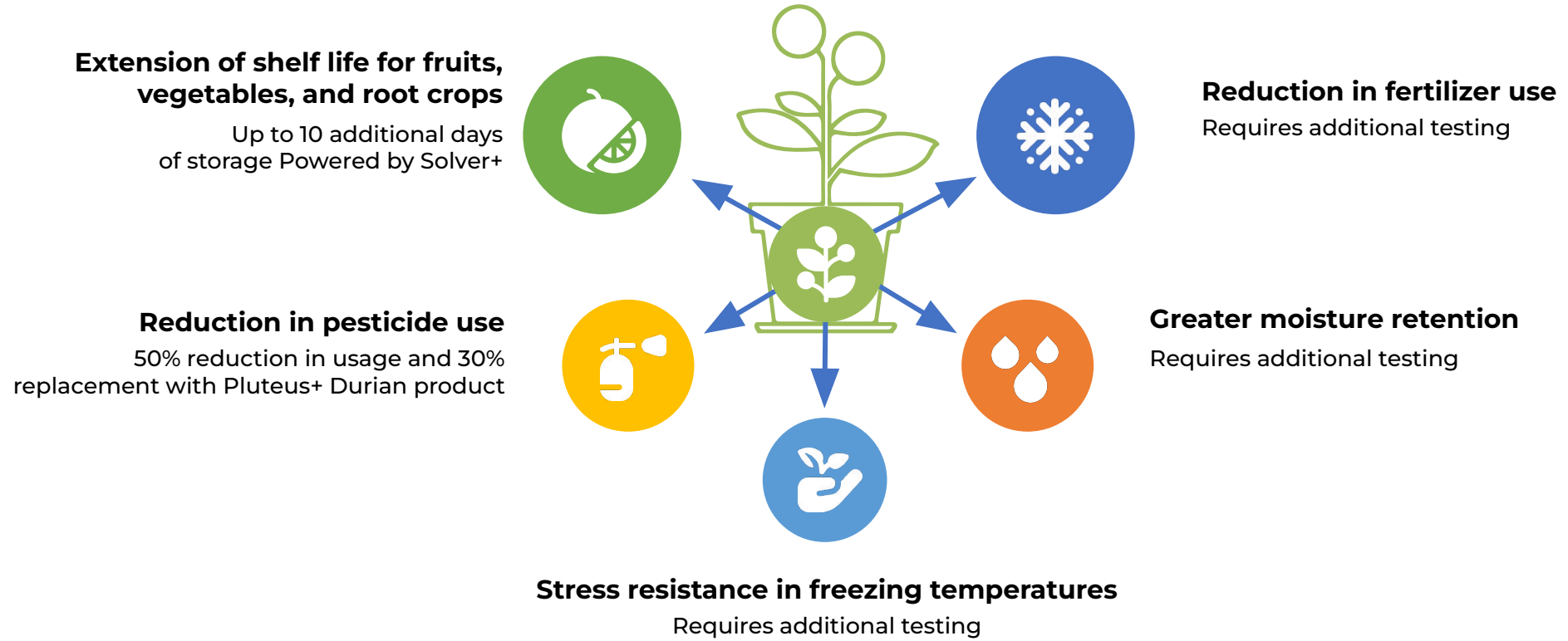


Pluteus+ Durian

Adjuvant product series. Adjuvant (from German *Adjuvant*, from Latin *adjuvans*, genitive *adjuvantis* — "helping, supporting") — a compound or complex of substances used to enhance the immune response when administered simultaneously with an immunogen

