2019 USA Softball Equipment Committee Review

This past year the Equipment Committee, Dr. Lloyd Smith and the WSU lab have spent time on bat & ball compliance, as well as working with manufacturers in advance to make sure new designs and products meet our basic requirements of Rule 3 Section 1A.

In 2018 we completed the development of a process to identify and establish a USA Softball Composite Non Linear Bat Protocol. We worked with the WSU Lab and manufacturers to develop, document, and implement a new procedure to determine the Compression threshold for all non-linear bats. We continue to use the Non Linear Bat Protocol and work with manufacturers who seek an exemption to the barrel compression passing criterion.

Dr. Smith and the WSU lab 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 were purchased in 2019 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. 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.

Dr. Smith and his lab 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 is also 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.

The Equipment Committee also worked with Executive Director Craig Cress to develop a new design for our certification marks by incorporating our old mark and our new USA Softball name.

 This past year we shared a very positive Long Range Planning survey taken at the 2018 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 2020 the Equipment Committee plans will be to continue studying reaction time, bat and ball compliance, field study with Flight Scope,

research a common ball size between NCAA, NFHS and USA Softball regarding the 12" Fast Pitch Ball, and continued lab projects and initiatives under way.

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