

## Sports

Q&A

# Metal bats altered to be more like wood

Manufacturers can determine performance levels.

**By Marc Pendleton**  
Staff Writer

Kyle McNeely is the Ohio High School Athletic Association director of development for baseball officials/umpires. He also chaired a national committee that oversaw a bat change from BESR (ball exit speed ratio) to BBCOR (bat-ball coefficient of restitution).

**Q:** What prompted the evolution of metal bats after they became available in 1974?

**A:** The intent was to prevent breakage. ... No one thought that there would be a change in performance and at that time non-wood bats were not that much more in expense. The reality is over the next 35 years ... bat manufacturers are very good businessmen, they've got great scientists, they understand their market, their product and what they needed

to do and worked to improve the bats. They worked to gain a competitive advantage against their competitors to develop a bat that people wanted to buy.

**Q:** Who gets credit for the "Gorilla Ball" College World Series game that coined an era?

**A:** The bat manufacturers said it was the bats. The bat manufacturers said it was the balls. It became apparent to the NCAA and the (National Federation of State High School Associations) that we had to get our own scientists. We had to figure out what the reality was and what was the science behind it.

**Q:** What is that science?

**A:** Force equals mass (times) acceleration (squared). We tried to reduce the speed of the bat. We dropped the weight differential, which made the bat heavier. We reduced the mass of the bat. We thought that might reduce the so-called mythical "sweet spot," which we later learned there is no such thing. That led us to create the BESR.



Kyle McNeely chaired a national committee that oversaw a bat change from BESR to BBCOR.

**Q:** Did that work?

**A:** That helped for a while. (Bat manufacturers) began to get a feel for that science and where the loopholes were and the things they could do to meet the BESR but yet provide a competitive advantage. ... The inner shell was a composite weave and that broke down easily and quickly. Then that bat's trampoline effect got accelerated. That's what led us to banning composite bats.

**Q:** How is BBCOR different?

**A:** You can determine how "hot" you want the bat to be. High school and college have picked that bat to be at the top end of wood-bat performance. To do that, bat manufacturers have

thickened the walls. They put some rings in there to make them not so susceptible to the trampoline effect.

**Q:** What's the trampoline effect?

**A:** The ball hits the barrel. The wood barrel doesn't depress. It absorbs the force of the ball. When the ball comes off a lot of the force has been dissipated with the contact of the bat. In a trampoline effect, the barrel depresses. Not as much energy of the ball is spent and as it comes back, it pops the ball back out. It helps accelerate the ball like a trampoline would.

**Q:** What's the chance of returning to all-wood bats?

**A:** That's not possible. There's not enough wood in the United States that would allow us to go (exclusively) to wood. The top wood (ash, maple) will always go to Major League Baseball.

**Q:** What is the sentiment against "hot" bats?

**A:** Baseball is going to become like golf was for a while. It becomes a matter of equipment and who has the biggest bigger Bertha.

**Q:** Does playing with a metal bat help or hurt a high school or college player who hopes to be drafted?

**A:** That's been a concern over the years for (MLB). Sometimes it takes three or four years to train someone with a wood bat and some of them can never make the transition. Hitting with a wood bat in college helps evaluate the talent better.

**Q:** Are the new metal bat modifications good for the game?

**A:** Maybe in 2012 we may have gotten back to what 1974 really intended, which was to have a bat that really hits like wood but doesn't break as often.

Contact this reporter at (937) 225-2381 or mpendleton@DaytonDailyNews.com.

## Batting averages dropping

### Bats

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#### On the defensive

Like all infielders and pitchers, Troy senior Nick Antonides appreciates that noticeable difference. A third baseman, Antonides saw an opposing pitcher suffer a broken jaw from a batted ball two years ago.

Last season, Troy JV pitcher Nick Sanders had a ball hit his forehead.

Although just milliseconds of a difference, that means everything to those closest to home plate.

"Ground balls have definitely slowed down a lot," Antonides said. "You have more reaction time now."

The fear factor of surrendering a barrage of home runs also has been tempered. One- and two-run leads are more meaningful, especially late in games. That enables coaches to stay with pitchers longer.

"It goes back to a more traditional style of baseball," Springfield coach Rob Cassell said.

"You've got to move runners over, hit behind them. It adds more dynamics to the game. There's more coaching, more strategy. You're not waiting on that home run."

