Farmer Pearson has a rice stink bug problem. She needs to spray 500 acres with Sevin XLR Plus at 1 quart/acre. Sevin XLR Plus contains 4 lbs. of active ingredient (carbaryl) per gallon. The aerial service will charge Pearson $6.50/acre to spray. Sevin XLR Plus costs $65 for 2 1/2 gal. How much money will Pearson spend to control her rice stink bug problem and how much active ingredient will Pearson apply on 500 acres?

**Answer:**

\[
\frac{65}{2.5 \text{ gal}} = \frac{26}{\text{gal}}
\]

\[
\begin{align*}
1 \text{ qt/acre} & \times 500 \text{ acres} = 500 \text{ qts} & 125 \text{ gal} \\
125 \text{ gal} & \times \frac{26}{\text{gal}} = 3250 \text{ for material} \\
$6.50/\text{acre} & \times 500 \text{ acres} = 3250 \text{ for application}
\end{align*}
\]

Total cost to spray 500 acres = $6500

\[125 \text{ gal} \times 4 \text{ lb active ingredient/gal} = 500 \text{ lb of carbaryl for 500 acres}\]