Color figures for Lapointe, S. L., R. P. Niedz and T. J. Evens. 2010. An artificial diet for *Diaprepes abbreviatus* (Coleoptera: Curculionidae) optimized for larval survival. Fla. Entomol. 93 (1): 56-62.

Ternary graphs of 3D surface surfaces for 5 measures of larval *Diaprepes abbreviatus* performance reared on diets with varying proportions of cottonseed meal, wheat germ and cellulose (a non-nutritive filler).

Figure 1 (B&W) represents the experiment design space. Black circles correspond to treatment blends. Vertices correspond to 100% cellulose, 30% cottonseed + 70% cellulose, and 30% wheat germ + 70% cellulose; the lower center point corresponds to 75% cellulose, 10% cottonseed meal + 11% wheat germ. Treatment proportions are given in Table 1 of the manuscript.

Figures 2A through 2D present percent larval survival to 28 d (A), percent larval survival to pupation (B), percent larval survival from neonate to adult (C) and larval weight at 28 d (D).

Figure 3 represents duration of the developmental period from neonate to pupation. Color corresponds to response values from low (blue) to high (red).

For more information on the application of geometric designs and response surface modeling applied to insect diet development, see:

*Lapointe, S. L., T. J. Evens and R. P Niedz. 2008. Insect diets as mixtures: optimization for a polyphagous weevil. Journal of Insect Physiology 54: 1157-*1167.

Figure 1

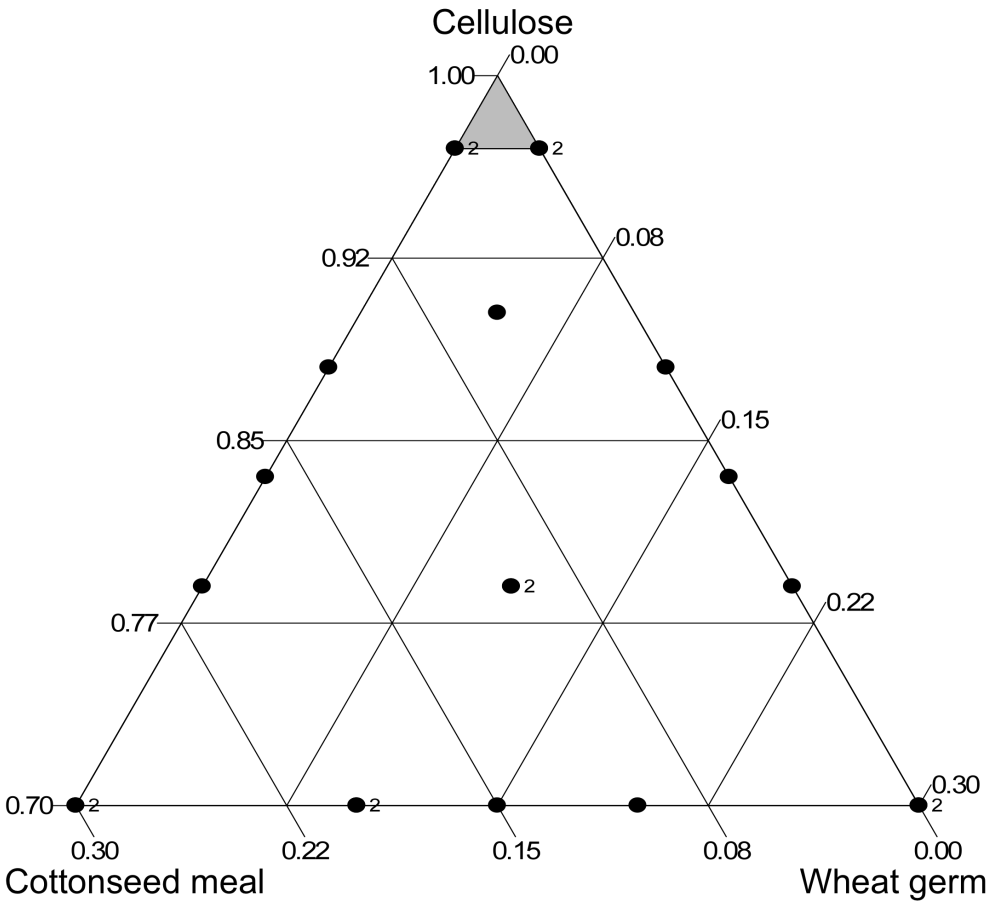

Fig. 1. Design space for a three-component blend experiment showing coordinates of experimental and validation diet blend proportions (black points). Points accompanied by "2" were replicated. Shaded area not sampled by the experiment design.

