

## Tyfu Cymru: Technical Advice Sheet Raspberry & Cane Fruit April 2020



### General Comments

Many growers have already or are considering moving from in soil raspberry production to the use of in substrate pot grown long cane. The use of these plants supplied ex-cold stored can provide a means of scheduling when several plantings are made in the open or under polythene, fruit production using a single or several summer (floricane) fruiting raspberry varieties over a far longer harvest period than would normally be possible. Where glasshouse or polythene tunnel protection is available to protect some of the successive plantings fruiting from mid -Late May to Late September-early October may be possible. In some cases growers may only want to produce fruit later than is possible from their existing in substrate or in soil grown summer fruiting raspberry crops or it may be that because of the location of the farm the primocane of established plantings of cultivars such as Octavia, Glen Ample, Glen Dee & Glen Carron will in the majority of winters no longer receive sufficient winter chilling for the by the late winter/early spring the now floricane to break bud evenly down the length of canes so that in some cases less than 25% of the potential fruit laterals bear fruit.

Where in soil or in pot grown long cane are used for fruit production they are placed in cold store in November or December when their primocane has completed its vegetative growth & shortening day length & lowering temperature has triggered flower bud initiation, starting & the top & then at each node down more or less the length of the canes. The plants remain in cold store until (according to the chilling requirement of individual cultivars) has been achieved and the schedule for planting demands so as to ensure that the harvest from each batch of plants planted commences 70-100 days after planting. The exact date of the onset of harvest will again depend upon the variety, the amount of chilling the plants have received, the temperatures post cold store & day length, whether extending or reducing. So early i.e. late February-March & July plantings will be later to come into fruiting than those planted in May or

In substrate pot raised long cane summer fruiting raspberries are best used for substrate-in-pot rather than in soil crop production as the life of plantings from this type of planting material usually is only 1 or at most two years. Most cultivars producing very little or weak primocane in the second cropping year. If the plants are to be cropped once then a 7.5L pot can be used, if for 2-3 years then 10 or 12L pots are used. Some growers use 2 plants/10 or 12L pot for two year crop production.

More recently some propagators of long canes have moved to producing a single long cane plant in a 5 or 7.5L pot, these plants are not potted on. Once the compost around the roots of the ex-cold stored plants ex-cold has completely defrosted the long cane plants are placed down in their fruiting position the canes secured by twine or plastic clips to the crop support trellis, the irrigation drippers placed down onto or inserted into the compost of each pot and the plants commence growth.

These plants are only suited for single crop production, at the end of their harvest the irrigation is disconnected and the plants permitted to wilt and die. After dead they are removed from the trellis and their pots laid down in the alleys and pulverised for recycling. The pest and disease control programme for these single crop plants and their cost of plant management is substantially reduced. As first, second and sometimes third flushes of primocane growth can be removed using directed applications of carfentrazone ethyl (Shark EAMU 0622/19) each application timed when the **tallest primocane present around the floricane in the pots is no more than 20cm in height**. No sprays are

required for raspberry cane midge or cane blight control. It should be noted however that Shark has a 21 day harvest interval, the maximum individual rate of application is 800mls product/treated ha but if applied at the correct time only 400 or at most 500mls/ha will be required. Fruit harvesting is quicker and easier (especially for pick-your-own customers) as there is no primocane present to obscure fruit from the pickers.

In the case of well-ventilated tunnel or glasshouse protected plantings applications of a fungicide for botrytis or raspberry rust control may be unnecessary and only sprays used for powdery mildew if the variety is known to be particularly susceptible to this disease e.g. Glen Ample.

### **Establishing & Managing Plantations**

It is vital to treat the plants with great care when they arrive on the farm from the propagator, place them under cover in shade in the cool but not in a cold store for several days (maybe for early plantings over a week) to allow the compost to defrost. Place down in the field when the weather is cool, if possible still or just a gentle warm not cold or hot wind blowing. For late spring summer plantings misting over the rows of plants may be necessary every few hours for a few days to relieve heat stress & prevent excessive evaporation of moisture from the canes & emerging buds. During placing out or potting on handle the plants with great care to avoid detaching or damaging fruit buds and do not take too many plants out into field at any one time so that none are left exposed to the wind & sun and are to drying out.

Make sure new canes are securely tied to prevent root damage. Make sure new plantings are thoroughly thawed out to avoid any water stress when newly planted. If grown under protection both single and double cropping pot grown long cane plants are likely to require the installation of fruiting lateral supports to prevent the laterals bowing over with the weight of fruit kinking/breaking or making fruit difficult to find and detach. Glen Ample & Tulameen in particular will require this, although some other short strong lateraled cultivars e.g. Squamish will not.

