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Title:	Parametrization of the Do3Se ozone flux model for Terminalia arjuna, Azadirachta indica, Ficus religiosa, Syzygium cumini and Polyalthia longifolia
Authors:	Singh, Gobinder (/jspui/browse?type=author&value=Singh%2C+Gobinder)
Keywords:	Polyalthia longifolia Ficus religiosa Syzygium cumini Terminalia arjuna Azadirachta indica
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Abstract:	<p>Troposphere is the layer of atmosphere extending from the ground to a height of 6-10km. Ozone is majorly present in the stratosphere layer of atmosphere which is present just above the troposphere. But there is a minimal amount of ozone presence in troposphere as well, termed as the tropospheric or ground-level ozone. This ozone is not harmful upto certain threshold, after which it acts as a greenhouse gas and becomes damaging to the living forms. The toxic effect of ozone to plants include yield loss, leaf injury etc.. To determine an O3 dose/plant response relationship different type of ozone metrics like Mx, W125, AOT40 are used. During this work, we are looking at a new metric known as PODy (Phytotoxic Ozone Dose) developed by Emberson and co- workers. This metric was developed based on the stomatal flux measurements as a measure of ozone that enters the stomata of a leaf. We measured stomatal conductance using a Decagon SC-1 Leaf Porometer and for Ozone measurements we used UV absorption photometry. Stomatal conductance measurements were taken on the leaves of 5 different tree species namely, Arjun, False Ashoka, Jamun, Neem and Peepal in IISER Mohali during summer and post monsoon season. When performing a paired t-test on measurements taken on the top and bottom side of the same leaf, the t value for the test for every tree except ashokha comes higher than the t-critical value. But t value which is higher than the t-critical value suggests us that the bottom side has significantly higher stomatal conductance. When applying a paired t-test on the measurements of unshaded younger and older leaves growing on the same branch of the same tree, for some species t-value comes under t-critical and for others the value is higher than t-critical. So, we are not sure about significant difference between the pair of younger and older leaves. Significantly higher conductance on old leaves was found on peepal, no difference between young and old leaves was found on false ashoka and jamun and a higher conductance of young leaves was found on neem and arjun.</p>
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