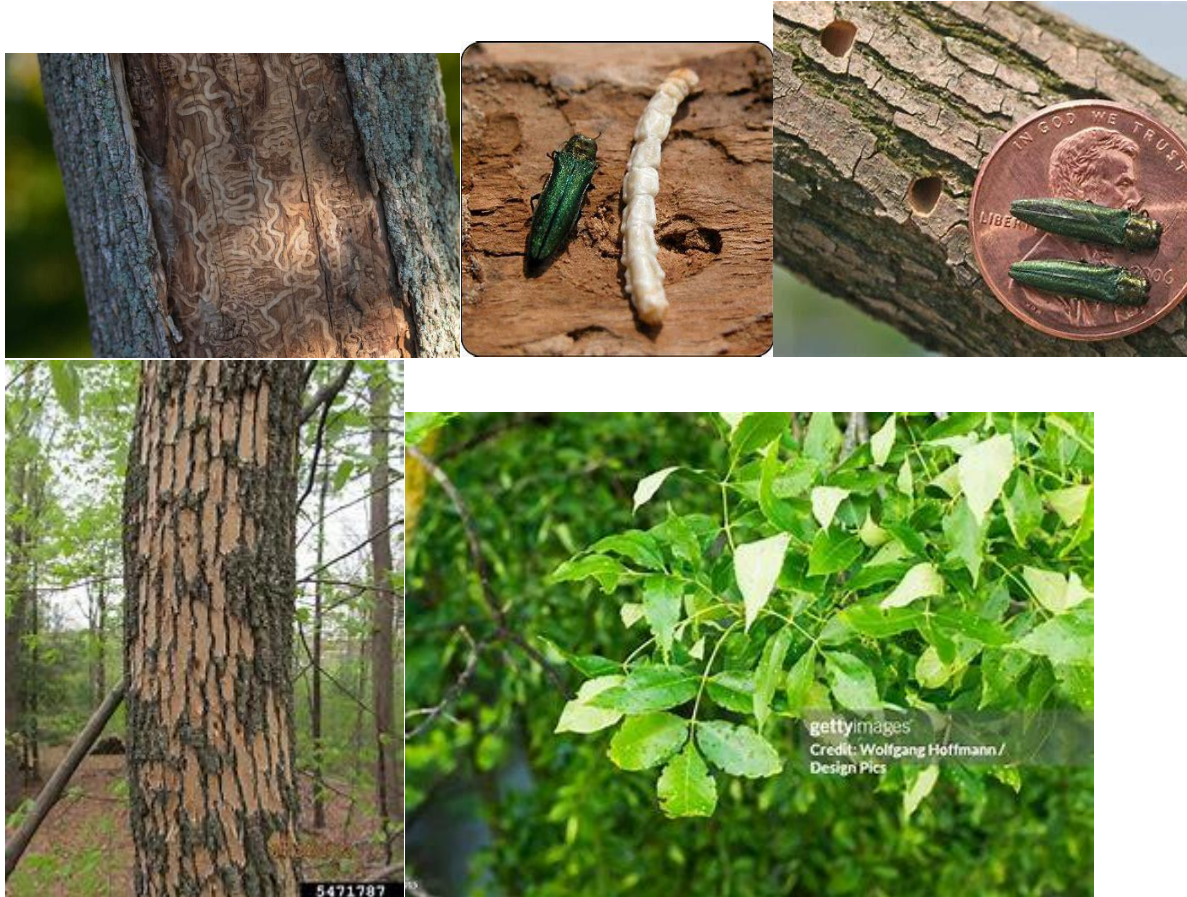
- Yellowing and premature leaf drop
- Stunted growth

There is no definitive cure, but maintaining tree health can mitigate the effects.

Common Ash Pests

1. Emerald Ash Borer

The emerald ash borer (*Agrilus planipennis*) is a highly destructive pest that targets ash trees. This beetle larvae feed on the inner bark, disrupting the tree's ability to transport water and nutrients. Symptoms include:



- D-shaped exit holes on the bark
- Thinning and yellowing of the canopy
- Vertical splits in the bark

Comprehensive Approaches to Managing EAB Infestations

Emerald Ash Borer (EAB) is an invasive beetle species native to Asia that has caused significant damage to ash trees in North America. The larvae of EAB feed on the inner bark of ash trees, disrupting the tree's ability to transport water and nutrients, ultimately leading to the tree's death. Effective management and treatment of EAB infestations are crucial to protect ash trees and maintain the health of forests and urban landscapes. Below are comprehensive treatment options for EAB:



1. Chemical Treatments

Insecticide Injections

Insecticide injections involve directly injecting chemicals into the trunk of the ash tree. This method ensures that the insecticide is distributed throughout the tree's vascular system. Commonly used insecticides include:

- Emamectin Benzoate: Provides up to two years of protection and is highly effective against EAB.
- Imidacloprid: Offers protection for one year and requires annual applications.
- Azadirachtin: Derived from the neem tree, it offers protection for one year and requires annual applications.