If the decision is to go for in substrate long cane crop production it is vital to plan well ahead and to liaise closely with the plant propagator you are using so they produce the quality of plant you require. It will be necessary to check that they have sufficient cold storage between being placed in cold store and delivery to the planting site and that there is an adequate, clean and reliable water supply for the plants available for the plants from as soon as they are placed down in their cropping position to the end of their harvest. The ability to liquid feed the crop is also essential especially where plantings will be in place for two or even three years. Make sure that the conductivity of compost & feed in and out is regularly checked to avoid crop root or foliar damage

### **Pest Monitoring & Control**

Two spotted spider mite, aphids and raspberry beetle with summer fruiting raspberries may be the only ones that require control using biocontrols or conventional pesticides for control. The use of control methods should be based on routine checking of foliage, flowers and fruit. In the case of raspberry beetle the installation of funnel traps to check for and to monitor the population of this pest is recommended.



*Phytoseiulus persimilis* can be used for effective biological control of two spotted spider mite introductions can be made at 10/m<sup>2</sup> and these should be self-sustaining once they become established. Established plants (carried through into a second or third cropping season) should be checked for signs of vine weevil damage such as failure of the floricanes to break bud, or plants that are easily pulled from the compost.

### **Raspberry Cane Midge**

At least some primocane will need to be left where plantings are going to be carried through from the first to second or second into a third cropping year. As this cane in the majority of cases will be potentially susceptible to damage by raspberry cane midge and blackberry leaf midge. Pheromone traps for these pests will need to be positioned in the plantation 1-1.6m above the ground from early April onwards to determine when the first generation of midges have emerged from the soil, when & if sprays for control are necessary and to monitor the activity of these pest thereafter as successive generations emerge through the summer and early autumn months .

Trapping will allow you to determine when adult raspberry cane midges start to emerge from the soil, and whether numbers are sufficiently high to warrant an insecticide application, 30 adult male midges caught/trap/week is currently considered to be the threshold for spraying, however in reality the actual threshold may need to be lower where the rind of the primocane readily or has split (offering egg laying sites) to ensure control measures are applied at the correct time & to avoid serious cane damage. Traps can be purchased from Agralan Ltd, Russell IPDM and many agrochemical distributors e.g. Hutchinsons. With early plantings of long cane (March or April) it may be possible where the variety is known to be a vigorous and plentiful provider of primocane (e.g. Glen Ample) to remove at least the first flush of primocane using Shark leaving part of the second to grow on to carry through to crop the following summer. This first flush of cane removal may also leave newly emerged raspberry cane midge without egg laying sites, so spraying for control at this stage is unnecessary.

### **Phytophthora**

The majority of raspberry cultivars are susceptible to *Phytophthora rubi*. Many growers are unable except for the earliest plantings to use Paraat or SL567A for root rot control in either outdoor or protected plantings of long cane as there is insufficient time between placing the plants into their cropping position (and the onset of the plants growth) & the start of harvest Both metalaxyl-M i.e. SL 567A (EAMU 2195/07) and dimethomorph (Paraat) have a three month harvest interval, so applications will have to be made shortly.

### Florican Disease Assessments

This is an ideal time of year to assess the florican of summer and carried through (late spring/early summer fruiting) autumn fruiting raspberry plantations for the presence of over-wintered fungal diseases i.e. *Botrytis*, spur blight and cane spot.

#### **Botrytis**

Long silver/white lesions both around buds and extending between buds. Black fruiting bodies (round or oval in shape) are often found superimposed on these lesions along with patterns of concentric circles.



#### **Spur blight**

Pale steel grey lesions around individual buds. The grey colouration is covered in tiny black speckled spore bodies

#### **Cane spot**

Grey edged, sunken spots in cane rind. Where significant numbers of spots are present, they may have coalesced and there may be signs of splitting.



### COVID-19

The current situation is having a wide range of impacts on the sector, and while farm shops are reporting an increase in trade pick-your-own growers may be facing limited access to customers. Social media can be used for selective advertising (especially if PYO growers are selling punnets) and may also be useful for managing crowds once we return to normal. PYO growers may wish to delay their crops (either by delaying plantings or checking the crop by leaving tunnels uncovered). You may also wish to check that you have adequate supplies and order ahead of time, particularly of chemicals and biologicals, to make sure you can keep control over the season.

### Disclaimer

Every effort is made to ensure the accuracy of information and recommendations given in these notes. All applications of crop protection chemicals should be made in accordance with label recommendations, which should be consulted before spraying. Some of the pesticides mentioned in these notes may not be supported by label recommendations for their use on pumpkin crops but are permissible via Extension of Authorisation for Minor Use (EAMU) in the UK under 'The Revised Long Term Arrangements For Extension Of Use (2002)'. In these cases, the use of the pesticide is at the risk of the user and Tyfu Cymru does not accept liability for any loss or damage caused by such use. The references to on-label approvals and EAMUs for use of pesticides in pumpkin crops and are correct at the time of writing. These are subject to change and approval may be withdrawn at any point. It is the grower's responsibility to check approvals before use of pesticides. If in doubt a grower should seek advice from a BASIS qualified advisor - this is available free of charge for eligible growers through the Tyfu Cymru program, please contact us to arrange an appointment – email/telephone advice is also available.