FIGURE 14.4. Under the threshold model, survival depends on an underlying normally distributed trait. (Top) Suppose that individual insects vary in the threshold dose of an insecticide. Thus, individuals with a threshold below the actual dose die (shaded areas). In this example, the population on the left has a distribution of thresholds that is lower, and so 97.7% die (blue); the right-hand population has generally higher thresholds, and so only 16% die (red). (Bottom) When survival is plotted against dose for these two populations, a characteristic sigmoid curve is seen. The dashed line shows the dose given in the top panel.

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