

ASWP 08 R0

Fertilizing and Aerating Soils for Woody Plants



Revision History

Version	Revision Date	Brief Description of Revisions
R0	February 2016	Document has been updated to new format.

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Workplace Safety & Prevention Services wishes to express its appreciation to those who have assisted in the preparation of the **Arborist SafeWorkPractices** guide.

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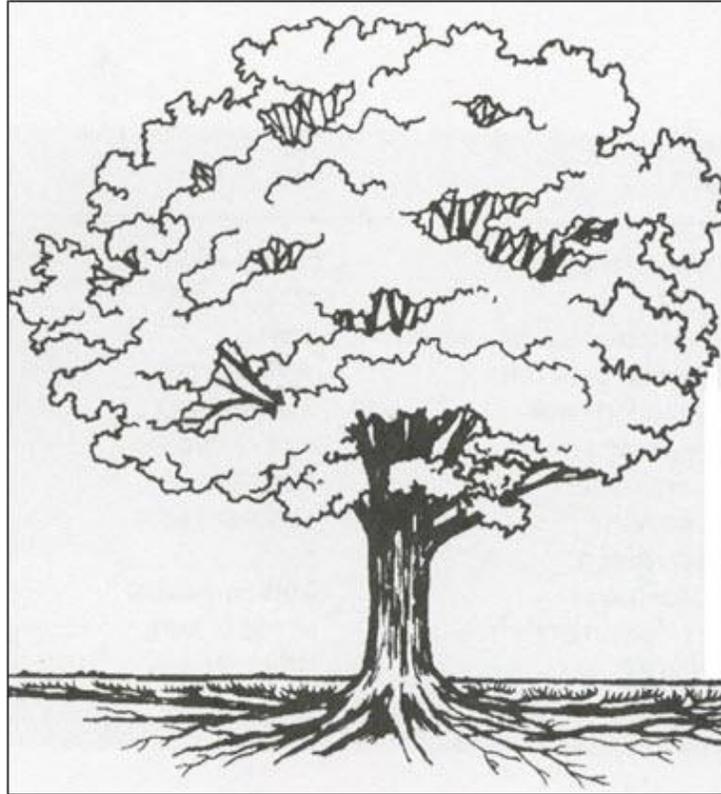
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1.0 Introduction

This document outlines the practice for fertilizing and aerating soils for woody plants (Figure 1).

Figure 1



2.0 Hazards

The following hazards have been identified to aid in establishing and maintaining a safe work environment when fertilizing and aerating soils for woody plants:

- Biotic Conditions
- Chemical
- Climatic Conditions
- Electrical
- Ergonomics
- Mechanical

Note: The above list of hazards is not a complete list and a thorough job plan should be completed to identify existing hazards found at the work site.

3.0 Legislation / Safe Work Practices

The following information has been provided listing relevant arborist safe work practices and legislation requirements:

- ASWP01 General Legislation
- ASWP02 Work in a Safe Environment
- ASWP02 Protect Self and Others
- ASWP02 Arborist Job Planning
- Workplace Hazardous Material Information System (WHMIS)
- Material Handling

4.0 Application Methods

The following are the general mandatory requirements for an arborist when working with fertilizing and aeration equipment. In addition to these requirements, the work practices contain specific requirements that must also be followed.

- Operators must inspect equipment prior to using
- Operators must assess the work site for the need to locate underground utilities
- Operators must wear appropriate Personal Protective Equipment (PPE)

5.0 Work Practices

The following work practices provide the steps when utilizing fertilizing and aeration equipment.

5.1 Liquid – Soil Fertilization

Step	Action
Inspect equipment as per manufacturer’s instructions	Inspect pump and hoses to/for: <ul style="list-style-type: none"> • Ensure fittings are secured and attached • Leaks • Cracks Ensure valves are placed in the correct positions
Start pump Note: Ensure that the pump pressure is not overloading system.	Inspect for leaks under operating pressure: <ul style="list-style-type: none"> • Hoses • Connections • Fittings

