



2020 USA Softball Equipment Committee Review

This past year the Equipment Committee and the work of Dr. Lloyd Smith and the WSU Lab was dramatically impacted like many aspects of life by the Pandemic. A majority of the 2020 projects were put on hold including the cancelation of all on field radar evaluations. The financial results were the Equipment Testing budget was reduced by 60%. We did work with Ball Manufacturers on a common spec for the 12” Fast Pitch Ball and came to an agreement with the NCAA, NFHS, USA Softball and the Manufacturers on a common specification for a 12” Fast Pitch ball. We continue working with manufacturers in advance to make sure new designs and products meet our basic requirements of Rule 3 Section 1A.

Dr. Smith and the WSU lab will continue to work on Rolled Bat Identification using non-destructive test methods. A phased array ultrasonic scanning device was purchased in 2019. Bats from different bat manufacturers are purchased to assist in obtaining ultrasonic scans from the new, rolled and broken-in bats. Images will be used to identify damage characteristics which will help identify a rolled bat. The lab has also developed a Durability Bat Testing Machine which has the capability of a controlled break in of softball bats from ball impacts. The automated test can control speed, impact location, and bat orientation. Relative BBS performance change is possible to measure during the test.

USA Softball has invested in a new product called Flight Scope and hope to utilize this product for field studies in 2021. This product replaces the Trackman Radar device to assist equipment testing in the certification of bats and ball. We feel the Flight Scope product will give us real time data on many aspects, and will provide the committee with game condition information which is vital to make decisions on bats and balls, such as batted ball speed, swing speed, flight of the ball and much more.

In 2021 Dr. Smith and his lab will continue to work on a number of projects in the lab such as the reaction time study which measures player reaction time under game conditions. Information from this study will be valuable in making equipment decisions in the future. Reaction Time goals include, measuring acceptable risk, player perception of a batted ball, formulation of response time, and the determination of an average acceptable reaction time.

The lab will also continue studying Ball Aerodynamics. Dr. Smith has developed and refined a dedicated station to measure ball drag and lift in free flight, closely simulating play conditions. The goal in this study is to understand the features of a stitched ball that contributes to its lift and drag.

This past year we shared a very positive Long Range Planning survey taken at the 2019 Council meeting regarding equipment changes implemented the past few years.

It is also extremely important that we continue to work with our manufacturing partners as we collectively search for new ideas to improve equipment for the game of softball.

In 2021 the Equipment Committee plans will be to continue studying Reaction Time, Bat and Ball Compliance, Field Study with Flight Scope, Bat Durability, Fast Pitch Test Protocol, ABI/Ultra Sonic Failure Mode and Identifying Rolled Bats.

We appreciate the good work of Dr. Lloyd Smith and his lab at WSU. We recognize and thank the members of the Equipment Committee, Kevin Ryan, Rich Cress, Craig Cress and the entire USA Softball staff for their assistance 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 of softball.

Respectfully submitted,

Dick Gulmon

Chairman, Equipment Testing and Certification Committee