Testing and Training of Baseball Pitch Recognition

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Inside the Mind of a Hitter
A look at how quickly a hitter must assess and react to a 90-mph fastball.

The wind-up
Hitter attempts to get first insight on the type of pitch by watching the pitcher's hand as he releases the ball.

75-100 milliseconds
After the pitcher releases his pitch, the ball travels about 9 feet before the batter is able to process the entire image of the pitcher's wind-up and release.

175
Hitter assesses the type of pitch, extracting meaningful information about velocity, spin and trajectory.

225
Decision time—to swing or not to swing?
It takes around 150 milliseconds from the start of a swing to the time it makes contact with the ball, but the decision must be made around 25 milliseconds earlier, to allow time for the brain signals to reach the various muscles involved.

350
At this point only exceptional hitters can make small adjustments. The ball is traveling at about three-fourths of its final velocity.

400
The ball crosses the front of home plate.

Experience helps the hitter 'pattern' the type of throw the pitcher is known for to speed up his thought process. Is the pitcher a known fireballer? If yes, the fastball will be at the top of the list when the batter gets his first visual clue from the ball.

Having decided the character of pitch, the hitter selects a swing pattern that was established through countless hours of practice and experience. For this pitch he may choose 'upward swing to send the ball over the fence.'

If the swing is as little as seven milliseconds late, his squarely hit ball will go foul.
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IAV-BB Results

<table>
<thead>
<tr>
<th>Average</th>
<th>Treatment</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batting Average</td>
<td>.274</td>
<td>.187</td>
</tr>
<tr>
<td>On-Base Percentage</td>
<td>.352</td>
<td>.284</td>
</tr>
<tr>
<td>Slugging Percentage</td>
<td>.361</td>
<td>.248</td>
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Eye on the Tigers

Dave Matter is the Mizzou sports beat reporter for the St. Louis Post-Dispatch.

Pitch recognition program helped change SEMO baseball

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