Reduction In Power

New Bats For 2011 Will Have Less Pop, Little Trampoline Effect

Physicist Alan Nathan explains in detail what baseball players, coaches can expect from the new standard bats that will replace the BESR protocol.

By LOU PAVLOVICH, JR.
Editor/Collegiate Baseball

CHAMPAIGN, Ill. — The performance level of non-wood bats that meet the new 2011 NCAA standard is expected to be at least five to six percent less than bats utilized last season, according to Alan Nathan, a member of the Baseball Research Panel who advises the NCAA on issues related to bat performance.

The new non-wood bats which meet the Bat-Ball Coefficient Of Restitution (BBCOR) testing protocol must pass a number of performance standards, including Moment of Inertia and BBCOR.

The Moment of Inertia test prevents new bats from carrying the bulk of the weight near the handle which makes the bat swing faster than barrel weighted bats. For instance, a 24-ounce bat may feel like a 23-ounce bat to a hitter because of the weight placement in the bat.

For that reason, a minimum allowable Moment of Inertia for different length bats is now in effect.

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Arsenic, Cadmium, Lead, Mercury All Discovered At Some Level In Drinks

Protein Drink Alert: Tests Reveal Surprising Results

Special investigation by Consumer Reports shows that certain protein drinks can expose users to higher levels of heavy metals.

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YONKERS, N.Y. — The promises are enticing. Whether you’re looking to shed unwanted pounds, get a quick energy jolt, build muscles, or fight the aging process, protein drinks are being boosted by some supplement makers as a scientifically proven way to quickly achieve your goals.

The products, sold as ready-to-drink liquids or powders that you mix with milk, juice or water to make shakes, attract not just athletes and body-builders but also baby boomers, pregnant women, and teenagers looking for a shortcut to a buff body.

Some ads say that protein supplements, in flavors such as strawberry and vanilla cream, can be a nutritious and time-saving snack or meal replacement.

Marketing for Energy First Pro Energy Whey Protein Isolate says the protein supplement is “ideal” for pregnant women and growing children, and also offers this promise for aging adults who use it: “You will rarely if ever be sick and you will begin to look and feel years younger.”

In a testimonial for BSN Lean Dessert Protein Shake, “fitness celebrity” Jennifer Nicole Lee says, “Being a busy mom with 12-hour workdays, I rely upon my lean Desert Protein to get adequate amounts of protein without wasting time on creating complex meals…”

Another product, Muscle Milk, boasts on its website: “Designed after one of nature’s most balanced foods: human mother’s milk…”

But our investigation, including tests at an outside laboratory of 15 protein drinks, a review of government documents, and interviews with health and fitness experts and consumers, found

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New 2011 Bats Must Pass Strict Standards For Play

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The BBCOR test essentially limits the trampoline effect of bat barrels to that of wood bats. With the new changes, non-wood bats have been in effect for amateur softball since the fall of 2009, and beyond that, the new BBCOR standard should very close to wood bats in performance.

The new bats will be less potent than non-wood composite bats until the BBCOR limit is reached. A BBCOR limit is reached, a non-wood bat will perform very close to a wood bat, with better line drives and the like. A BBCOR limit will be reached when the bat fails. For composite bats, the BBCOR limit will be reached when the barrel regulates the BBCOR limit. For the bat to exceed the BBCOR limit, the bat will lose power as it is rolled and the barrel will be more difficult to hit. The reason for this is that the barrel of a wood bat becomes more flexible as it is rolled, and the barrel of a composite bat becomes more flexible as it is rolled.

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Performance Of New Bats

Nathan was asked what reduction in performance the new BBCOR bats would bring in hitting. In 2011, the new BBCOR standard will be in effect for the first time, and we will have to keep tabs on what is going on to trampoline effect. It is a fairly detailed procedure on what we actually do. Hopefully, this will fix the problem. If we need to do something else, we will be prepared to do it.

Nathan was asked how closely the new BBCOR approved bats will perform to wood bats.

"Very close. When the standard was set up, we had a decade worth of data on how non-wood bats performed and how wood bats performed."

"With the BBCOR approved bats, the average seems to be 48 or 49, and at the very upper level, 50. The limit was at 50."

"What these figures mean is that there will be no trampoline effect for the new non-wood bats. From a trampoline aspect, the barrels will react just like wood. A wood bat is essentially a perfectly hard surface. When a ball hits a wooden bat, there is no trampoline effect as a ball hitting a massive, rigid floor."

"In the past when a ball hit a hollow non-wood bat, the surface of the bat compressed a little bit. Some of the ball energy was transferred to the barrel wall of the bat by a little. The net amount of energy lost in that collision was so great, you got a bigger bounce back."

"The trampoline effect can really be seen if you bounce a ball off of a tennis racket compared to a rigid floor surface. The ball will bounce much higher off the tennis racket."

"The technology of creating a high performing non-wood bat has to be the same as a tennis racket. If you make the walls thinner and thinner, so you have more and more of that trampoline effect without denoting the surface."

"When hollow composite bats first came out, it was an entirely new technology. It almost seems limitless on how big a trampoline effect you can get. When the first Miken bat came out, representatives of other bat manufacturers were in awe of how far players could hit balls with the hollow composite bats. Miken is one of the pioneering companies making composite bats. Now all of the bat companies are making hollow composite bats."

"Since there will be no trampoline effect for the new non-wood bats, the aluminum only bats must have thicker walls in order to comply. In the case of hollow composite bats, just like manufacturers can ramp up the trampoline effect, they can reduce the trampoline effect with various tricks. The bat manufacturers won’t have any trouble satisfying these new standards."

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It is fairly easy to get the MOI number for softball bats on the market which allows batters to know how much swing weight will be better for them than other bats even though bats may be the same length.

“But we came up with a way to do this. We already had a data bank of what got better or got better with use. It is pretty well understood how the science works, it is just that people don’t do that. What clever people discovered was that they could accelerate the break-in process on different types of bats. That’s an illegal act."

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“At no time during that process can the bat exceed the BBCOR limit. In that process, non-wood composite bats get better and better until they fail. Just before failure, the barrel will start to lose its spring level. We are saying that at the bat’s highest level, it must be below our BBCOR limit."

Nathan said this procedure has been in effect for amateur softball to regulate non-wood composite bats.