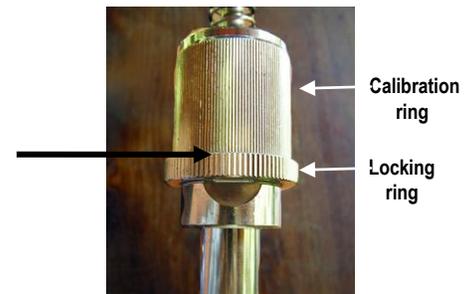


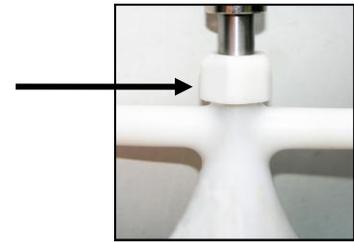
# Testing and Adjusting Kioritz Soil Injector Calibration

1. Visually inspect injector for any damaged or missing parts.

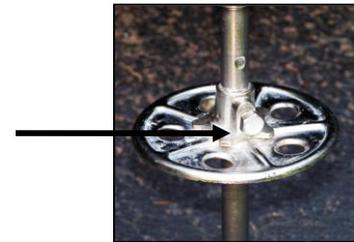
2. Be sure the **lower edge of the tall gridded calibration ring** is set so that it bisects the red 5 on the calibration plate underneath, and then screw the **thin gridded locking ring** up to tighten the calibration ring in place.



3. Be sure the white plastic collar above the tank is tight.



4. Be sure the round metal depth gauge is in the lowest position on the probe.



5. Put a couple cups of plain water into the injector tank.



6. Pump the handle several times to be sure water squirts out in all four directions. It should shoot about 6 feet. If the emitter holes in the nozzle tip are clogged, clean them carefully with a gimlet, ice pick, or metal paperclip. Don't use a toothpick or anything that could break off in the nozzle tip.

7. To test the calibration, place the injector tip into a heavy duty measuring cup and pump the handle smartly 12 times. It's a good idea to place the tip in a metal bottle cap in the bottom of the measuring cup to prevent puncturing or shattering the cup.

- If you get **exactly 2 ounces** of liquid from 12 pumps, the injector is working properly.
- If it puts out **more than 2 ounces**, adjust the calibration ring upward and retest.
- If it puts out **less than 2 ounces**, adjust the calibration ring downward and retest. If you move the calibration ring down as far as it will go and still don't get 2 ounces for 12 pumps, see the "Alternate Mixing Instructions for Kioritz Soil Injector" that begin on the next page.



## Alternate Mixing Instructions for Kioritz Soil Injector

These instructions are for use ONLY with Kioritz soil injectors that put out less than the standard 2 ounces of liquid for 12 pumps of the handle. The Mixing ratios have been adjusted to achieve the correct concentration of active ingredient per ounce of output. The Dosing instructions remain the same.

### **To use these instructions:**

1. Select the page for the amount of liquid the injector is putting out for 12 pumps of the handle.  
Your choices are 1.25 oz, 1.5 oz, and 1.75 oz.
2. Then select the chart for the chemical you are using.  
Your choices are Imidacloprid or Safari 20 SG.
3. Note that in the Mixing section on the Imidacloprid charts, you also need to choose the formulation you are using.  
Your choices are 22.6% 2F or 21.4% 2L liquid products or 75% WSP or WSB powdered products.

**If you have questions, please call the Hemlock Help Line 706-429-8010.**

**For a Kioritz injector that dispenses 1.25 oz of liquid for 12 pumps of the handle:**



**IMIDACLOPRID QUICK REFERENCE CHART**  
**FOR THIS KIORITZ INJECTOR ONLY – 1.25 oz Output for 12 Strokes**

It is the user's responsibility to read and follow the label instructions when using pesticide materials

