

## **Pruning Tip Bearing Apples**

*By Carol Ponchet-Cassidy*

### **What is a tip bearing apple?**

Just when you thought you had your apple tree care all figured out, you learn that you have a tip bearing variety. The idea of pruning an apple tree that bears all its fruit at the tips of its branches can seem a little perplexing, however understanding a few principles may lessen your worries.

Most apples produce fruit buds on two year old wood and older called spurs. The stems of spurs are usually short, stubby and wrinkled. The majority of apple varieties belong to the spur bearing group.

Tip bearing apples fall into two groups. There are the “partial tip bearers” that bear their fruit on spurs just like the regular old varieties, but they also bear at the tips of branches. Generally, these varieties are all pruned in the same way as the spur bearing apples.

The second group are the true tip bearers. These varieties produce fruit buds at the tip of slender shoots that grew last year. The fruit bud will be considerably larger and more swollen in appearance than a vegetative bud. It’s not uncommon to find the odd spur on a tip bearing tree, but they tend to be sparse. The habit and appearance of tip bearing apple trees tends to be rather leggy and gaunt looking.

### **Pruning a tip bearing apple variety.**

When pruning a known tip bearing variety of apple, the general rules apply. As always, the 3 D’s are observed, i.e. dead, diseased and damaged wood is removed. Spacing of branches is done to remove any crowded or crossing branches.

Trees trained in the “central leader” style should have their leaders pruned back annually. The central leader is the highest, most vertical branch of the tree. Generally, it continues with the line of the trunk. After it has been isolated, and any competition with it has been removed, it is a good idea to head it back (shorten it) by anywhere from half to two-thirds of its height. This helps promote growth of lateral (or horizontal) branches. *A good rule of thumb: if the leader grew vigorously, cut less; if it grew weakly, cut more. Remember, the more you cut, the more it grows!*

Trees trained in the “open-vase” style need to have the inside half of the vase kept clear annually for good air circulation and light penetration. Whether “central leader” or “open vase”, the remaining branches need to be thinned for air circulation and light penetration. All of this sounds familiar so far, right?

Where pruning tip bearing varieties differ from spur bearing varieties is that attention must be paid to the young shoots that grew off main branches last year. Those that are less than 9 inches in length can simply be left untouched to bear their fruit next year. The shoots that are longer than 9 inches can be headed back to 4 – 5 buds. These buds will then develop shoots the following summer and become fruitful the summer after that.

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## The “Solen System” for Tip Bearing Apple Varieties.

If you are planting a young tree, there is a training system that lends itself very well to tip bearers. It is called the “Solen” system and was developed by Mr. J.M. Lespinasse at the INRA Fruit Breeding Station in Angers, France.<sup>1</sup> The “Solen” is low domed in appearance and tends to have bent drooping branches.

The young tree is left unpruned for the first 2 years after planting. Then, 2 strong branches at 1.2 – 1.5 meters on the trunk are bent and tied onto wires. The rest of the wood on the tree is removed. This aggressive pruning does result in a couple of years delay in harvest, but the training system is well worth the wait.

The 2 main branches are pruned each year to encourage new shoots and to thin the short fruitful shoots. This style of training for tip bearing apples allows the grower to have smaller trees that are well suited to harvesting. Many tip bearing varieties tend to have a more aggressive branching habit either at the base (basitony) or the tip (acrotony) of the branch, so it’s quite possible to have many fruitful shoots on a single branch.

The Pacific Agri-Food Research Centre in Summerland, B.C. developed a modified Solen system called the “Solen Y”.<sup>2</sup> The 2 main branches are trained to a “Y” rather than horizontal. The junction of the branches is started at 0.85 meters above the ground and is angled at 60°. Bamboo stakes are then attached to the branches to keep them straight, and finally, the branches (with their bamboo stakes attached) are secured to a framework of support wires spaced approximately 20 cm. apart.

## Summer Pruning

Whichever training style you choose, tip bearing apple varieties benefit from summer pruning. The main intent is to permit more light to penetrate the tree and allow the apples to colour. Simply thin out any vegetative growth that shades the maturing fruit. In so doing, you will have more highly coloured apples. As well, you will direct more of the tree’s energy to the fruit.

It’s reassuring to know that whatever variety of tip bearing apple you have, you can increase and stabilize your crop every year with a little fine tuning of your training system and pruning techniques. After all, our goal is healthy, abundant and delicious crops of apples every year!

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<sup>1</sup> J.M. Lespinasse, “A New Fruit Training System: The Solen”, INRA Centre de Bordeaux, Pont-de-la-Maye, France, 1984, p.p. 117 – 119.

<sup>2</sup> Cheryl R. Hampson, Harvey A. Quamme, and Robert T. Brownlee, “Canopy Growth, Yield, and Fruit Quality of ‘Royal Gala’ Apple Trees Grown for Eight Years in Five Tree Training Systems”, *Hort Science*, July 2002, p.p. 627 – 631.

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## CURRENT LIST OF TIP-BEARING APPLE VARIETIES

*By Carol Ponchet-Cassidy*

*The following list is my current compilation of tip-bearing and partial tip-bearing apple varieties. This list was last updated January 25, 2004.*

<b>Tip-Bearing</b>	Kerry Pippin	Yarlington Mill
Alastair Canon-White	Lindel	<b>PARTIAL TIP-BEARERS</b>
Ballyfatter	Lyman's Large Summer	Adam's Pearmin
Barnack Orange	MacLean's Favourite	Blenheim Orange
Barry	Madreshfield Court	Bramley's Seedling
Bert's Special	Maiden's Blush	Cannor's Special
Betsy	Nasona	Cornish Gilliflower
Bordes	Northwood	Discovery
Bullock	Nouvelle Europe	Ginger Gold
Caluille des Prairies	Nova Spy	Golden Noble
Charles Eyre	Orin	Gravenstein
Cornish Gilliflower	Paula Red	Greensleeves
Cortland	Present Van Engeland	King of Tompkin's County
Cox stone	Priam	Lodi
Dougherty	Pristine	Lord Lambourne
Dulect	Redfree	Northern Spy
Elan	Reinette des Vergers	Northern Spy
Empire	Rome Red	Paula Red
Exeter Cross	Sayaka	Pink Lady
Favorsham Creek	Scarlet	Shamrock
Filipa	Sensyu	Spijon
Fuji	Shizuka	St. Edmunds Pippin
Fuji Lynd-Spur	St. Edmunds Pippin	Tydemans Early Worcester
Genet Moyle	Summer Red	Vista Bella
Gloria Mundi	Sweet Alford	Wealthy
Golden Russet	Sweet Caroline	Worcester Pearmin
Granny Smith	Taylor's	Yellow Newton Pippin
Greasy Pippin	Tim's Early	
Harry Masters Jersey	Twenty Ounce Pippin	<b>PEARS</b>
Herefordshire Beefing	Underleaf	Jargonelle
Irish Peach	Winston	Josephine de Malines
Karen Schneider	Withington Fillbasket	

Sources: Ted L. Swenson, "Tip or Partial Tip Bearers ID & Special Pruning Techniques", *Pome News*, Tigard, Oregon, U.S.A., Spring 2002, p.p. 77 – 79 Shahrokh Khanizadeh & Johanne Cousineau, "Our Apples – Les Pommiers de chez nous", Agriculture and Agri Food Canada, 1998 David Joyce, "Pruning and Training Plants", A Complete Guide (Technical Consultant, Christopher Brikell), Firefly Books Ltd., 2002, p. 140, Fellow BC Fruit Testers, Personal experience

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