Soil Drenching

Soil drenching involves applying insecticide to the soil around the base of the ash tree. The roots absorb the insecticide, which is then distributed throughout the tree. Commonly used insecticides for soil drenching include:

- Imidacloprid: Effective for one year and requires annual applications.
- Dinotefuran: Effective for one year and requires annual applications.

Bark Spray

Bark spray involves applying insecticide directly to the bark of the ash tree. The insecticide penetrates the bark and is absorbed into the tree's vascular system. Commonly used insecticides for bark spray include:

- Dinotefuran: Effective for one year and requires annual applications.

2. Biological Control

Parasitic Wasps

Parasitic wasps are natural enemies of EAB larvae and can be used as a biological control method. These wasps lay their eggs inside EAB larvae, and the wasp larvae feed on the EAB larvae, ultimately killing them. Commonly used parasitic wasps include:

- *Tetrastichus planipennisi*: Targets EAB larvae under the bark.
- *Spathius agrili*: Targets EAB larvae under the bark.

Predatory Beetles

Predatory beetles can also be used to control EAB populations. These beetles prey on EAB larvae, reducing their numbers and limiting damage to ash trees. Commonly used predatory beetles include:

- *Chrysoperla carnea*: Commonly known as green lacewings, these beetles feed on EAB larvae.

3. Cultural Control

Tree Removal

Removing infested ash trees can help prevent the spread of EAB to healthy trees. This method is effective in areas where EAB infestations are localized. It is important to properly dispose of removed trees to prevent further spread of EAB.



Quarantine Measures

Implementing quarantine measures can help prevent the movement of infested wood and limit the spread of EAB. This involves restricting the transport of ash wood, firewood, and nursery stock from infested areas to non-infested areas.

4. Integrated Pest Management (IPM)

Integrated Pest Management (IPM) combines multiple control methods to manage EAB infestations effectively. This approach involves monitoring EAB populations, applying chemical treatments, introducing biological controls, and implementing cultural control practices. IPM aims to reduce EAB populations to manageable levels and minimize the impact on ash trees.

5. Monitoring and Early Detection

Visual Inspections

Regular visual inspections of ash trees can help detect early signs of EAB infestations, such as D-shaped exit holes on the bark, canopy dieback, and epicormic shoots. Early detection allows for timely intervention and treatment.

Trapping

Using traps to monitor EAB populations can help detect infestations and determine the effectiveness of control measures. Commonly used traps include purple prism traps and green funnel traps, which attract and capture adult EABs.

Branch Sampling

Branch sampling involves collecting and examining ash branches for signs of EAB larvae and damage. This method can help detect early infestations and guide treatment decisions.

6. Public Awareness and Education

Educating the public about EAB and its impact on ash trees is essential for effective management. Public awareness campaigns can help inform residents about the signs of EAB infestations, the importance of reporting suspected cases, and the available treatment options. Engaging the community in monitoring efforts and promoting responsible practices can contribute to the successful management of EAB.

7. Research and Development

Ongoing research and development are crucial for improving EAB treatment options and management strategies. This includes studying the biology and behavior of EAB, developing new insecticides and biological control agents, and exploring innovative approaches to protect ash trees. Collaboration between government agencies, research institutions, and industry professionals can help advance our understanding of EAB and enhance our ability to combat this invasive pest.

In conclusion, managing Emerald Ash Borer infestations requires a multifaceted approach that combines chemical, biological, cultural, and integrated control methods. Early detection, public awareness, and ongoing research are essential components of effective EAB management. By implementing these strategies, we can protect ash trees and preserve the health and integrity of our forests and urban landscapes.

2. Ash Bark Beetle

The ash bark beetle (*Hylesinus* species) bores into the bark of ash trees, causing damage and potentially introducing fungal diseases. Symptoms include:



- Small holes in the bark
- Frass (sawdust-like material) around holes
- Yellowing and wilting foliage

Comprehensive Strategies to Manage Ash Bark Beetle Infestations

Understanding Ash Bark Beetles

Ash Bark Beetles are invasive pests that cause severe damage to ash trees by burrowing into the bark, creating galleries, and disrupting nutrient and water flow. Effective management of Ash Bark Beetle infestations involves a combination of preventive, cultural, chemical, and biological strategies.

