

Notes from Tennis Australia Green vs. Yellow Ball Research Study

Around the world Red – Orange and Green is gaining momentum. Most coaches agree that using balls, courts, racquets and coaching principles appropriate for younger children is the best way to increase participation in tennis and research has shown increased enjoyment amongst young players using modified equipment. There is, however, still resistance among some coaches as to the benefit of using R – O – G as a player development tool. While many coaches intuitively recognise the benefit of using R – O – G as a performance tool for 10&under players, there has been little fact based evidence to support the use of low compression balls over the traditional yellow ball.

The Study

After watching the 2011 12&under nationals Kim Kachel, Rob Leeds and the team from Tennis Australia set out to gain some information as to the relative benefits of using a green or yellow ball for 9 and 10 year olds during their development. At the nationals the coaching team from TA were a little dismayed at the weakness' demonstrated by the young players, particularly in ball control and consistency.

They gathered the best 9 and 10 year olds in Australia for a camp in Brisbane, these players were used to using the yellow ball. Each player alternated playing a match with the green ball (75% compression) and the yellow ball (100% compression). 19 matches were recorded from 7 different camera angles and pain staking statistics were recorded. Each shot was recorded and how the point ended coded, heat maps were developed to show where players hit from and to. Finally players were asked questions post match to gain critical qualitative information also.



The coaching team were looking to compare several different indicators, including the height players contacted the ball; the distance from net the players met the ball; approach shots opportunities at green and yellow. The results of the research study were extremely interesting.

Rally Length and Tempo

While it was anticipated that rallies with the green ball would be longer they were actually almost the same, 5.25 shots per rally vs 5.35 at yellow. The reason for the slightly longer rallies at yellow was the number of long “moon” ball rallies which increased the average.

The lower compression of the ball would indicate that green ball should have a slower rally tempo as it travels slower through the air and off the bounce. However, rally tempo at yellow was one shot per 0.62 seconds vs 0.58 at green. Green ball rallies were higher tempo than yellow as players were able to hold a court position closer to the baseline, and take the ball on the rise comfortably.



Contact points

As expected the green ball allowed players to contact the ball more often at a comfortable height, 79% of the time against 69% at yellow. Most significantly yellow balls forced the player to hit high balls twice as much as green (24% v 12%). This was an area of concern for the yellow ball as this high contact point above the shoulders often leads to forming extreme technique, especially on grips. Low balls results were 6% at yellow and 9% at green.

Errors

An important factor being analysed in the study was how the point ended. A significant finding was that at yellow 27% of errors were classified as 'bad' errors (1.5 metres out or more), and 20% 'bad' errors at green. This demonstrated that the yellow ball was causing the players to "spray" the ball far more often and more ball control was being demonstrated at green.

At the same time play at yellow involved far more play down the centre corridor of the court as players struggled to return the ball as best they could under difficult situations.

Court Position

Players were able to hit 39% of balls in front of the baseline at green and 27% at yellow. This resulted in a more attacking style of play with players able to open up the court with angle and hit with pace to pressure the opponent using green balls. In fact this was a major comment made by the players in post match questions, they felt they could attack more and control the point using green.

Interestingly the improved court position did not result in more volley opportunities, volleys made was similar for green and yellow. This shows that although young players could hit from a closer position to the net, the full sized court is still a challenge for the U10's in approaching and volleying.

The young players were overwhelmingly positive in their reaction to using the green when asked after their matches. As mentioned earlier they enjoyed being able to control the ball and therefore the rally. These young athletes just wanted to play and although they were used to playing with the yellow ball, were skilful enough to adapt to any conditions. Their growth mindset was instructive and demonstrated it is often parents and coaches who have closed mindsets and are the 'wall' to trying something new.

In summary some of the major findings of the study were:-

- Rallies using green and yellow balls lasted the same amount of shots, but were played at a higher tempo using green.
- Players contacted the ball twice as often above shoulder level using yellow balls.
- Players contacted the ball at 'comfortable' height more often using the green ball.
- Players made more bad errors (1.5 metres +) using yellow balls.
- Players were able to hit from a position in front of the baseline more often using green balls.
- Players directed the ball down the middle of the court more often using yellow balls.
- The total number of volleys was the same at green and yellow.
- Players were very positive in their comments when asked about using the green ball.



This study is just a small sample in the overall scheme of things, and some coaches will remain sceptical. These coaches will argue that procedural learning dictates that using a yellow ball is best for player development and that the way things have been done has produced great players in the past...but if you have been looking for fact based evidence to support your belief that using a low compression ball aids in the development of your players, here it is.

If you could use a tool that helps your players rally at a higher tempo, hit more balls at comfortable height, hit the ball in a more aggressive court position and hit more often to the corners would you use it?

This article was based on the outstanding presentation given by Kim Kachel at the 2012 Grand Slam Coaches Conference at Melbourne Park on Thursday 12th January 2012. Kim was the leader of this research project conducted by Tennis Australia and is the Talent Search and development Manager for Tennis Australia.