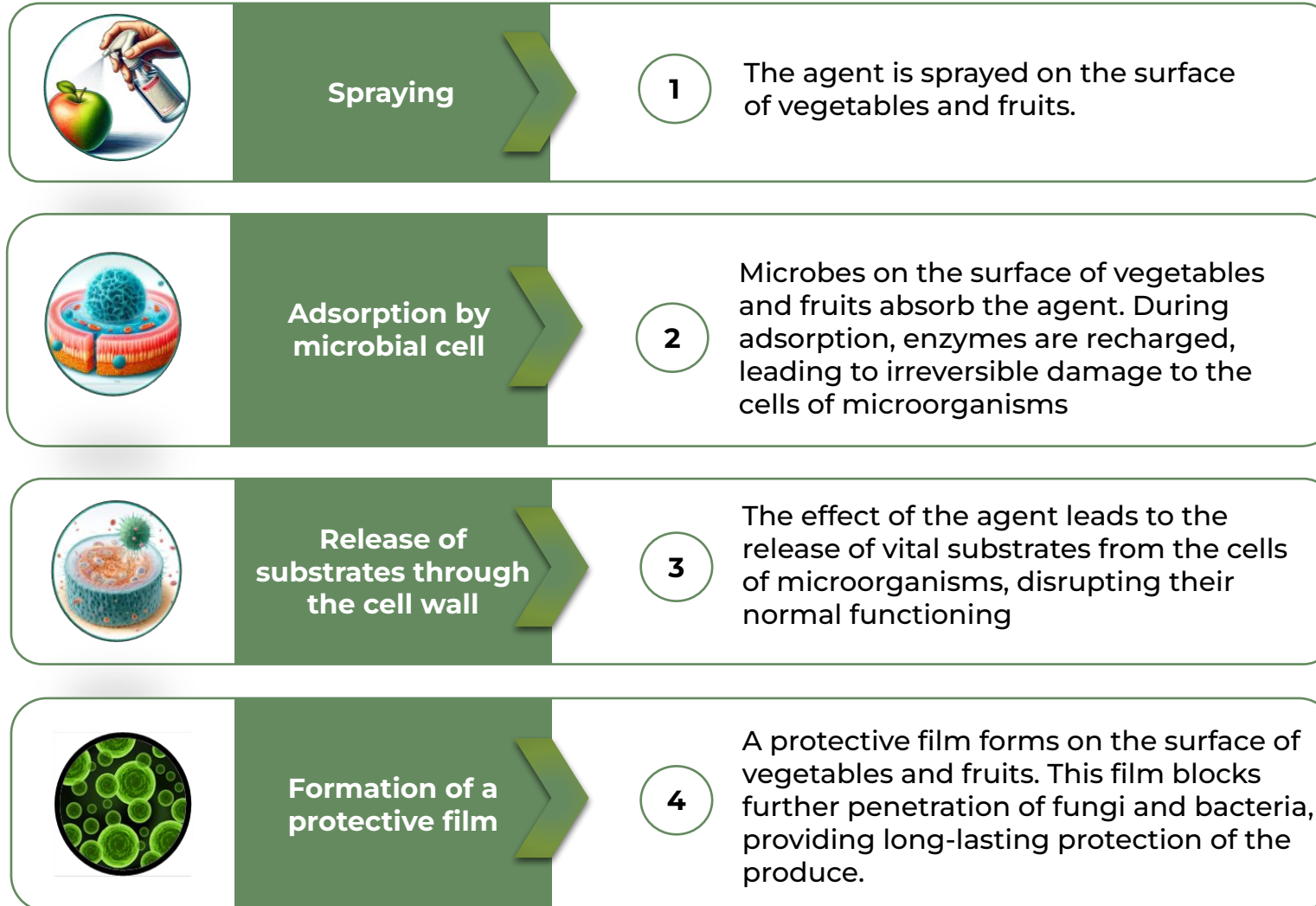
Adjuvant helps with tasks



Mechanism of action of technology for extending shelf life based on natural bacteria and fungi



Pluteus+ Durian



Advantages

- Transparent and odorless
- Does not alter the external appearance and taste of products.
- Long-lasting effect, extends the shelf life of fresh products.
- Safe for humans and animals, does not contain heavy metals, phenols, or chlorine.



Treatment Effect

- Long-lasting antimicrobial effect, preventing reinfection.
- Thin protective film prevents penetration and proliferation of microorganisms.

Unprocessed durians, 5 samples

Values per 10 bunches	Days					
	1	2	3	4	5	6
	Appearance + weight	Appearance + weight	Appearance + weight	Appearance + weight	Appearance + weight	Appearance + weight
Percentage of loss in appearance	0%	3%	6%	8%	9%	17%
Weight (g)	1,759.4	1,701.6	1,650.6	1,609.4	1,594.7	1,204.5
Temperature(C)	31.5		27.3	28.5	27.9	
Fungus ¹ (yes (1)/no (0))	0	0	0	0	0	0
Texture/density¹ (thick (2)/medium (1)/soft (0))	2	2	2	2	2	2
Percentage of loss in appearance	1	20%	20%	60%	80%	100%
Relation of sellable/unsellable	5/0	4/1	4/1	2/3	1/4	0/5

¹. Medium value

Processed durians, 5 samples

Values per 10 bunches	Days					
	1	2	3	4	5	6
	Appearance + weight	Appearance + weight	Appearance + weight	Appearance + weight	Appearance + weight	Appearance + weight
Percentage of loss in appearance	0%	3%	6%	9%	12%	17%
Weight (g)	1,364.6	1,317	1,275.4	1,242.6	1,199.8	1,140
Temperature(C)	31.5		27.3	28.5	27.9	30.5
Fungus ¹ (yes (1)/no (0))	0	0	0	0	0.33	1
Texture/density¹ (thick (2)/medium (1)/soft (0))	2	2	2	2	2	2
Percentage of loss in appearance	0%	0%	0%	0%	20%	100%
Relation of sellable/unsellable	5/0	5/0	5/0	5/0	4/1	0/5

