

$$\begin{array}{ll} \underline{P} & \min \sum_{j=1}^m c_j x_j \\ & \text{s.t.} \sum_{j=1}^m a_{ij} x_j \geq b_i \quad i=1, \dots, m \\ & \quad x_j \geq 0 \quad j=1, \dots, m \end{array}$$

$$\begin{array}{ll} \underline{D} & \max \sum_{i=1}^m b_i y_i \\ & \text{s.t.} \sum_{i=1}^m a_{ij} y_i \leq c_j \quad \forall j=1, \dots, m \\ & \quad \underline{y_i \geq 0} \quad \forall i=1, \dots, m \end{array}$$

dual of $\underline{D} = \underline{P}$

\Rightarrow dual of $\underline{P} = \underline{D}$

interpretation

\hookrightarrow pay y_i for 1g of nutrient i