Figure 2

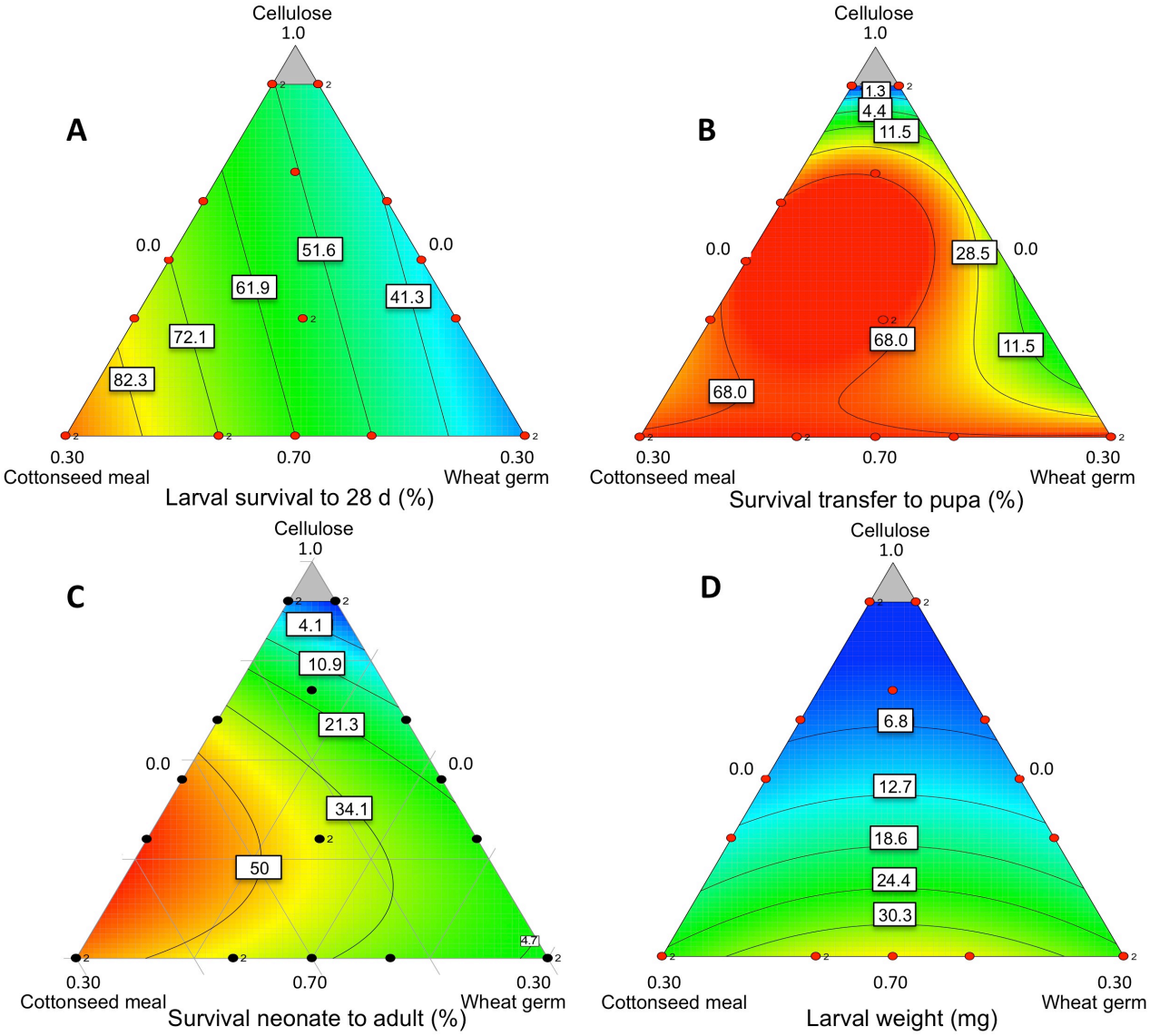

Fig. 2. Predicted 3-dimensional surface response plots for 4 measures of larval *D. abbreviatus* performance reared on diets with varying proportions of 2 major diet components (cottonseed meal and wheat germ) and a non-nutritive filler (cellulose): survival of neonate larvae to transfer at 28 d (A), mean larval survival from 28 d to pupation (B), survival of larval *D. abbreviatus* from neonate to adult (C), and mean weight of 28-d-old larvae (D). Values on plots are original scale.

Figure 3

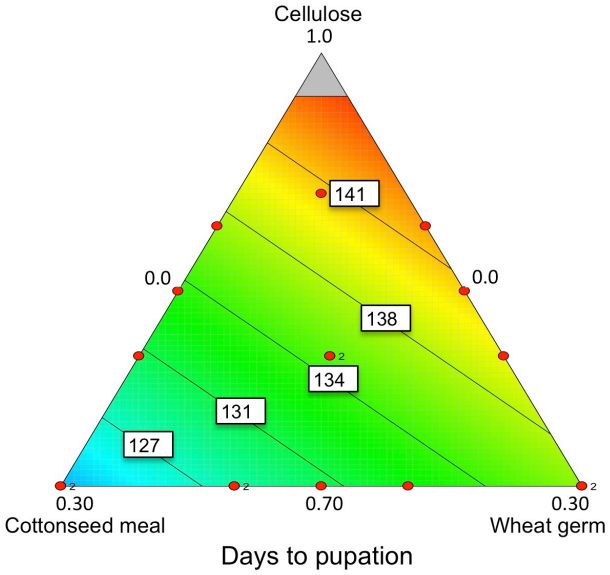

Fig. 3. Predicted 3-dimensional surface response plot of development for larval *D. abbreviatus* reared on diets with varying proportions of 2 major diet components (cottonseed meal and wheat germ) and a non-nutritive filler (cellulose). Values on plot are original scale.