

Hypericum for cut foliage

Factsheet 6/20

Hypericum androsaemum, commonly known as tutsan, is a plant in the genus *Hypericum* native to open woods and hillsides in Eurasia. It is a perennial shrub that can reach up to 1.5 m in height. Specially bred cultivars are grown for the cut flower trade. The yellow flowers are followed by distinct berries in the late Summer/Autumn period where the stems are used as 'fillers' in mixed flower bouquets and are available in a wide range of colours



SITE

Sheltered from prevailing winds. While a south-facing aspect is desirable it is not essential. The site must be accessible.

SOIL & PH

The soil must be deep and well drained. The species will grow on a wide range of soil types from sandy loam to heavy clay. Aim for a pH of 6.0-6.5

PRODUCTION SYSTEM

The crop can be planted on the flat but a slightly raised large drill or bed can also be used. Given the susceptibility of the species to *Botrytis* disease in a wet season, the crop is best grown on a slightly raised ridge or bed.

CULTIVARS

There is a wide variety of cultivars available with a range of berry colours and berry size. The 'Magical' series from Kolster BV. are popular in the trade and the range of cultivars trialled in Kildalton College is given in Table 1. The pink berried 'Magical pumpkin' and red 'Magical triumph' are two of the most popular. Whilst most flower and produce berries in the mid to late summer, 'Magical Impression' is a later flowering cultivar.

Table 1: Range of berry colours in Hypericum 'Magical' series.

Cultivar	Berry Colour
Magical Pumpkin	Pink
Magical Greenfall	Green
Magical Ivory	Ivory
Magical Tropical Fall	Red
Magical Triumph	Red
Magical Impression	Red
Magical Red Flame	Deep Red
Magical Beauty	Light pink



Growers assessing cultivar trial at Kildalton College

NUTRITION

A soil test is necessary to accurately determine rates of Phosphorus and Potassium. The following amounts should be applied according to soil analysis.

Index	1	2	3	4
	Kg/ha			
Nitrogen (N) *	150	120	100	100
Phosphorus (P)	100	70	40	40
Potassium (K)	200	150	100	100
Magnesium (Mg)	75	50	25	25

Source: Teagasc & ADAS

*A top dressing of up to 80 -150 kg/ha of Nitrogen is applied in the spring of second and subsequent years.

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The crop is susceptible to magnesium deficiency particularly when the berries are being formed. The leaves can quickly exhibit an inter-venal chlorosis typical of the deficiency and in severe cases will result in blackened lesions. Ensure adequate Magnesium in the soil. It is important to apply weekly Magnesium sprays in the form of Epsom or Bitter salts as the flower petals fall and berries begin to form.

PLANTS

Plants are produced from cuttings taken in the Summer or Autumn. Good strong bushy 7 cm liner size plants should be planted in the late Spring.

PLANTING

Planting system should fit with machinery on holding. Rows 1m apart with plants 80cm apart in the row can be adopted which will give a plant density of 1.25 plants/m² or an overall plant density of approximately 10,000 plants per ha (4000/ac) leaving a tramline every 10 m to facilitate management and harvesting operations. Planting a double row on a 1.2m wide bed is also acceptable. Given the susceptibility of the species to fungal disease such as Botrytis in South West Ireland particularly in a poor summer, it is advisable to plant at a slightly lower density of approximately 0.8 to 1 plant per m².

WEED CONTROL

It is important to keep plantations free of weeds. It is critical that the site has first been cleared of perennial weeds by spraying off, using a mixture of Glyphosate (Roundup) and Carfentrozone-Ethyl (Spotlight Plus). While the use of a membrane (plastic or mypex type material eg Daltax) on the planted row in conjunction with a mowed grass or cultivated strip between rows can be used as a weed control measure, the most common method is the use of carefully chosen residual and selective contact herbicides. The choice of herbicides to maintain clean plantations depends on the weed spectrum, but a mixture of products such as *Isoxaben* (Flexidor) and *Propyzamide* (Kerb 50 W) which have full label recommendations for overall or directed application give broad spectrum control of a wide range of weeds including grasses. There are off label approvals for a number of residual and selective herbicides including *Pendimethalin* (Stomp Aqua,

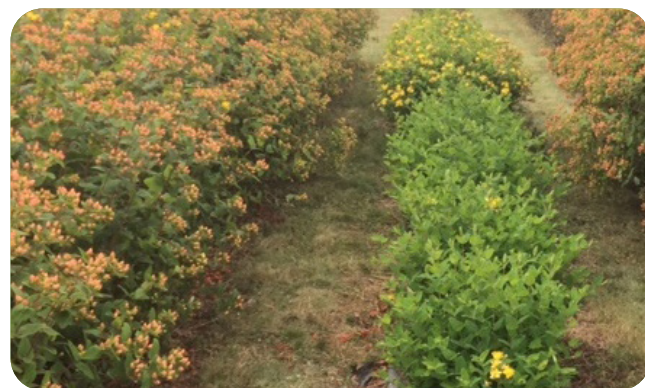
Sharpen, PDM 330EC), *Pendimethalin* & *Dimethenamid P* (Wing P) and a number of others. *Cycloxydim* (Stratus Ultra) is a selective herbicide for overall use on the crop specifically for grass weed control. Spot treatment of perennial weeds with *Glyphosate* (Roundup) or hormone weedkillers (2,4-D available as D50, Depitox) or *triclopyr* + *Clopyralid* (Grazon 90) is sometimes necessary in foliage plantations depending on weed species present.