Treatment Options

Preventive Measures

- **Tree Health:** Maintain tree health by proper watering, fertilization, and pruning to increase resistance to beetle attacks.
- **Monitoring:** Regularly inspect ash trees for signs of beetle activity, such as tiny holes in the bark, sawdust, or frass (beetle excrement).
- **Quarantine:** Avoid transporting firewood or other ash tree materials from infected areas to prevent the spread of beetles.



Cultural Practices

- **Sanitation:** Remove and destroy infested trees and branches promptly to reduce beetle populations and prevent further spread.
- **Bark Removal:** In some cases, peeling back the bark of infested trees can expose beetle larvae and pupae and help control the infestation.
- **Pruning:** Prune infested branches during the dormant season to minimize the spread of beetles. Ensure all pruning tools are sterilized before and after use.

Chemical Treatments

- **Insecticides:** Apply insecticides specifically formulated for bark beetle control. Common active ingredients include permethrin, bifenthrin, and carbaryl. Follow label instructions for application rates and timing.
- **Preventive Sprays:** Use preventive insecticide sprays on ash trees during the beetle's active period, typically in late spring and summer.

Biological Control

- **Beneficial Insects:** Encourage the presence of beneficial insects such as parasitic wasps that prey on beetle larvae.
- **Natural Predators:** Promote the presence of natural predators that feed on bark beetles, reducing the pest population.

Resistant Varieties

- **Planting Resistant Trees:** Consider planting ash tree varieties known to be resistant to bark beetle infestations. Research and select cultivars that have demonstrated reduced susceptibility to the pest.

Monitoring and Maintenance

- **Regular Inspections:** Monitor ash trees regularly for signs of bark beetle activity. Early detection and prompt treatment are crucial to managing the infestation effectively.
- **Record Keeping:** Maintain detailed records of beetle activity and treatment applications. This information aids in assessing the effectiveness of management practices and adjusting strategies as needed.

Conclusion

Combating Ash Bark Beetle infestations requires a comprehensive approach that integrates preventive, cultural, chemical, and biological strategies. By implementing these treatment options, you can enhance the health and resilience of ash trees, ensuring their longevity and beauty for years to come.

5. Banded Ash Borer



Banded Ash Borer

This infestation is caused by wasp-like moths that fly during the day called Banded Ash *Alaclara*. They only attack ash trees, especially green ones.

Ash, hickory, elm, mesquite, and white oak are the other common hosts of the banded ash borers. They roughen the tree's bark and damage the tissues responsible for the flow of food and water.

Feeding by some species of these insects can also weaken branches or even kill the entire tree.

Signs/Symptoms:

The symptoms of a ringed ash infestation can be confused with the emerald ash borer. Ringed ash borer tunnels tend to curve and zigzag aimlessly, extending deep into the tree, directly under the bark of the tree.

The banded ash borers' exit holes are round, while the emerald ash borers' exit holes are D-shaped.

Causes:

Unlike the emerald ash borer, the strip ash borer prefers to attack dead, dying, diseased or stressed trees rather than healthy trees. In spring, adults lay eggs in cracks in the bark of the host tree.

Larvae feed under the bark before burrowing into the sapwood where they feed until late summer. The larvae pupate in the fall and hatch fully grow the following spring.

Treatment:

Apply pesticides in August as this is the time of year when pests appear.



Before an infestation occurs, the application of the systemic insecticides dinotefuran and imidacloprid as a soil drench should be done.

These insecticides can help kill adult females, who chew through the bark to lay their eggs and newly hatched larvae, which burrow into the tree. You can find adult banded ash borers in your house after they hatch from firewood brought into the house.

Instead of treating firewood with insecticides, leave it outside of your home until you're ready to burn it.

Danger:

If you find them, your tree may already be at risk due to another disease or stress condition.

Preventive Measures

Preventing ash diseases and pests requires a combination of cultural practices, monitoring, and timely interventions. Key strategies include:

- Planting disease-resistant ash tree varieties
- Maintaining proper spacing to ensure good air circulation
- Regular monitoring of trees for early signs of disease and pests
- Implementing proper watering and fertilization practices
- Pruning and removing infected branches and trees
- Applying fungicides and insecticides as needed

Conclusion

While ash diseases and pests pose significant challenges to tree health in South Australia, understanding the symptoms, causes, and management strategies can help mitigate their impact. By implementing preventive measures and timely interventions, it is possible to preserve the beauty and ecological value of ash trees for future generations.