

**2022 USA Softball Equipment Committee Review**

**A summary of the work in 2022 of the Equipment Committee and Dr. Smith’s Lab covered several different areas of the game related to equipment. We continue working with manufacturers in advance to make sure new designs and products meet our basic requirements of Rule 3 Section 1A.**

 **One of those particular areas the past couple of years was the potential development of a new Fast Pitch protocol. The driving factor for the need for a new fast pitch test was the inability to get the test ball, Demarini A9044. During the process, Wilson/Demarini indicated they would continue to produce the A9044. We also received valuable feedback from the manufactures which contributed to our decision to continue with the current test for Fast Pitch Bats. In keeping with the current specification, we keep the Fast Pitch game in the position it is in today, which is very exciting to the players who play the game. It also allows the continuation of one spec for USA Softball and USSSA Softball for Fast Pitch Bats.**

**Dr. Smith and the WSU lab completed a two year study on Rolled Bat Identification using non-destructive test methods to determine if the outer shell of a bat has been rolled, and the observation of unique damage signatures from ball impacts and from rolling. It is determined that bat rolling does not simulate the type of damage that occurs in play, contrary to the claims of many batters. The lab is also now able to x-ray bats as part of the policing process. This allows the lab to easily and non-destructively determine if a bat has been illegally shaved, weighted or painted. The process can also be used to verify manufacturer cosmetic changes and uniformity between production batches.**

**The lab has been working to implement a new database to improve certification submissions for manufacturers, and certifications approvals for USA Softball. The database should be operational by the end of the year.**

**We continue to study reaction time for Slow Pitch which measures the player reaction time under game conditions. This work involves measuring several features that are difficult to observe during play. These include the perception of the batted-ball event, formulation of a response and execution of that response. The study has used surface muscle activity sensors to monitor players during games to measure the reaction time of pitchers. The available response time is measured by using high speed cameras. Ten field studies have been completed and the data will be reduced over the coming year.**

**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.**

**2023 projects for the Equipment Committee and Dr Smith’s Lab are Radar, evaluate Flightscope ball tracking system in the Fast Pitch game, Reaction Time Study, Implement test methodology changes, Implementation of Data Base for certification submissions.**

**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 and Rich Cress. We continue to base our 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**