Step	Action
	<ul style="list-style-type: none"> • Application equipment
Mix fertilizer as per Product Label	<ul style="list-style-type: none"> • Wear appropriate Personal Protective Equipment (PPE).
Inspect work site	<p>Assess for underground obstructions such as:</p> <ul style="list-style-type: none"> • Sprinkler system • Electrical system • Communications conductors • Gas line <p>Note: Locates may need to be established where required.</p>
Pull out hose	<ul style="list-style-type: none"> • Use proper body positioning to eliminate sprains and strains
Apply product	<ul style="list-style-type: none"> • Continually monitor the pressure of the application equipment
Secure equipment for transport	<p>Monitor hose for:</p> <ul style="list-style-type: none"> • Pinch points • Hose connector • Security on vehicle

5.2 Granular – Broadcast Method - Soil Fertilization

Step	Action
Inspect equipment	<ul style="list-style-type: none"> • Refer to manufacturer's instruction for inspection points
Inspect work site	
Fill spreader	<ul style="list-style-type: none"> • Wear appropriate Personal Protective Equipment (PPE) for the job
Apply product	<ul style="list-style-type: none"> • Be aware of spreader use when near hard surfaces, pools etc. to prevent unwanted over spreading
Secure equipment for transport	

5.3 Granular - Drill Hole Method – Soil Fertilization

Step	Action
Inspect equipment	<ul style="list-style-type: none"> • Inspect drill bit for cracks, sharpness
Inspect work site	<p>Assess for underground obstructions such as:</p> <ul style="list-style-type: none"> • Sprinkler system • Electrical system • Communications conductors • Gas lines <p>Note: Locates may need to be established where required.</p>
Drill holes	<ul style="list-style-type: none"> • Maintain distances from rotating shafts • Caution must be exercised for power head kick back • Ensure loose clothing and gloves are kept away from moving parts
Apply product	<ul style="list-style-type: none"> • Wear appropriate Personal Protective Equipment (PPE)

5.4 Trunk Implant Method - Fertilization

Step	Action
Inspect tools and equipment	<p>Inspect for:</p> <ul style="list-style-type: none"> • Cracks • Sharpness
Inspect tree	<p>Inspect for:</p> <ul style="list-style-type: none"> • Metal • Fences

Step	Action
	<ul style="list-style-type: none"> • Lightning protection • Cracks
Drill hole to appropriate depth	<ul style="list-style-type: none"> • Hold drill firmly to reduce potential for jamming and twisting of drill
Implant capsule	<ul style="list-style-type: none"> • Watch for pinch points

5.5 Trunk Injection Method - Fertilization

Step	Action
Inspect tools / equipment	Inspect for: <ul style="list-style-type: none"> • Sharpness • Cracks • Pressure system for operation
Inspect pressure system	Inspect for: <ul style="list-style-type: none"> • Leaks • Connections
Drill appropriate depth / width into tree	<ul style="list-style-type: none"> • Hold drill firmly to reduce potential for jamming and twisting of drill
Implant tip of system	<ul style="list-style-type: none"> • Watch for pinch points
Pressurize the system	<ul style="list-style-type: none"> • Check for leaks
Remove tip	<ul style="list-style-type: none"> • Cover microinjecting unit with one hand and pull out slowly • Wear safety glasses during this operation
Dispose of tip / clean equipment	<ul style="list-style-type: none"> • Follow appropriate directions from the manufacturer's instruction

5.6 Aerating Soils

Step	Action
Inspect work site	Assess for underground obstructions such as: <ul style="list-style-type: none"> • Sprinkler system • Electrical system • Communication conductors

	<ul style="list-style-type: none"> • Gas lines <p>Note: Locates may need to be established where required.</p>
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5.7 Mechanical Aeration

Step	Action
Inspect equipment	Inspect for: <ul style="list-style-type: none"> • Cracks • Broken parts • Sharpness
Make holes	<ul style="list-style-type: none"> • Ensure obstructions are not hit • Watch for head kick back • Maintain distances from revolving shafts <p>Note: Locates may need to be established where required.</p>
Remove equipment	<ul style="list-style-type: none"> • Ensure equipment does not come loose quickly and strike the operator

5.8 Pneumatic Aeration

Step	Action
Insert probe into soil	<ul style="list-style-type: none"> • Ensure probe is inserted to the appropriate depth <p>Note: Locates may need to be established where required.</p>
Activate nozzle	<ul style="list-style-type: none"> • Ensure material does not blow back • Wear all appropriate Personal Protective Equipment (PPE)
Remove nozzle	<ul style="list-style-type: none"> • Ensure equipment does not come loose quickly and strike the operator