

# Farming at Lannister Agriculture

## A New Opportunity

Your firm, Lannister Agriculture, has recently acquired a prime piece of farmland in southwest England from Tarbeck Foods.

You hope to hire local farmers to work the land. However, a farmer's success depends on both the farmer's ability as well as factors beyond his control, such as weather. Success is valuable to Lannister, resulting in \$100 in revenue; failure is worth nothing. And success is critical in this venture, as Lannister has gone heavily into debt to buy this land, and Lannister Agriculture always pays its debts.

Capable farmers succeed with probability  $\frac{3}{4}$ , while inept farmers succeed with probability  $\frac{1}{4}$ ; unfortunately, you cannot observe whether a farmer is capable or not. Moreover, your supply of land is limited, so it is important that you only hire capable farmers.

## Farmers

Farmers are naturally risk averse, and have a utility given by  $\sqrt{w}$ , where  $w$  is the wage earned by the farmer. Capable farmers have an outside option with a wage of \$25, while inept farmers can only earn a wage of \$9.

## Designing a Contract for Lannister

Your firm, Lannister Agriculture, must decide your wage policy. How should wages be structured?

**How much will you pay a farmer conditional on success? \_\_\_\_\_ Conditional on failure? \_\_\_\_\_**