

Decision Variables:

X is the number of hectares of wheat to be planted.

Y is the number of hectares of barley to be planted.

Objective Function:

Z is the total income, where wheat sells for \$200 per hectare and barley sells for \$300 per hectare.

$$Z = 200x + 300y$$

Constraints:**Land Availability:**

The total planted area.

$$x + y \leq 10$$

Labor Hours Constraint:

The total labor hours should not exceed 35 hours per week per person.

$$8x + 10y \leq 35 \times 2$$

Water Availability:

The total water consumption should not exceed the available 65 kiloliters per day.

$$6x + 9y \leq 65$$

Spouse's Request:

Your spouse wants at least 3.5 hectares of wheat and 2.5 hectares of barley planted.

$$x \geq 3.5$$

$$y \geq 2.5$$