A. Minimisasi

- Formulasi Model Program Linear :

  Minimumkan $Z = 6x1 + 3x2$

  Batasan $2x1 + 4x2 \geq 16$ pon nitrogen

  $4x1 + 3x2 \geq 24$ pon fosfat

  $x1, x2 \geq 0$

Diketahui :

x1 = jumlah sak pupuk Super-gro,

x2 = jumlah sak pupuk Crop-quik

Z = jumlah total biaya pembelian pupuk ($)

Minimumkan $Z = 6x1 + 3x2 + 0s1 + 0s2 + MA1 + MA2$

Batasan pada $2x1 + 4x2 - s1 + A1 = 16$

$4x1 + 3x2 - s2 + A2 = 24$

$x1, x2, s1, s2, A1, A2 \geq 0$

Tabel Simpleks

- Tabel Simpleks Awal

Cj	Variabel Dasar	Kuantitas	6	3	0	0	M	M
			x1	x2	s1	s2	A1	A2
M	A1	16	2	4	-1	0	1	0
M	A2	24	4	3	0	-1	0	1
	Zj	40M	6M	7M	-M	-M	M	M
	Zj – Cj		6M-6	7M-3	-M	-M	0	0

- Tabel Simpleks Kedua

Cj	Variabel Dasar	Kuantitas	6	3	0	0	M
			x1	x2	s1	s2	A2
3	x2	4	1/2	1	-1/4	0	0
M	A2	12	5/2	0	3/4	-1	1
	Zj	12M+12	5M/2+3/2	3	-3/4+3M/4	-M	M
	Zj – Cj		5M/2-9/2	0	-3/4+3M/4	-M	0

Tabel Simpleks

- Tabel Simpleks Ketiga

Cj	Variabel Dasar	Kuantitas	6	3	0	0
			x1	x2	s1	s2
3	x1	8/5	0	1	-2/5	1/5
6	x2	24/5	1	0	3/10	-2/5
	Zj	168/5	6	3	3/5	-9/5
	Zj – Cj		0	0	3/5	-9/5

- Tabel Simpleks Optimal

Cj	Variabel Dasar	Kuantitas	6	3	0	0
			x1	x2	s1	s2
3	x1	8/5	0	1	-2/5	1/5
6	x2	24/5	1	0	3/10	-2/5
	Zj	168/5	6	3	3/5	-9/5
	Zj – Cj		0	0	3/5	-9/5