Farming

BUSINESS Farmers analyze their fields in terms of the terrain, type of soil, and the predicted weather. They make a determination of what to plant based on past performance of their soil in combination with the weather patterns. The Farmer’s Almanac gives the farmers some statistics to review to help them make a final decision of how much of each crop to plant. In consulting a seed catalogue, farmers determine how much seed they must purchase to plant each acre.

In Exercises 1 and 2, use the following information.

Farmer Brown needs to determine how to plant his fields. He has two crops to plant, corn and barley. The labor cost is the same no matter how he divides his acreage for planting, but the price of seed is different. He pays someone $1000 to do the planting no matter how much of each seed is planted.

The price of seed for corn is $10 per acre and the price of barley is $9 per acre.

1. Write a model for the total amount that will be spent to plant his fields if he plans on planting 100 acres.

2. Evaluate the model for several different combinations of barley and corn where the total number of acres planted is 100. Organize the results in a table.

In Exercises 3 and 4, use the following information.

Farmer Brown has land suitable for oats and wheat. The price of oats is $11.50 per acre and the price of wheat is $15.00 per acre. The farmer pays $1000 for planting.

3. Write a model for the amount that will be spent to plant his field in oats and wheat if he continues to plant the same 100 acres.

4. Evaluate the model for several different combinations of wheat and rye where the total number of acres planted is 100. Organize the results in a table.