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July 28, 2014

Mr. Wes Ingram  
 California Air Resources Board  
 Stationary Sources Division  
 1001 I Street  
 Sacramento, CA 95814

**Re: Grain Sorghum Nitrogen Requirements**

Wes,

I serve as grain sorghum specialist at Oklahoma State University, where I focus on providing information to grain sorghum producers and conducting research at the Oklahoma Panhandle Research and Extension Center. Thus I feel I am especially qualified to discuss grain sorghum N requirements.

Here is a common equation used in determining the amount of N required for a grain sorghum crop:

$$N_{rec} = [YG \times 1.25] STA - PCA - PYM - PNST$$

Where  $N_{rec}$  is the N recommendation in pounds per acre,  $YG$  is a realistic yield goal in bushels per acre,  $STA$  is a soil texture adjustment (1.1 for sandy soils and 1.0 for medium- and finely-textured soils),  $PCA$  is a previous crop adjustment (0 unless the previous crop was a legume),  $PYM$  is the amount of N left from the previous crop's manure application and  $PNST$  is the soil test result (30 if no test is performed).

Here is an example calculation using this equation and commonly-seen values:

$$N_{rec} = [100 \times 1.25] 1 - 0 - 0 - 30 = 95$$

Assuming a yield goal of 100 bushels per acre, medium- or finely-textured soil, a previous corn, grain sorghum or wheat crop, no recent manure applications and no soil test, a common N recommendation for grain sorghum would be 95 pounds per 100 bushels, or 0.95 pounds per bushel.

Thank you for the opportunity to provide input on grain sorghum N requirements.

Regards,

A handwritten signature in black ink, appearing to read 'Rick Kochenower'.

Rick Kochenower, Grain Sorghum Specialist  
 Oklahoma State University  
 368 Ag Hall  
 Stillwater, OK 74078