#### What's the difference?

BBCOR is now as popular in baseball lingo as RBI. The five-letter acronym stands for Bat-Ball Coefficient of Restitution. What all that means is, unlike other seasons, a light-hitting player won't be able to go yard as often, if at all.

Scientifically, it's a measure of performance that means a batted ball hit by a metal bat won't travel as far in the air as its predecessor,

#### BBCOR Bats\*

Louisville Slugger Omaha: \$130.

Rawlings 5150: \$185.

Baum Hybrid: \$219.99.

Rip-It Prototype II: \$279.99.

DeMarini CF5 DXFCF: \$295.

Marucci Black: \$299.99.

Nike Aro MC2: \$299.99.

Easton S1: \$399.95.

\* Posted on Internet

the BESR (ball exit speed ratio). All legal bats are stamped with the BBCOR insignia on the barrel. BESR bats are illegal to use in a game.

"If you barely missed the ball with the other bats, (the ball) still might have went out (for a home run)," said Troy senior first baseman Nathan Helke, a 6-foot-6, 270-pounder who has launched three over-the-fence homers this season. "These definitely won't."

According to Kyle McNeely, the Ohio High School Athletic Association director of development for baseball officials/umpires, BESR bats were a composite weave of metal that easily and quickly broke down. That enabled a "trampoline effect" that acted like booster powder to batted balls.

That led to a ban on composite bats, from Little League and college in 2011 and finally high school this season.

With the BBCOR, "the intent is you can determine how 'hot' you want the bat to be," without the bat breaking down and enabling more power than its verification, McNeely said.

#### When did it start?

Metal bats were introduced to baseball at all levels except Major League Baseball in 1974. The intent was to produce a bat that had more longevity than wood bats, which often would break.

Metal bats increasingly became more lethal. Their cost also rose.

Initially about the same price as a Louisville Slugger wood bat, metal bats now go for \$130-\$400.

Composite bats had such an effect on college baseball that it was dubbed "Gorilla Ball" in the mid-1990s. The opposite of small ball, in which teams bunt, steal and advance one base at a time for runs, gorilla ball fancies home run hitters.

The term gorilla ball has its roots in the College World Series. It was the late 1980s. The Omaha (Neb.) Zoo was located down the right-field line of Rosenblatt Stadium, site of the CWS. The landing spot of many home runs was the ape house.

"The gorillas went nuts," recalled McNeely, "and the name stuck."

#### Change in the game

That drop in bat pop also means outfielders can be more daring.

"We're moving our guys in," first-year Middletown coach Rick Blyberg said. "You can tell that everybody is trying to take the base hits away because the ball doesn't carry as far."

Most, but not all, area conferences have seen a drop in team batting averages. The Greater Catholic League North had the greatest drop, from .320 at the end of last season to .261 this past week, a difference of .059 from the combined batting averages of Alter, Chamainade-Julienne, Carroll and Fenwick.

The Greater Miami Conference (minus .017) and Greater Western Ohio Conference (.016) also have had drops in hitting. Not all of that can be attributed to graduated players, star pitchers and quality opponents.

Coach Ray Hamilton of defending Division I state champ Lakota East also has noticed the change.

"You're back to X's and O's," he said. "Now, it's maybe I've got to listen to old coach a little more."

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#### Batting averages lower this season

The change to less lively bats this season has led to lower high school batting averages for the most part:

	2012*	2011**
<b>GWOC Central</b>		
Beavercreek	.308	.276
Centerville	.332	.353
Fairmont	.264	.285
Northmont	.338	.346
Springfield	.290	.306
Wayne	.226	.265
Totals	.293	.305

	2012*	2011**
<b>GWOC North</b>		
Vandalia Butler	.301	.382
Greenville	.328	.235
Piqua	.332	.313
Sidney	.302	.263
Trotwood-Madison	n/a	
Troy	.258	.314
Totals	.304	.301

	2012*	2011**
<b>GWOC South</b>		
Fairborn	.305	.337
Lebanon	.244	.280
Miamisburg	.322	.326
Springboro	.339	.301
West Carrollton	.243	.278
Xenia	.174	.340
Totals	.271	.310

**Central:** 5 of 6 dropped

**North:** 2 of 5 dropped

**South:** 5 of 6 dropped

**Total:** 12 of 17 dropped

**Total BA difference:** .289-.305; minus .016

	2012*	2011**
<b>CBC Kenton</b>		
Bellefontaine	.377	.314
Kenton Ridge	.301	.312
Spg. Shawnee	.346	.337
Stebbins	.230	.287
Tecumseh	.334	.267
Tippicanoe	.288	.348
Total	.312	.310

