



## **2013 ASA Equipment Committee Review**

In the past year the Equipment Committee, Dr. Lloyd Smith/WSU Lab and ASA staff members, have spent a considerable amount of time on equipment issues. We have utilized the Trackman radar system in field conditions for the slow pitch and fast pitch game. Trackman was used at several events in 2013 including Men's Major FP and Men's Modified Championship's which will provide the committee vital information as we study a potential Fast Pitch Bat Standard. The Trackman technology was made possible by a partnership developed by ASA, WSU Lab, NCAA and the NFHS for the purchase and sharing of this technology. The Trackman technology has proven to be essential to the decision making process in monitoring game conditions, field standards and research. Increasing our understanding of how equipment performs and impacts our game will quantify how rule changes affect play so we can make decisions about field dimensions, softballs, bats and the effects of temperature on equipment. Additional field studies included swing speed studies of Women's Fast Pitch at the USA team trial Camp.

The Equipment Committee traveled to Oklahoma City in May and held a joint meeting with bat and ball manufacturers. Discussions were very broad based and productive. ASA requested that manufacturers study the possibility of the 52/300 technology in the 11" Slow Pitch ball as well as in the 12" Fast Pitch ball. More testing is encouraged on both. Also discussed were issues surrounding bat tampering. Suggestions included joint marketing efforts be developed with the bat manufacturers, NCAA, NFHS and ASA. It is important that we continue to meet with our manufacturer partners as we collectively search for new ideas to improve equipment opportunities for the game of softball.

In the past 18 months we have experienced some positive changes on the field, including stronger bat tampering penalties, and bat testing machines that are more mobile and user friendly. Both of these practices have helped us to deter bat cheaters. The development and certification of the 52/300 ball for slow pitch was introduced to the game in 2011 after extensive field and lab studies. We have learned that the 52/300 has brought four (4) important factors to the playing field.

- 1) The 52/300 ball produces dramatic reduction in the impact severity index which will reduce injuries to players upon impact either by a thrown or batted ball.
- 2) The 52/300 ball is less affected by extreme temperatures or humidity and will provide more consistent playability.
- 3) Lab and field studies have indicated that the 52/300 ball will reduce batted ball speed (BBS) by an estimated three (3) mph.
- 4) The 52/300 ball still allows those who can/should hit home runs to do so.

In light of these positive changes to the game, and as a result of the development of the 52/300 ball and extensive swing speed studies, the committee recommended changing the swing speed used in the certification of bats from 85 mph to 80 mph. This change led to the development and implementation of the 2013 Certification Mark for Slow Pitch. The new certification mark looks like the (ASA Shield) and was intended only for Slow Pitch. This past May, the committee realized that there was a limited supply of new Fast Pitch Bats of 26 ounces and greater in the market place. As a result, a decision was made to expand the 2013 Certification Mark's usage to Men's Adult Fast Pitch, Men's Adult Modified, as well as JO Boys Fast Pitch Classification's of play. The new 2013 Certification mark also required the Committee to revise the procedures for bat compliance testing using the portable barrel compression fixtures. Slow Pitch bats should now have a barrel compression greater than 220 lbs (1450 psi), while Fast Pitch softball bats would remain at 240 lbs (1550psi).

The development of Non-Linear bats by manufacturers required the Equipment Committee to make further adjustments to the compliance testing with portable barrel compression testers, (BCT). A non-linear bat is a bat whose structure deviates from the traditional single wall, and multi layered composite designs. These bats perform consistently, and repeatedly produce BCT results softer than existing thresholds and have not produced a BBS greater than 98 mph. Non-Linear Bat studies in the lab continue at various inbound test speeds ensuring the compliance of these products.

Other lab studies throughout the year included compliance testing on the 52/300 slow pitch ball, as well as studying the effect that different ball types have on slow pitch bat performance. A number of bat and ball types were used in this study. Dr. Lloyd Smith is also in the preliminary stage of a study regarding pitcher reaction time. The extensive research will study the perception of a batted ball, formulation of a response, as well as execution of a response. This preliminary work includes building a prototype slow pitch softball pitching machine, purchasing and experimenting with an EMG system, and conducting preliminary experimental trials to refine a test plan.

Some of the priorities for the Equipment Committee and Dr. Smith's lab in 2014 are:

- 1) Manufacturer compliance with ASA Bat and Ball Standards.
- 2) Continued use of Trackman to monitor game conditions at major tournaments in the JO game, Women's College World Series, the Border Battle, as well as the ASA National Championship Series. While field studies are expensive and time consuming, they are necessary to ensure our laboratory testing is representative of game conditions. Dr. Smith's lab has also acquired much of the equipment needed to conduct the field studies. This substantially reduces the cost of the field studies for ASA.
- 3) Continue to study the data collected at fast pitch field tests to study the possible development of a new performance test for fast pitch bats. The new tests will incorporate swing and pitch

- speeds representative of the fast pitch game. The science collected will assist the development of a potential bat standard that is representative of the fast pitch game.
- 4) Continue to work on the problems with bat tampering and develop procedures and scientific techniques to identify rolled bats.
  - 5) Dr. Smith has been working for a number of years to develop accurate softball and baseball models to test the effects of ball impacts on humans. The WSU lab has recently purchased a human model (developed by Toyota for automobile crash simulations). Dr. Smith has hired a bio-mechanical engineer to impact the human model with the softball model. This will provide information on the severity of impact for different controlled impact scenarios, as well as help quantify the effect of injury on ball designs, such as the new 52/300 ball.
  - 6) Reaction Time Study by Dr. Lloyd Smith.
  - 7) Field & lab testing of the 52/300 11" ball for Women's Slow Pitch as well as 52/300 technology for 11" and 12" Fast Pitch ball testing.

We appreciate the work of Dr. Smith and his WSU lab, members of the Equipment Committee as well as Craig Cress, Ron Radigonda, Rich Cress, Kevin Ryan and the ASA staff for all the work done this past year. As in the past, it is the duty of the Equipment Committee to make the very best decisions possible for the game of softball. We continue to base those decisions regarding bat and ball combinations and other related equipment, on the scientific data we collect in an effort to uphold the integrity of the game.

Respectfully submitted,

Dick Gulmon  
Chairman, Equipment Testing and Certification Committee

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