MIXING		
Imidacloprid Product	Ratio of Water & Product for Moderate to Wet Soil	Ratio of Water & Product for Dry to Normal Soil
22.6% 2F or 21.4% 2L	0.5 fl oz water per fl oz product or 32 oz water with 64 oz product	2 fl oz water per fl oz product or 64 oz water with 32 oz product
75% WSP (1.6 oz)	7.5 fl oz water per 1.6 oz packet	15 fl oz water per 1.6 oz packet
DOSING		
Inches in Diameter (DBH)	Dosage per Inch DBH for Moderate to Wet Soil Pumps per Inch of Trunk Diameter	Dosage per Inch DBH for Dry to Normal Soil Pumps per Inch of Trunk Diameter
1-11	1 pump	2 pumps
12-18	1.5* pumps	3 pumps
19-22	2 pumps	4 pumps
>22	3 pumps	6 pumps

If using a **Kioritz soil injector** with a **powdered product**, default to the **Dry to Normal Soil** mixing ratio.

Be sure the calibration ring is set on the red 5.

Trees >22" dbh should be treated 2 years in a row.

\*To get the equivalent of 1.5 pumps per hole, do 1 pump in half the holes and 2 pumps in the other half, distributing these two levels evenly around the tree. For more information, please call the Hemlock Help Line<sup>SM</sup> 706-429-8010 or visit [www.savegeorgiashemlocks.org](http://www.savegeorgiashemlocks.org).

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**SAFARI 20 SG QUICK REFERENCE CHART**  
**FOR THIS KIORITZ INJECTOR ONLY – 1.25 oz Output for 12 Strokes**

It is the user's responsibility to read and follow the label instructions when using pesticide materials.

MIXING	
<b>Master Batch for Kioritz Soil Injector</b>	
11.25 oz. product with 32 oz. water 22.5 oz. product with 64 oz. water	
DOSING	
Inches DBH	Soil Injection (Kioritz): HANDLE PUMPS per Inch DBH
1 – 15	3 pumps
16 – 19	4 pumps
20 – 23	5 pumps
24 - 27	6 pumps
28 – 31	7 pumps
32 – 35	8 pumps
36 – 39	9 pumps
40 or more	10 pumps

Use the plastic measuring device that comes with Safari 20 SG to measure the required amount of product and a regular measuring cup to measure the water.

Be sure the calibration ring is set on the red 5.

Note: Apply Safari® 20SG from Feb 1 to Nov15. For more information, call 706-429-8010 or visit [www.savegeorgiashemlocks.org](http://www.savegeorgiashemlocks.org).

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**For a Kioritz injector that dispenses 1.5 oz of liquid for 12 pumps of the handle:**



**IMIDACLOPRID QUICK REFERENCE CHART**  
**FOR THIS KIORITZ INJECTOR ONLY – 1.5 oz Output for 12 Strokes**

It is the user's responsibility to read and follow the label instructions when using pesticide materials

MIXING		
Imidacloprid Product	Ratio of Water & Product for Moderate to Wet Soil	Ratio of Water & Product for Dry to Normal Soil
22.6% 2F or 21.4% 2L	3/4 fl oz water per fl oz product or 39 oz water with 52 oz product	2 1/2 fl oz water per fl oz product or 69 oz water with 27 oz product
75% WSP (1.6 oz)	8.5 fl oz water per 1.6 oz packet	17 fl oz water per 1.6 oz packet
DOSING		
Inches in Diameter (DBH)	Dosage per Inch DBH for Moderate to Wet Soil Pumps per Inch of Trunk Diameter	Dosage per Inch DBH for Dry to Normal Soil Pumps per Inch of Trunk Diameter
1-11	1 pump	2 pumps
12-18	1.5* pumps	3 pumps
19-22	2 pumps	4 pumps
>22	3 pumps	6 pumps

If using a **Kioritz soil injector** with **powdered product**, default to the **Dry to Normal** ratio.

Be sure the calibration ring is set on the red 5.

Trees >22" dbh should be treated 2 years in a row.

\*To get the equivalent of 1.5 pumps per hole, do 1 pump in half the holes and 2 pumps in the other half, distributing these two levels evenly around the tree. For more information, please call the Hemlock Help Line<sup>SM</sup> 706-429-8010 or visit [www.savegeorgiashemlocks.org](http://www.savegeorgiashemlocks.org).