#### CBC Mad River

Ben Logan	.355	.292
Indian Lake	.271	.242

Graham	.233	.218
Greenon	n/a	
Northwestern	.303	.290
Urbana	.231	.254
Total	.278	.259

**Kenton:** 3 of 6 dropped

**Mad River:** 1 of 5 dropped

**Total:** 4 of 11 dropped

**Total BA difference:** .295-.284; plus .011

2012\* 2011\*\*

	2012*	2011**
<b>GMC</b>		
Colerain	.197	.257
Fairfield	.332	.282
Hamilton	.235	.239
Lakota East	.289	.305
Lakota West	.307	.298
Mason	.309	.306
Middletown	.203	.281
Oak Hills	.264	.286
Princeton	.243	.238
Sycamore	.211	.268
Total	.259	.276

6 of 10 dropped

**Total BA difference:** .259-.276; minus .017

2012\* 2011\*\*

	2012*	2011**
<b>GCL North</b>		
Alter	.307	.344
Carroll	.213	.359
CJ	.257	.302
Fenwick	.269	.276
Total	.261	.320

4 of 4 dropped

**Total BA difference:** .261-.320; minus .059

2012\* 2011\*\*

	2012*	2011**
<b>GCL Central</b>		
Badin	.318	.378
McNicholas	.207	.352
Purcell Marian	.270	.215
Roger Bacon	.255	.283
Total	.262	.307

3 of 4 dropped

**Total BA difference:** .262-.307; minus .045

\* Through April 12

\*\* Season total

## Bag limits changed for west-central Ohio deer hunters



**Jim Morris**  
Outdoors

As expected, the Ohio Wildlife Council recently increased white-tail deer bag limits for a large portion of west-central Ohio by shifting seven counties from Zone A to Zone B.

That means if you hunt in Auglaize, Darke, Mercer, Miami, Montgomery, Preble or Shelby counties, you will be able to take two deer

this coming season instead of one.

But wait, it gets better. If you hunt with a bow, you can purchase two antlerless permits, meaning you can take two more during the special antlerless season, Sept. 29 to Nov. 25.

On top of that, if you hunt in an urban zone, you will be allowed to take six more deer with the proper permits. The closest urban zone to the Dayton area runs down the east side of Montgomery County into Warren and Butler counties and then into Hamilton and Clermont counties.

Theoretically, a resident of Montgomery County — or one of the other counties in the urban zone — could legally kill 10 deer and never leave his own county. Only one antlered deer can be tak-

en per hunter, per year.

Here are the deer seasons for 2012-2013:

► Archery season: Sept. 29 through Feb. 3, 2013.

► Special area muzzleloader hunts: Oct. 15-20.

► Youth deer-gun season: Nov. 17-18.

► Statewide deer-gun season: Nov. 26 through Dec. 2 and Dec. 15-16.

► Statewide muzzleloader season: Jan. 5-8, 2013.

**Crappie champs:** West Milton's Mike Walters, one of the top winners in the history of competitive crappie fishing, was at it again a couple of weeks ago on Grenada Lake in Mississippi. Fishing with his son Derak, of Piqua, they won the Mississippi State Champion-

ship as part of the Crappie Masters tournament trail.

Their winning weight was 34.05 pounds for 14 fish, an average of over 2.4 pounds per fish. Their big fish was 3.05 pounds. They split the \$5,000 first prize.

#### Short shots

**Same limits:** The Ohio Division of Wildlife has announced Lake Erie's daily bag limits for the rest of this year and early 2013 will remain at six walleyes (May 1-Feb. 28) and 30 yellow perch. The wall-eye minimum length limit remains 15 inches.

**April discounts:** Ohio State Parks are offering 25 percent off on all overnight stays, including getaway rentals to all campers in

all state park campgrounds this month. It does not apply to lodge rooms or cabins.

**Three eggs:** Dayton, the female peregrine falcon located on the Liberty Savings Bank Tower in downtown Dayton, is incubating three eggs. Check her out on the Boonshoft Museum Falcon Cam at boonshoftmuseum.org/programs-events/203.

The museum also has an eagle cam, covering the bald eagle nest near Eastwood MetroPark. You can view that cam at boonshoftmuseum.org/programs-events/special-events/eagle-cam-landing.

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