¹. Medium value



Conclusions

60

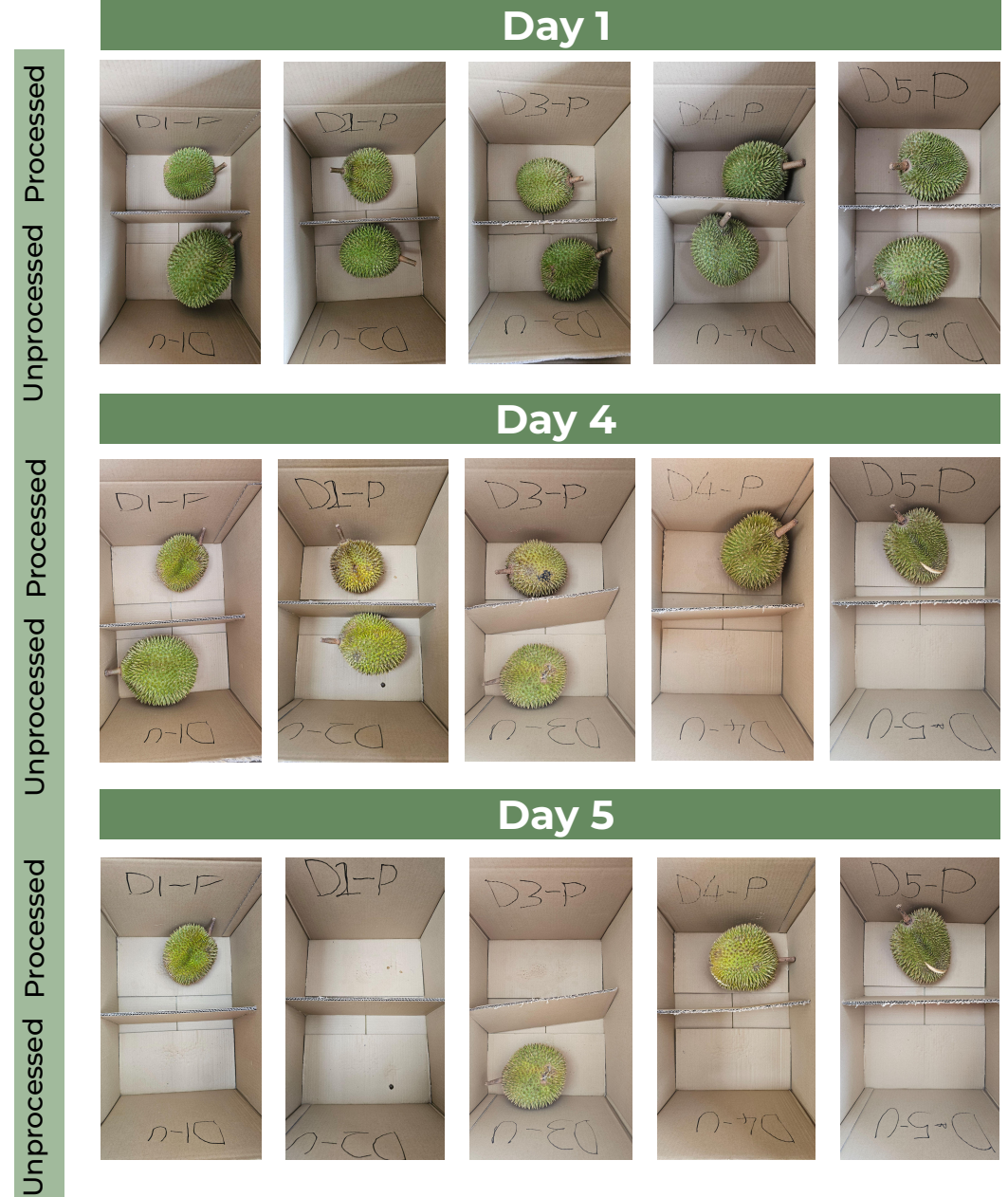
Of processed durians more than unprocessed was saved on day 5

Kg

There were no significant difference in wight loss, meaning that the level of difference in humidity is insignificant



Experimient was performed on 10 durians collected from a farm. Needed bigger volume of durians - 50



Increase the profit of your production

totaling
7,800
euros per ton

Price of Durian

The price per kilogram is 38 RD

which amounts to

936

euros per ton

Savings

With a preservation rate of 60% for an additional day (20% more time), we potentially save 12% of the total

