



REX'S PRACTICAL TIPS #4 Autumn 2005

Second set and late set – What's the difference?

For a number of reasons this has been a season where some varieties have produced high volumes of second set. The long cool flowering season in some districts also produced significant quantities of late set.

So what's the difference between second set and late set? Are they important? And what can you do about it?

By definition - second set is the fruit that sets on flowers arising from laterals. In *photo one* you can clearly see the primary shoot and the lateral with a well formed bunch of second set.

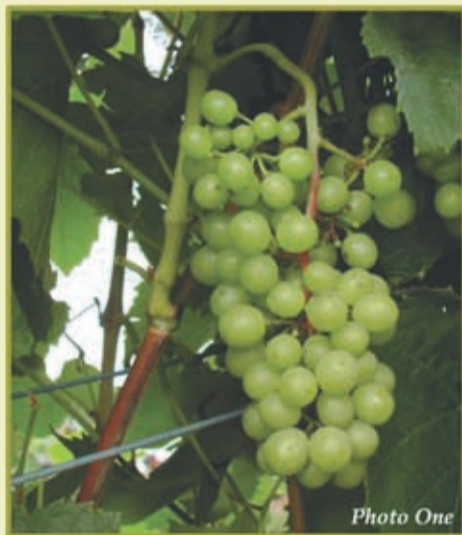


Photo One

Second set does not occur on the primary shoot. The level of second set is primarily determined by variety, some varieties are more prone than others.

The green fruit that you see on bunches arising from the primary shoot near the end of veraison is late set. This late set is mostly found on the shoulders of bunches, or the top bunch on the shoot, or sometimes as the bunches on the spurs in cane pruned vineyards. The bunch of Gamay noir in *photo two* clearly shows a small shoulder or wing of late set.



Photo Two

Late set is partly a varietal issue and partly climate. It occurs because the many hundreds of flowers on a shoot all tend to flower at different times. The earliest to be pollinated are the first to ripen, and conversely with the last to flower. All varieties will produce more late set in seasons with a cool drawn out flowering period.

As a general rule, the greater the number of bunches produced on a shoot and the greater the tendency to produce shoulders or wings, the greater the quantity of late set.

Second set is easy to deal with. In years when it is prevalent and on some varieties such as Pinot noir, it is essential to remove it from the canopy. On some varieties the quantity of second set can be greater than the production of desirable crop. In *photo three* you can see that the quantity of second set on the ground in this Gamay noir vineyard is about the same as the quantity of fruit on the vines. Getting the second set off in a timely fashion significantly increases the rate of maturity.



Photo Three

In our Gamay noir vineyard, we conducted the following simple trial this year. At the first sign of veraison all second set was removed regardless of stage of development. Two rows were left as untreated. The entire vineyard had previously been crop thinned to an average of 1.5 bunches per shoot.

Two weeks later at the end of veraison we went back and pulled off the second set on the untreated rows. At the same time we went through the remaining crop and pulled off all bunches that were not fully coloured. The difference between the treatments was staggering.

On the rows where second set was removed early, the average number of partially coloured bunches removed per bay was five. On the rows where second set was removed late, the average number of partially coloured bunches removed per bay was 21. This clearly demonstrates that high levels of second set will slow down the maturation process.

I'm not going to deal here with the presence of second set in machine harvested blocks. The consequence of such unripe fruit in the gondola will be clear to all...

Late set can prove to be a more difficult problem. For premium vineyards the issue of uneven maturity needs to be dealt with at the right time of the year to avoid green characters in the wine. Fruit removal in these vineyards needs to be done prior to veraison, or valuable carbohydrate reserves will be wasted. To do this the viticulturist needs to have developed a good knowledge of where on the shoots he will find the most immature bunches.

The rule of thumb is that the lowest bunches on the shoot flower first, and the bunches on the strongest shoots at the end of the cane flower first.

The first to flower will be the most mature fruit at harvest.

I have never seen a variety that produces shoulders on the bunch which ripens these shoulders at the same time as the main bunch. So if you are growing for premium wine, and your variety or clone produces shoulders or wings, you will undoubtedly make your winemaker happy if you get rid of them.

A final note of interest. Spur pruned vineyards have a quicker flowering than cane pruned vineyards with the result being a reduction in late set fruit in the spur pruned vineyard. If you are concerned about ongoing uneven maturity, check with me or your local advisor to see if your variety is suitable for spur pruning. It could be one way to overcome the problem.

Rex.

At Misty Valley we are developing a web site where all of the practical tips will be published for ease of reference. More information on this web site will be available soon.



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