

**EXST7015**

**Daily Design 5**

Carefully read the description of the experiment below. Be prepared to answer the questions that follow the design description as a class quiz.

An experiment was conducted to compare production of bell peppers planted in 4 different densities (29040, 14520, 9680 and 7260 plants per acre). The experiment was replicated on three raised beds. Each raised beds was 6 inches high, covered with plastic mulch and provided with plastic tubing for drip irrigation. Each of the four plant densities were planted on each raised bed as double row of evenly staggered plants. The four densities correspond to plant spacing of 0.5, 1.0, 1.5, and 2.0 ft between plants in the row were separately randomized for each raised bed. Peppers were harvested as soon as they ripened during 4 inspections between Sept 5 and Oct 4. The total harvest for each of the 4 plant densities on each of the 3 beds was recorded (12 values in all). A table of harvest results is given below. The objective is to compare bell pepper yields for the 4 levels of plant population densities.



Bell pepper marketable yield and average fruit weight				
Population (plants/acre)	Marketable yield			Avg. fruit wt. (oz)
	(no/acre)	(lb/acre)	(%)	
29,040	118,400 a	41,760 a	77	5.7
14,520	118,600 a	41,020 a	85	5.5
9,680	109,700 a	38,400 a	84	5.6
7,260	90,500 b	31,300 b	84	5.6
LSD .05	10,100	3,800	7	NS

Answer choices:	<b>(A) raised bed</b>	<b>(B) a pepper plant</b>	<b>(C) plant density</b>
	<b>(D) total harvest</b>	<b>(E) plastic tubing</b>	<b>(F) double row</b>

Name \_\_\_\_\_ Quiz Number \_\_\_\_ Date \_\_\_\_ / \_\_\_\_ / 2012

Circle the appropriate letter for each question.

- 1) What is the experimental unit for this experiment?      A      B      C      D      E      F
- 2) What is the sampling unit for this experiment?      A      B      C      D      E      F
- 3) What is the dependent variable for this experiment?      A      B      C      D      E      F
- 4) What is the treatment variable for this experiment?      A      B      C      D      E      F
- 5) If the design is RBD, what are the blocks?      A      B      C      D      E      F      NA
- 6) Does it seem more likely that the treatments are fixed or random?      (A) fixed      (B) random
- 7) What is the treatment arrangement for this experiment?      (A) single factor      (B) factorial      (C) nested
- 8) What is the experimental design?      (A) CRD      (B) RBD      (C) LSD      (D) Split-plot      (E) Repeated Measures
- 9) The treatment degrees of freedom are \_\_\_\_\_ .
- 10) The degrees of freedom for the error used for testing treatments are \_\_\_\_\_ .