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**SAFARI 20 SG QUICK REFERENCE CHART**  
**FOR THIS KIORITZ INJECTOR ONLY – 1.5 oz Output for 12 Strokes**

It is the user's responsibility to read and follow the label instructions when using pesticide materials.

MIXING	
<b>Master Batch for Kioritz Soil Injector</b>	
9.25 oz. product with 32 oz. water (1 qt)	
18.5 oz. product with 64 oz. water (2 qts)	
27.75 oz. product with 96 oz. water (3 qts)	
DOSING	
Inches DBH	Soil Injection (Kioritz): HANDLE PUMPS per Inch DBH
1 – 15	3 pumps
16 – 19	4 pumps
20 – 23	5 pumps
24 - 27	6 pumps
28 – 31	7 pumps
32 – 35	8 pumps
36 – 39	9 pumps
40 or more	10 pumps

Use the plastic measuring device that comes with Safari 20 SG to measure the required amount of product and a regular measuring cup to measure the water.

Be sure the calibration ring is set on the red 5.

Note: Apply Safari® 20SG from Feb 1 to Nov15. For more information, call 706-429-8010 or visit [www.savegeorgiashemlocks.org](http://www.savegeorgiashemlocks.org).

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**For a Kioritz injector that dispenses 1.75 oz of liquid for 12 pumps of the handle:**



**IMIDACLOPRID QUICK REFERENCE CHART**  
**FOR THIS KIORITZ INJECTOR ONLY – 1.75 oz Output for 12 Strokes**

It is the user's responsibility to read and follow the label instructions when using pesticide materials

MIXING		
Imidacloprid Product	Ratio of Water & Product for Moderate to Wet Soil	Ratio of Water & Product for Dry to Normal Soil
22.6% 2F or 21.4% 2L	1 fl oz water per fl oz product or 48 oz water with 48 oz product	3 fl oz water per fl oz product or 72 oz water with 24 oz product
75% WSP (1.6 oz)	10 fl oz water per 1.6 oz packet	20 fl oz water per 1.6 oz packet
DOSING		
Inches in Diameter (DBH)	Dosage per Inch DBH for Moderate to Wet Soil Pumps per Inch of Trunk Diameter	Dosage per Inch DBH for Dry to Normal Soil Pumps per Inch of Trunk Diameter
1-11	1 pump	2 pumps
12-18	1.5* pumps	3 pumps
19-22	2 pumps	4 pumps
>22	3 pumps	6 pumps

If using a **Kioritz soil injector with powdered product**, default to the **Dry to Normal** ratio.

Be sure the calibration ring is set on the red 5.

Trees >22" dbh should be treated 2 years in a row.

\*To get the equivalent of 1.5 pumps per hole, do 1 pump in half the holes and 2 pumps in the other half, distributing these two levels evenly around the tree. For more information, please call the Hemlock Help Line<sup>SM</sup> 706-429-8010 or visit [www.savegeorgiashemlocks.org](http://www.savegeorgiashemlocks.org).

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**SAFARI 20 SG QUICK REFERENCE CHART**  
**FOR THIS KIORITZ INJECTOR ONLY – 1.75 oz Output for 12 Strokes**

It is the user's responsibility to read and follow the label instructions when using pesticide materials.

MIXING	
<b>Master Batch for Kioritz Soil Injector</b>	
8 oz. product with 32 oz. water (1 qt)	
16 oz. product with 64 oz. water (2 qts)	
24 oz. product with 96 oz. water (3 qts)	
DOSING	
Inches DBH	Soil Injection (Kioritz): HANDLE PUMPS per Inch DBH
1 – 15	3 pumps
16 – 19	4 pumps
20 – 23	5 pumps
24 - 27	6 pumps
28 – 31	7 pumps
32 – 35	8 pumps
36 – 39	9 pumps
40 or more	10 pumps

Use the plastic measuring device that comes with Safari 20 SG to measure the required amount of product and a regular measuring cup to measure the water.

Be sure the calibration ring is set on the red 5.

Note: Apply Safari® 20SG from Feb 1 to Nov15. For more information, call 706-429-8010 or visit [www.savegeorgiashemlocks.org](http://www.savegeorgiashemlocks.org).

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