

The Best Practice Guide for UK Plum Production Growth Regulation

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Growth Regulation. Why control growth?

The regulation of growth to create a balanced tree will encourage fruit bud formation and improve fruit set. Plums grown on traditional rootstocks e.g. St Julian A will often produce vigorous or excessive growth so the employment of techniques to regulate growth will be beneficial to cropping and reduce the labour requirement for pruning.

Choice of Rootstock

A reliable and sustainable method of growth control is to choose a more dwarfing rootstock and match the characteristics of the variety: rootstock combination to the soil type and depth. Recent introductions of rootstocks including Wavit have shown to improve cropping and produce trees approximately 30% less vigorous than St Julian A.

When planning a new orchard carefully consider the planting system, soil type and depth before selecting the most appropriate rootstock for the chosen varieties.

In existing orchards, growth regulation may be required to restrict or maintain tree height and spread. Growers can adapt some or all the following techniques in order to achieve the required growth control.

Pruning

Where maximum growth control is necessary pruning should be adjusted to removing a few large cuts. When this improves tree shape and light interception, cropping should improve, and growth reduced. Avoid making cuts to the leader in the dormant period as this will stimulate strong regrowth. Delay these cuts until June/July. Avoid tipping branches and laterals until overall strength of the tree has reduced.

Root Pruning

Root pruning can reduce the extension growth and help tree management. The following guidelines should be observed:

- Equipment
 - Use a root pruning blade designed for the purpose rather than a subsoiling tine
 - Angle the blade at approximately 45° and insert it to a depth of 50 cm
- Timing
 - Root prune during the dormant season between late October and early February
 - Ideally root prune in periods of dry weather
 - Allow the slit in the soil to close up or use a press wheel before applying any herbicides

- In years when there is no crop e.g. following a frost, then root pruning can be done after flowering to prevent excess growth.
- In normal setting years root pruning after blossom will result in reduced fruit size.
- Degree of Pruning
 - Prune down one side of the tree only. Alternate the side in subsequent years.
 - Place the top of the blade between 30 and 50 cm from the trunk, depending on the size of the tree and the amount of growth control required. Pruning closer than 30 cm could result in excessive root reduction. Ensure the tractor driver always maintains the correct distance.

Note: on light soil and/or dry summers root pruned trees may require irrigation in order to maintain fruit size.

Regalis Plus

This formulation of Prohexadione-Calcium is currently approved under EAMU 1174 of 2017 for use on plums. A maximum dose of 2.5 Kg/ha is allowed, with one application before the end of flowering.

Experience in apples and pears shows that growth control can be improved by using Regalis and also fruit set can be enhanced from sprays applied between pink/white bud and early petal fall.

The use of Regalis Plus on Plums has so far been limited but early indications are that up to 20% reduction in extension growth can be achieved.

Regalis Plus can be used in addition to root pruning in orchards where tree vigour is difficult to control. In well controlled orchards Regalis Plus alone can be helpful to improve fruit set and reduce growth when adverse weather conditions during flowering could lead to a low crop level.

Disclaimer

The information contained within this Best Practice Guide is correct to the best of the authors' knowledge at the time of compilation but it must be understood that the biological material/systems and the regulatory framework referred to within these guides are subject to change over time. Anyone looking to make use of the information should check it against prevailing local conditions.

All pesticide recommendations and approvals are subject to change over time and the user of this Guide is reminded that it is his/her responsibility to ensure that any chemical intended for use by them is approved for use at the time of the intended application. The user is reminded that they must carefully read and follow the label on each chemical before applying any treatments.