

ES1 - VINCHI LOGICI

$J = \begin{cases} 1 & \text{ALIMENTO 1 PRESENTO} \\ 0 & \text{ALIMENTI} \end{cases}$

$$x_2 + 5x_3 + 2x_4 \geq 3$$

$$7x_1 + 2x_4 + 3x_5 \geq 10$$

$$x_1 + 3x_2 + 4x_3 + x_4 \geq 2$$

$$x_1 + x_2 + 3x_4 + 2x_5 \geq 3$$

$$4x_2 + x_3 + x_5 \geq 2$$

$$x_1 > 0 \Rightarrow J = 1$$

$$J = 1 \Rightarrow x_5 = 0$$

ES2 COSTO FISSO

$x_{AG}, x_{BG}, x_{CG} = \text{MW prodotti D. GIORNO}$

$x_{AN}, x_{BN}, x_{CN} = \text{NOTTS}$

$y_{AG}, y_{BG}, y_{CG} = 1 = \text{GON ATTIVO DI GIORNO}$
 $0 = \text{ALIMENTI}$

$y_{AN}, y_{BN}, y_{CN} = 1 = \text{GON ATTIVO DI NOTTE}$
 $0 = \text{ALIMENTI}$

$$\begin{aligned} \text{MIN } & 3(x_{AG} + x_{AN}) + 5(x_{BG} + x_{BN}) + 6(x_{CG} + x_{CN}) + \\ & 750 y_{AG} + 600 y_{BG} + 800 y_{CG} + 1200 y_{AN} + 900 y_{BN} + \\ & + 1100 y_{CN} \end{aligned}$$

$$x_{AG} + x_{BG} + x_{CG} \geq 4000$$

$$x_{AN} + x_{BN} + x_{CN} \geq 2800$$

$$x_{AG} \leq 2000 y_{AG}$$

$$x_{AN} \leq 2000 y_{AN}$$

$$x_{BG} \leq 1700 y_{BG}$$

$$x_{BN} \leq 1700 y_{BN}$$

$$x_{CG} \leq 2500 y_{CG}$$

$$x_{CN} \leq 2500 y_{CN}$$

ES - LOT SIZING