

## ECONOMICS OF THE PRODUCTION

### Leaf lettuce result per harvest

Growing period: 10 days seedlings preparation + 21 days growing in the hydroponics system

Conversion rate: 1USD = 21,5CZK (Jan2019)

### COSTS

N.O.	Material	Work	Specification	Unit	Unit cost CZK	Quantity	Cost CZK	Cost USD
1	Electricity			1 kWh	5	30,24	151	7
2	Water			1 m3	89,66	0,07	6	0
3	Fertilizer		General Hydroponics FloraNova Grow 473ml /16 OZ	each	529	0,14	74	3
4	Substrate		Rockwool cube 3,6 x 3,6cm	each	4	21	84	4
5	Seeds			package	15	0,1	2	0
6		Sowing	NET income 20.000CZK/month	h	230	0,25	58	3
7		Planting	NET income 20.000CZK/month	h	230	0,75	173	8
8		System checking	NET income 20.000CZK/month	h	230	1	230	11
9		System maintenance	NET income 20.000CZK/month	h	230	1	230	11

**TOTAL COST:**

**1007CZK 47USD**

**WORK:**

**690CZK 32USD**

**ENERGIES AND MATERIALS:**

**317CZK 15USD**

### REVENUE

N.O.	Product	Unit	Quantity	Usual retail price CZK	Revenue CZK	Revenue in USD
1	Lettuce	each	21	30	630	29

### RESULT

- 1) In current setup it is not possible to become profitable with usual retail price of lettuce. One lettuce has to be sold for at least 48CZK / 2,23USD.
- 2) Main articles are: electricity consumption, and labour. Reduction in these articles could bring positive result.

### COMMENTS

- 1) It was not intended to create positive economical outcome with the first hydroponic system.
- 2) Hydroponic system brings also other values than just money.
- 3) Very likely it is possible to sell the product for higher price than usual retail price of conventional agriculture product.
- 4) It would be a great success to manage to reduce production costs to end up on even result (no profit, and no loss).

## POTENTIAL OF CURRENT TECHNOLOGY

If we had more space available we could grow twice as many lettuces with only slight increment of the investment cost (larger box), same amount of lights, etc.  
Find below a study for double sized box:

## COSTS

N.O.	Material	Work	Specification	Unit	Unit cost CZK	Quantity	Cost CZK	Cost USD
1	Electricity			1 kWh	5	30,24	151	7
2	Water			1 m3	89,66	0,07	6	0
3	Fertilizer		General Hydroponics FloraNova Grow 473ml /16 OZ	each	529	0,14	74	3
4	Substrate		Rockwool cube 3,6 x 3,6cm	each	4	42	168	8
5	Seeds			package	15	0,2	3	0
6		Sowing	NET income 20.000CZK/month	h	230	0,5	115	5
7		Planting	NET income 20.000CZK/month	h	230	1,5	345	16
8		System checking	NET income 20.000CZK/month	h	230	1	230	11
9		System maintenance	NET income 20.000CZK/month	h	230	1,5	345	16

**TOTAL COST:**

**1438CZK**

**67USD**

**WORK:**

**1035CZK**

**48USD**

**ENERGIES AND MATERIALS:**

**403CZK**

**19USD**

## REVENUE

N.O.	Product	Unit	Quantity	Usual retail price CZK	Revenue CZK	Revenue in USD
1	Lettuce	each	42	30	1260	59

## RESULT

- 1) In current setup it is not possible to become profitable with usual retail price of lettuce. One lettuce has to be sold for at least 35CZK / 1,63USD.
- 2) Optimization of cost of labour, substrate, fertilizer, and utilization of daylight appear to be a way to find a profitable model.
- 3) Shortening the period of having lettuce in the system also appears to be a way to reach even or positive result.
- 4) Another way to go might be to choose a different crop to grow.