PEARSON SQUARE
Balancing a Ration

Unit 5: Feeds, Nutrition and Digestion

Lesson 13: Balancing a Feed Ration

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- Useful tool for simplifying and balancing of rations

- It shows the proportions or percentages of two feeds to be mixed together to give a percentage of the needed nutrient

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2000# of feed is needed to feed a 100# growing hog.

- A feeding standards table shows that an 18% crude protein ration is needed.
- Corn and Soybean Meal (SBM) are selected as feeds.

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- A feed composition table shows

Corn has 8.9% crude protein

SBM has 44.4% crude protein

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- How much corn and soybean meal need to be mixed together for 2000# of feed?

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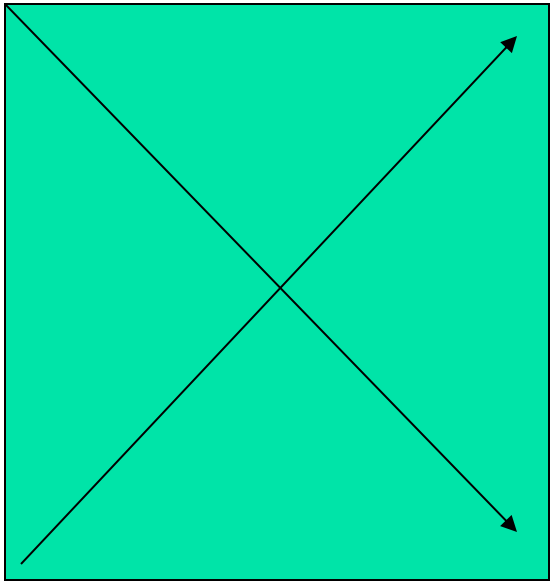
Step 1 -Draw a 1- to 2-inch square. Place diagonal lines across the square.



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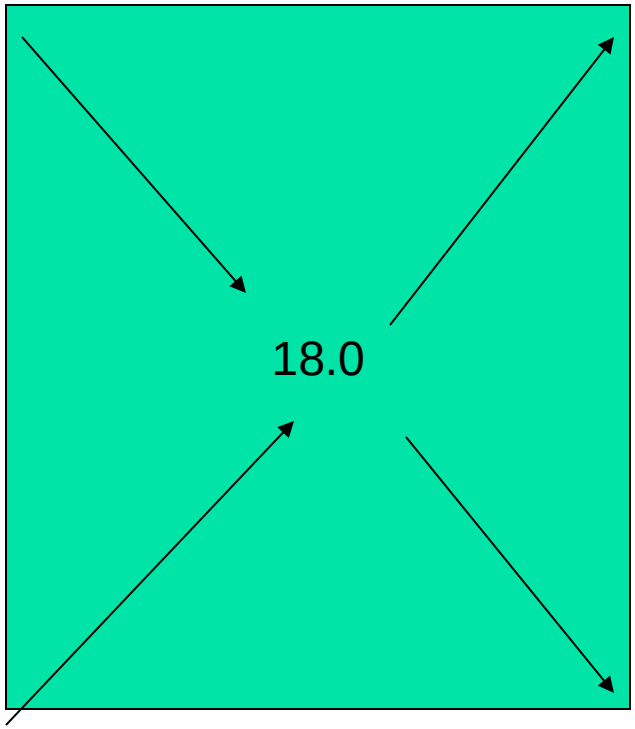
- **Step 2** – Write the percentage of crude protein needed by the animal in the center of the square where the diagonal lines cross



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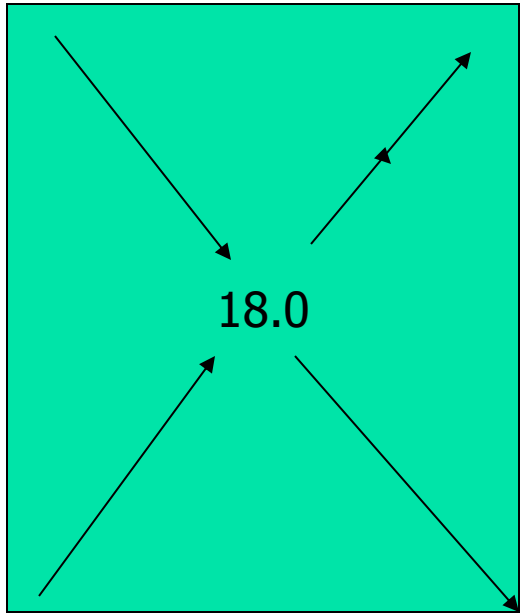
- **Step 3** –Write the feeds to be used at each corner. Place the percent of crude protein in the feeds after the name of the feed