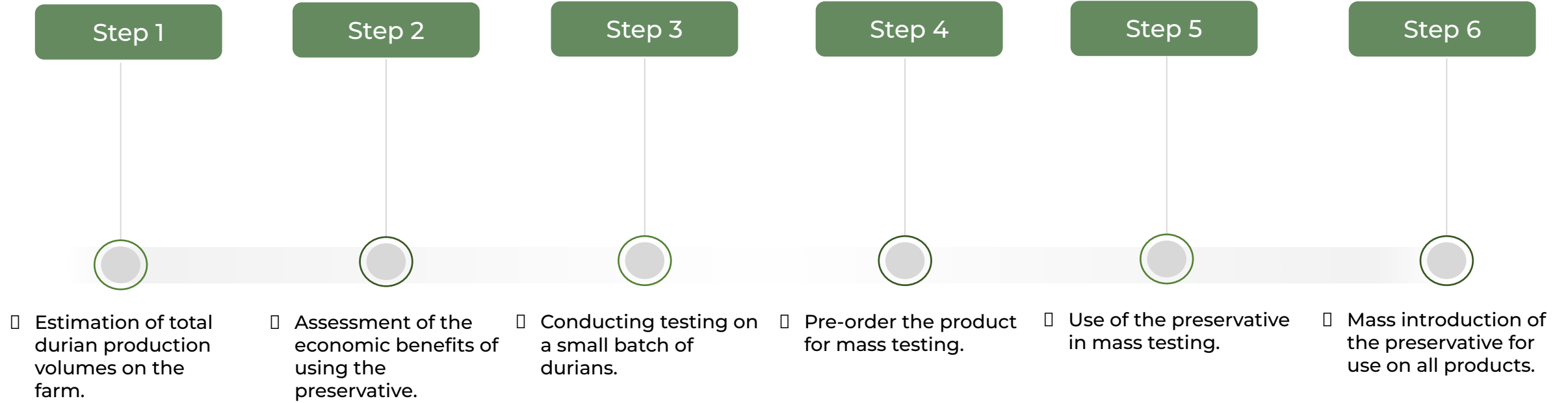
one ton
50
euros

Cost of Processing

The processing cost is 200 euros (depending on the exchange rate) * 0.25 = 50 euros

Let's conduct an experiment

Timeline



Stages of preparation



1. Preparatory work:

- Providing the required amount of preservative.
- Preparation and calibration of spray equipment.
- Installation of temperature and humidity sensors.
- Preparing trays for separating products.
- Conduct a workshop for testing personnel on the proper use of the preservative and safety precautions.



2. Creating cards:

- 1) Treatment (U – not treated, S – spraying, D – dipping)
 - 2) Numbers 1, 2, 3, 4, 5
 - 3) solution 0.5%, 1% and 2%
 - 4) Sellable/non-sellable
 - 5) Fungus/no fungus
 - 6) Soft/medium/firm
- Cards example**
- 1)U1 to U5 – Untreated
 - 2)S51 to S55 – 0.5% spray solution
 - 3)D51 to D55 – 0.5% immersion solution
 - 4)S21 to S25 - 2% spray solution
 - 5)D21 to D25 - 2% immersion solution



3. Preparation of working solution:

- Solution 0.5%:**
Take 1 liter of water and add 5 ml of the product to it.
- Solution 1%:**
Take 1 liter of water and add 10 ml of the product to it.
- Solution 2%:**
Take 1 liter of water and add 20 ml of the product to it.



4. Processing methods:

Immersion:

- First, pour into a dipping bowl. Process all products intended for dipping.
- After dipping all the ingredients, pour the remaining liquid into a measuring container and take a photo.

Dispersed spraying:

- It is used for uniform application of preservative on products.
We pour the remainder for spraying and process.
- After spraying, pour what remains into a measuring container and take a photo



7. Analysis of results and reporting:

- Comparison of shelf life and product quality between test and control groups.
- Assessing the economic benefits of reducing food losses and reducing product weight.
- Prepare a detailed report with the results for presentation to the supermarket management.



6. Monitoring and data collection:

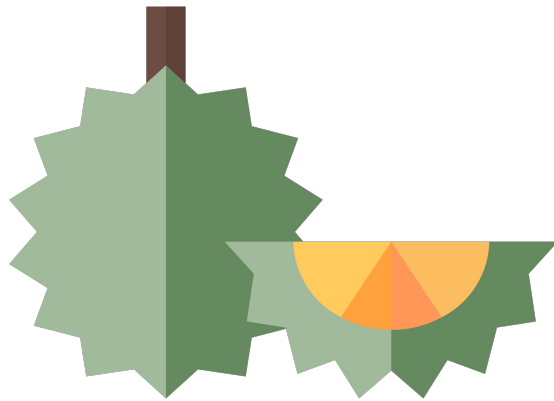
- Inspections are carried out daily.
- To ensure standardization and convenience of the data collection process, a special application called "Checklists" is used. These checklists record the results of visual inspections of the condition of products on a daily basis, as well as other important data.



5. Division into groups:

- 7 groups of products divided according to two criteria: with and without the use of preservatives.
- Testing time: depending on the product.

Thank you for your attention



Pluteus+ Durian



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