

Bluestem Breezes  
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## **Estimating Soybean Yields: Mobile Web-App**

New technology can be challenging at times, yet the outcomes hopefully outweigh the added up-front time to learn something new. This week, Dr. Ignacio Ciampitti, K-State Crop Production and Cropping Systems Specialist details a new Web-App for estimating soybean yields. Please, read on:

If you have smartphone or tablet devices (iPhone, iPad, or Android devices) or a desktop computer, there is a “free” mobile Web-App that can provide assistance while estimating soybean yield at on-farm scale before harvest time. The App, named “Soybean Yield Estimator,” was developed by the Manitoba Pulse Growers Association, and can be found at:  
<http://mpgabeanapp.com/soybean-yield-estimator>

In order to use this App, a user will need to have an internet connection (web-based platform). The Soybean Yield Estimator has only four inputs for predicting the final yield:

1. Plant population (plants/acre). This component can be estimated by counting the number of plants in a 21-inch row length for 30” row spacings (1/10,000th area), and by multiplying that number by 10,000;
2. Pods per plant. If the simplified approach is used, this factor can be obtained by counting all pods per plant in the 21-inch row length;
3. Seeds per pod. A good average number is 2.5 seeds per pod, but the range presented in this web-based App is from 1 to 4 seeds per pod;
4. Seed size. Seed size typically ranges from 2,000 (large) to 3,500 (small seeds) seeds/lb, with an average of 2,800 seeds/lb.

Inputs 1, 2, and 3 have been already discussed for the “simplified approach.” Once all these components are estimated in the field, the numbers can be entered into the web-based App.

The last factor “seed size” is the same as the one presented in the “conventional approach.” This factor normally varies from 2,400 to 3,200 seeds/lb. If the conditions until harvest will be favorable, then the “seed size” component should be a lower number (e.g., 2,400 seeds/lb). If conditions are likely to be unfavorable, resulting in a short seed-fill period, then this factor should be higher (e.g., 3,200 seeds/lb). This factor will be ultimately determined as the crop approaches maturity, but an estimation is needed considering the importance of this factor for influencing final soybean yields.

Here is one example of how to use this web-based App:

## INPUTS:

1. Plant Population: 12 plants (measured at 12 sites within the field) in 21-inch row length x 10,000 = 120,000 plants/acre
2. Pods per plant: 24 pods per plant (average of 12 plants in 21-inch row length)
3. Seeds per pod: 3 seeds per pod (estimation)
4. Seed size: 2,800 (assuming “normal” conditions during seed-fill period)

## OUTPUT:

Final Yield estimation: 43 bu/acre

For more information on how to estimate soybean yields, check the following resources:

“Simplified-Approach”

Purdue University

<http://extension.entm.purdue.edu/pestcrop/2012/issue21/index.html>

“Conventional-Approach”

University of Kentucky

<http://www2.ca.uky.edu/agc/pubs/agr/agr188/agr188.pdf>

For additional information on estimating soybean yields, stop by the Extension Office (215 Kansas, Courthouse, Alma; [kamayer@ksu.edu](mailto:kamayer@ksu.edu); 765-3821). For Bluestem Breezes archives, check out [wabaunsee.ksu.edu](http://wabaunsee.ksu.edu).