

Living Lab of Luxor – New sugarcane cultivars

i. Sugarcane farms

This scenario is mostly dedicated to this farm type. The traditional method of cultivation is done with cuttings that are provided by the public factory. In this scenario, there is the proposition of altering the seed materials to seedlings. Introducing new cultivars for sugarcane, increases the land allocation to it by 10% compared to baseline. On the farm activities, there is a decrease in water use and nitrogen leaching, but no change in the pesticide use. The total income for the farmers is increased by 8%.

Land Use

Main crops	sugarcane (1,56 ha ~ +10% BAU), wheat (0,36 ha ~ -23,4% BAU), maize (0,12 ha ~ -20% BAU)
Total area	2,04 ha
Crop diversity	three crops

Farm activities

Pesticide use	0,7kg/ha (~ 0% BAU)
Water use	10856 m3/ha (~ -5,4% BAU)
Nitrogen leaching	42,94 Kg/ha (~ -5% BAU)

Economic

Annual income	1050,6 EGP (~ +7,9% BAU)
variable costs	

ii. Livestock farms

Livestock farms have a small land dedicated to sugarcane. Under this scenario, there is an increase in the land allocated to it, that is reduced from the dominant crop (wheat). On the farm activities, there is a decrease in the water use and nitrogen leaching, but no change is observed in the use of phytosanitary products. Finally in the economic category, there is a small increase of income close to 11%.

Land Use

Main crops	sugarcane (0,06 ha ~ +50% BAU), wheat (0,37 ha ~ -5,1% BAU), maize (0,22 ha ~ 0% BAU) , clover (0,17 ha ~ 0% BAU), sorghum (0,17 ha ~ 0% BAU)
Total area	0,98 ha
Crop diversity	five crops

Farm activities

Pesticide use	1 kg/ha (~ 0% BAU)
Water use	5122 m ³ /ha (~ -9,3% BAU)
Nitrogen leaching	30,5 Kg/ha (~ -5% BAU)

Economic

Annual income	837,2 EGP (~ +10,9% BAU)
variable costs	

iii. Diversified farms

This scenario does not affect this farm type, therefore there are no changes compared to the baseline.

Land Use

Main crops	wheat (0,44 ha ~ 0% BAU), maize (0,35 ha ~ 0% BAU) , clover (0,23 ha ~ 0% BAU), sorghum (0,1 ha ~ 0% BAU)
Total area	1,12 ha
Crop diversity	Four crops

Farm activities

Pesticide use	1,57 kg/ha (~ 0% BAU)
Water use	6140 m ³ /ha (~ 0% BAU)
Nitrogen leaching	31,1 Kg/ha (~ 0% BAU)

Economic

Annual income	515,4 EGP (~ 0% BAU)
variable costs	

iv. Cereal farms

This scenario does not affect this farm type, therefore there are no changes compared to the baseline.

Land Use

Main crops	wheat (0,46 ha ~ 0% BAU), maize (0,13 ha ~ 0% BAU), clover (0,04 ha ~ 0% BAU)
Total area	0,63 ha
Crop diversity	three crops

Farm activities

Pesticide use	4,52 kg/ha (~ 0% BAU)
Water use	5440 m ³ /ha (~ 0% BAU)
Nitrogen leaching	32,4 Kg/ha (~ 0% BAU)

Economic

Annual income	273,9 EGP (~ 0% BAU)
variable costs	