

Proving Units Open Quiz 1

Name: Key

Show all work for full credit: 0.5 points for units, 0.5 points for unit cancelling, 0.5 points written as fraction/answer with label, 0.5 points for correct answer. Use the following chart for to answer questions 1-4.

	Days to head	Flag leaf disease	Grain yield	Test weight	Seed count
Variety	(Jday)	(%)	(bu/A)	(lb/bu)	(seeds/lb)
Faller	178	6	71.0	56.8	14368
Glenn	176	8	67.7	61.8	14973
Barlow	177	10	60.9	57.8	15890
Brennan	177	25	55.4	57.5	16984
Velva	180	12	41.1	47.7	17208
Elgin	179	7	62.7	55.7	16209
Jenna	180	7	59.2	55.9	14434
Select	176	10	71.7	60.5	14926
WB Mayville	178	8	53.1	55.1	14607
Prosper	179	5	66.4	56.0	14391
Rollag	178	6	51.9	58.7	15582
SY Soren	177	10	64.0	57.2	17514

1. If Jim Halpert farms 2000 acres of wheat and had the bushel/acre average for Faller wheat above, how much total wheat did he harvest in bushels?

142000 bushels

$$\frac{2000 \text{ acres}}{1} \times \frac{71.0 \text{ bu}}{1 \text{ acre}} = \frac{142000 \text{ bushels}}{1}$$

2. How many total tons did Jim harvest given that 1 ton = 2000 pounds and his test weight for the ~~Faller wheat was 60 pounds per bushel~~

4032.8 tons

$$\frac{142000 \text{ bu}}{1} \times \frac{56.8 \text{ lbs}}{1 \text{ bu}} \times \frac{1 \text{ ton}}{2000 \text{ lbs}} = \frac{4032.8 \text{ tons}}{1}$$

3. Kevin Malone raise SY Soren wheat. His agronomist tells him he needs to plant 68.5 pounds of wheat per acre. How many total seeds is he planting per acre?

$$\frac{1,199,709 \text{ seeds}}{\text{acre}}$$

$$\frac{17514 \text{ seeds}}{16} \times \frac{68.5 \text{ lbs}}{\text{acre}} = \frac{\text{seeds}}{\text{acre}}$$

4. Kevin reads that he needs to plant 1.5 million (1,500,000) seeds per acre. Is his agronomist consistent with this number? If not how many pounds should he plant per acre?

No

$$\frac{85.65 \text{ lbs}}{\text{acre}}$$

$$\frac{116}{17514 \text{ seeds}} \times \frac{1500000 \text{ seeds}}{1 \text{ acre}} = \frac{65 \text{ lbs}}{\text{acre}}$$

5. Write 0.00034 as a percent. 1 pt

$$.034 \%$$

6. Solve and reduce:  $(x/y) / (y/y)$  1 pt

$$\frac{x}{y} \cdot \frac{y}{y} = \frac{x}{y}$$