

Can you pollinate faster than a bat?



Texas has many populations of bats that live throughout the state. Bats are responsible for pollinating over 500 different plant species. What if the bats in Texas went on strike? Do you think people could pollinate faster than a bat?

1. There is mango farm in Conroe, Texas. The farm is 105 acres and each acre has approximately 23 mango trees. How many total mango trees are on the farm?



We need to determine how fast one person can “pollinate.” Set 5 balls or other marking device approximately five feet apart. For this exercise, we will assume that each ball, or other marking device, is 2 mangoes. So, we will determine how fast one person can “pollinate” 10 mangoes. Time each team member or individual and record how long it takes them to run to each ball, pick it up, and return to the starting line on the following chart:



	Trial 1 (seconds)	Trial 2 (seconds)	Trial 3 (seconds)	Average
Team Member 1				
Team Member 2				
Team Member 3				
Team Member 4				

2. What is the average pollination speed of all four team members?
3. Let's assume that you have to pollinate 200 mangoes on each tree in the farm. We know how long it takes one person to pollinate 10 mangoes. How long would it take one person to pollinate an entire tree? Convert your answer from seconds to minutes.



4. If you worked for 8 hours per day, how many trees could you pollinate in one day?



5. You can pollinate _____ trees per day (answer from #4). Since there are 2,415 trees on the mango farm in Conroe, how many days would it take you to pollinate the entire farm?

6. The minimum wage in Texas is \$7.25 per hour. First, calculate how much money you would need to be paid per day (8 hours) to pollinate the trees. Then, calculate the cost to complete the entire farm.



7. Let's assume there is a small bat population living near the mango farm. The farmer fills a few buckets with water each day for the bats and it costs approximately \$0.50 every other day to do so. The current bat population has 35 bats and each one pollinates 30 trees in a single night. How many mango trees can the bat population pollinate in one night?



8. How many days would it take the bat population to pollinate all 2,415 trees on the farm?

9. Given what you know about pollination, is it more beneficial for you or bats to pollinate the mango trees? Explain your answer.