PRUNING

Annual pruning is necessary once the plants have established from the second year onwards. Standard practice is to prune the plants back to within 20 cm (8") of ground level annually from early to mid-March. The crop will normally flower in July and berried stems are available from late July through to early September. Pruning is normally carried out using hand held equipment or a tractor mounted mower.

CONTINUITY OF SUPPLY

Recent trials at Kildalton looked at how to achieve continuity of supply of Hypericum over an extended period. A combination of techniques including monthly pruning from mid-March to mid-June and side shooting in early summer (removing the soft side shoots from leaf axils up to the top whorl of flowers as in the picture left) were compared to no pruning at all. A combination of treatments on the cultivar 'Magical Pumpkin' delivered stems of marketable quality from early July to late October.



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The table below shows the effect of pruning and side shooting to provide continuity of supply from early July to late October cv. Hypericum 'Magical Pumpkin'

Pruning technique	Time of pruning	Period of availability
Un-treated crop from previous year		July
Side shooting	June	July
Pruning to 20 cm	Mid March	August
Pruning to 20 cm	Early - Mid May	September
Pruning to 20 cm	Late May - Mid June	October

PESTS

Aphids, tortrix caterpillar and slugs can be problematic and will have to be monitored for during the season.

Aphids if allowed to build up can exude a sooty mass that can become infected with *Botrytis* if left untreated and can affect stem quality (as in picture below).

While there are no fully approved insecticides, there are some with off-label approval so contact your advisor for details.



Aphid infestation on Hypericum foliage which develops sooty mould if left build up affects shoot development and flower quality.

Tortrix caterpillar can leave obvious holes in the foliage if uncontrolled. Watch out for pest warnings and apply *Indoxacarb* (Steward) when necessary.

Slugs – can be problematic particularly in wet springs with damage occurring on the new shoots as they emerge. They can persist if the growing season remains humid and wet. Control can be achieved by the use of products based on metaldehyde or ferric phosphate. Both are equally effective in combatting slugs. There are many metaldehyde brands to choose from whereas ferric sulphate is available as SluXX.

Rabbits/hares – it is essential to take precaution before damage occurs from this pest. Fencing is justified where they are a problem.

DISEASES

Rust and *Botrytis* (Grey Mould) are the two main concerns in Hypericum production.

Rust – while modern cultivars are sold as resistant, we have experienced problems during a warm, wet, humid growing season which can encourage the disease and can still pose a threat. Monitor for rust and be prepared to use fungicidal treatments if the disease appears. *Myclobutanil* (Systane 20 EW) has full label approval. *Boscalid* & *Pyraclostrobin* (Signum) amongst others have off label approval.

Botrytis (Grey Mould) can be a problem during petal fall in wet summers. Protection can be achieved through the protectant use of the biological fungicide *Bacillus subtilis* (Serenade ASO) or the off label approval *Boscalid* & *Pyraclostrobin* (Signum) in a programme or *Fludioxonil* & *Cyprodinil* as Switch if the disease takes hold which also has an off label approval.

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HARVEST

Once all the flower petals have fallen and there is a full spray of berries, stems can be harvested. All harvesting is done using a hand held secateurs. Generally well-furnished stems greater than 55 cm in length are carefully selected for quality of leaf and berry balance. In most cases all grading is carried out in the field. Stems are bunched in 10's and then transported to the packing shed where they are stood in water overnight and kept cool prior to packing. The processing operation consists of tying the 10 stem bunches in bigger bundles of 150 stems and placing in a bucket containing 25cm water. These buckets are then placed on Danish trolleys on which they are transported in refrigerated container to market.

YIELDS

The first stems are fit to cut in the second growing season with full cropping potential being reached from the fifth year onwards. The Table shows the average yield of stems per m² from a range of cultivars trialled in Kildalton.

A good crop has the potential to yield up to 180,000 stems per hectare per annum from 5th year onwards. Cropping can continue for a further 8 - 10 years if plantations are well maintained and managed.

Yr 1	Yr 2	Yr 3	Yr 4	Yr 5+
0	9	16	20	25

COSTS & RETURNS:

The returns will depend on the particular market outlet – whether the crop is sold locally or exported. Initial establishment costs are in the region of €10000/ha. At full cropping, a gross return of €22000 per ha is achievable if the crop is destined for the volume export market. Net return depends on the grower's involvement as most of the annual cost is labour (maintenance & harvest). A net return in the region of €10000 per ha (€1/m²) is achievable when labour and maintenance are accounted for.

Local market outlets where smaller volumes are required can give higher returns of between €2 - €4/m².