- Corn
- 8.9%



- SBM
- 44.4%

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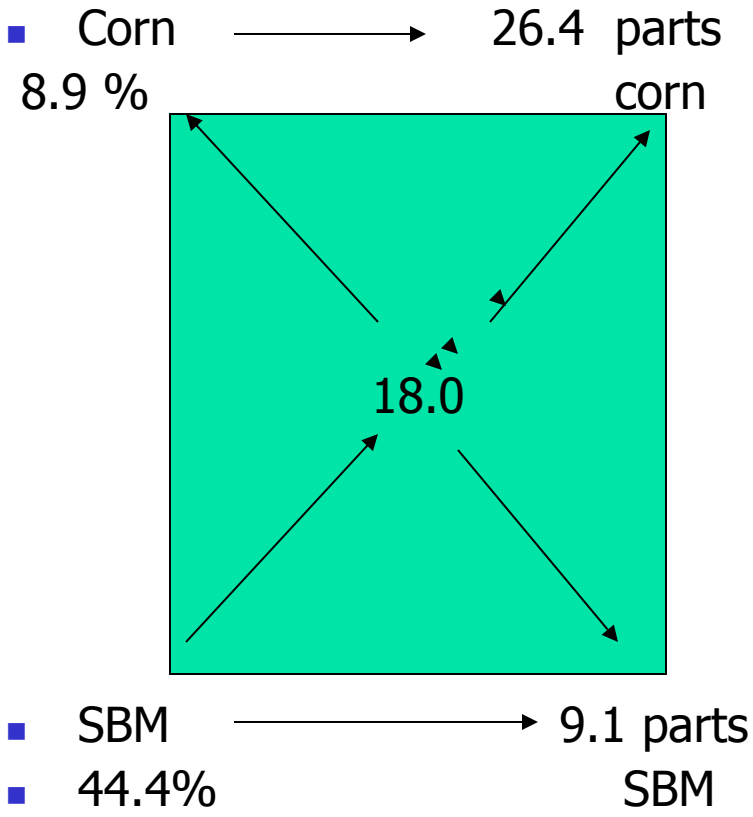
- **Step 4** – Subtract the smaller of the numbers from the larger numbers. (This involves crude protein needed by the animal and that provided by the feed.) Write the difference in the opposite corners



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- Step 5 – The numbers at the two right corners are parts of the two feed ingredients that are needed.
- 26.4 parts corn
- +9.1 parts soybean meal (SBM)
- 35.5 total parts

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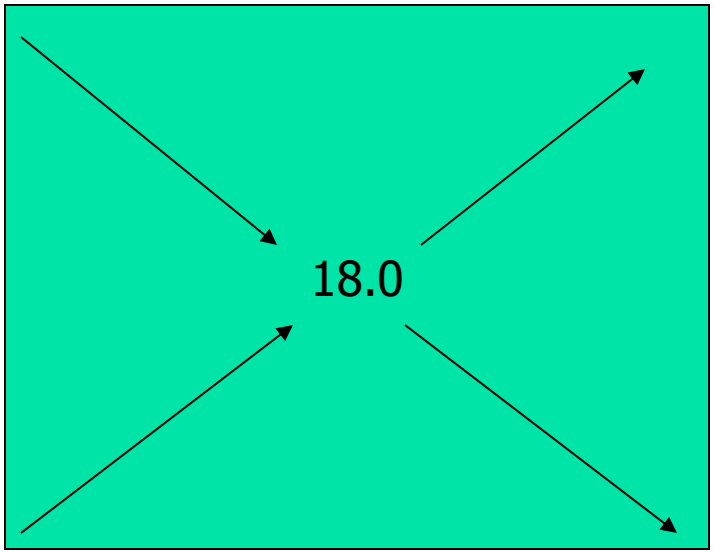
- Corn
- 8.9%



- SBM
- 44.4%

26.4 parts corn
35.5 total parts

9.1 parts SBM
35.5 total parts

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- Step 6 – The percentage of each feed needed in the ration can be found by dividing the number of parts by the total parts, then multiply by 100.

- 26.4/ 35.5 = .744 x 100 = 74.4% corn
- 9.1/ 35.5 = .256 x 100 = 25.6% sbm

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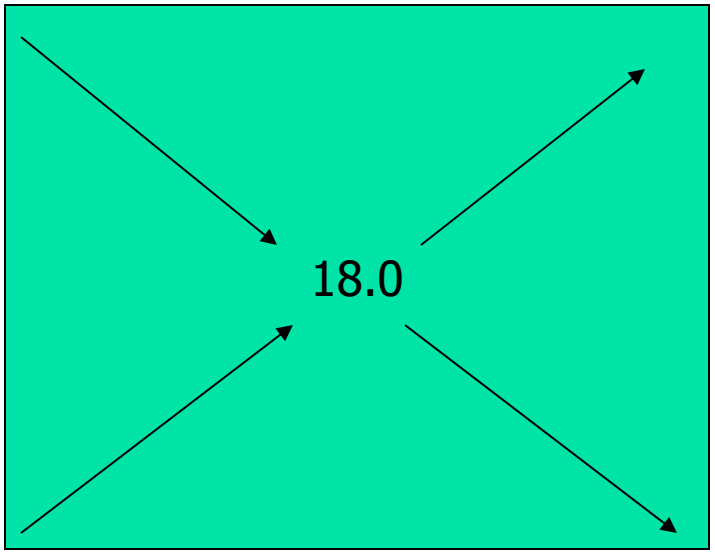
- Corn
- 8.9%



- SBM
- 44.4%

26.4 parts corn
35.5 total parts
74.4%

9.1 parts SBM
35.5 total parts
25.6%

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- **Step 7 –** The amount of each feed ingredient for a large batch of feed is determined by multiplying the percentage of each by the total amount of feed desired

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- Our batch of feed = 2000 # (1 ton)

- 2000# x .744 = 1488 # Corn
- 2000# x .256 = 512 # SBM

2000# of feed @ 18% Crude Protein