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## TEST REPORT N. 10/000394462

date of issue  07/12/2010

Kind attention

Customer ID            0053426

PELIN DOGAL BAKIM VE
KOZMETIK SAN. TIC. LTD. STI
GIRNE MAH. IRMAK SOK.
KUCUKYALL ISMERKEZI G
BLOK NO: 37 ERENKOY VD
34852 MALTEPE/ISTANBUL

Turchia

**Sample information**

| | |
|---|---|
| Acceptance number | 10.097039.0001 |
| Delivered by | Our technician Dr.ssa Alessandra Conte on 19/10/2010 |
| Place of origin | PELIN DOGAL BAKIM VE KOZMETIK SAN. TIC. LTD. STI GIRNE MAH. IRMAK SOK. KUCUKYALL ISMERKEZI G BLOK NO: 37 ERENKOY VD 34852 MALTEPE/ISTANBUL |
| Sample description | PELINTY'S BITKI DERMAN ANTIAGING BAKIM SETI |

**Sampling data**

| | |
|---|---|
| Sampled by | Customer |

## EVALUATION OF THE EFFICACY OF ANTI-WRINKLE COSMETIC PRODUCTS

## INDEX

## INTERNATIONAL NOMENCLATURE COSMETIC INGREDIENT (INCI) LABELLING OF THE SAMPLES (PROVIDED BY THE CUSTOMER)

**INGREDIENTS:**

**ANTIAGING GECE BAKIM KREMI 40+**

Aqua, White Mineral Oil, Petrolatum, Butyrospermum Parkii, C12-C15 Alkyl Benzoate, Glyceryl Stearate (and) Ceteareth-20 (and) Ceteareth-12 (and) Cetearyl Alcohol (and) Cetyl Palmitate, Water (aqua), Glycerin, Pentapeptite-18, Caprylyc Glycol, Cetyl Stearyl Alcohol, Althea Officinalis Extract, Lavandula Stoechas, Agropyrum Repens, Orbignya Oleifera Seed Oil, Laurdimonium Hydroxypropyl Hydrolyzed Wheat Protein, Cucumis Sativus Extract, Tocopherol Acetate, Allantoin, Fragrance, Carbomer, Aqua, Diazolidinyl Üre, Sodyum Benzoat, Potasyum Sorbat.

**ARINDIRICI VE CANLANDIRICI TONIK**

Aqua, Water, Glycerin, Pentapeptide-3, Althea Officinalis Extract, Lavandula stoechas, Agropyrum repens, Laurdimonium Hydroxypropyl Hydrolyzed Wheat Protein, Cucumis sativus Extract, Tocopherol Acetate, Allantoin, Fragrance, Aqua, Diazolidinyl Üre, Sodyum benzoat, Potasyum Sorbat..

# METHOD DESCRIPTION

1. **AIM OF THE TEST**

The aim of the study is the in vivo evaluation of possible changes of skin micro-relief (**wrinkles**), after the repeated application of a cosmetic treatment on intact skin.

2. **SUBJECTS UNDERGOING THE TREATMENT**

❑ **20** volunteers, sex: F, age: **40 – 50**.

❑ Criteria of volunteers selection:

> ➢ Healthy subjects.

> ➢ Absence of skin pathologies.

> ➢ Absence of pharmacological treatments.

> ➢ Negative anamnesis for atopy.

> ➢ Obligation to avoid the use of other topical products in the testing zone during the test and to avoid the application of body creams in the zone to be tested for at least 3 days before the beginning of the test.

> ➢ Exclusion: pregnant women and women in lactation period, minors.

Each volunteer is given a form to fill in and subscribe, in order to express free consent to the test and to the above mentioned conditions.

The volunteers, during the measurements, have not to apply any make up, cream or lotion in order to avoid possible interferences in the measurements and in the test results.

3. **EXECUTION OF THE TEST**

As agreed with the Customer, the 20 volunteers have applied the samples twice a day (morning and evening) for 30 days: ANTIAGING GECE BAKIM KREMI 40+ in the morning and ARINDIRICI VE CANLANDIRICI TONIK + ANTIAGING GECE BAKIM KREMI 40+ in the evening.

Before the beginning of the test, the volunteers have received all the instructions given by the Customer (correct use of the product, safety, INCI list, etc.).

- The **instrumental controls** have been performed:

1. T0: before the beginning of the test. Observation of the skin basal values.

2. T1: after 15 days of application.

3. T2: after 30 days of application.

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- **Autoevaluation:** to each of the **20** volunteers has been also given an autoevaluation questionnaire to obtain a judgement from potential customers on product performances.

## INSTRUMENTS AND PRINCIPLES OF MEASURE

### CUTANEOUS MICRO-RELIEF
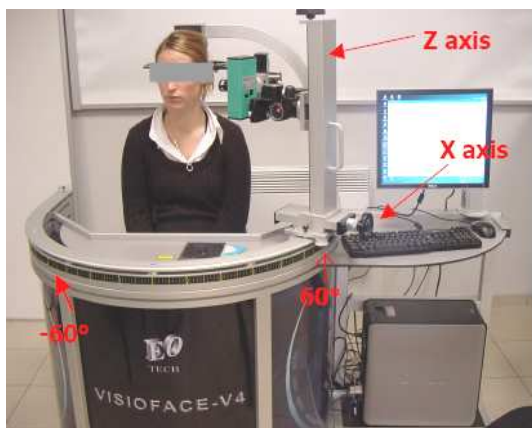


The measurement is carried out by DERMATOP BLUE (EOTECH, France) using Breuckmann technology.

DERMATOP BLUE is a skin scanner to perform tests for the evaluation of the skin structure. It compares the results obtained evaluating the volunteers at time 0 and after the treatment with the product to be tested. The instrument measures very precisely the performances of cosmetic products formulated to reduce skin imperfections such as: wrinkles.

A sensor system identifies with great precision the zone to be tested, makes a skin scanning that will detect the position, area and volume of relieves with microscopic (pores) or macroscopic (mattress skin due to cellulite) dimensions. The scanning is performed before and after the treatment and finally the differences are registered, photographed and statistically treated.

The skin is optically monitored by using a digitalisation system of the image without the use of silicon moulds.

The system is based on the graphic representation of in vivo skin illuminated by a blue source and on the electronic elaboration and evaluation of this image according to the clinical parameters. The parameters qualitatively and quantitatively correspond to the physiological condition of the skin and have been derived by the conventional parameters for wrinkledness.

For the evaluation of skin before and after the treatment the 2 most representative parameters have been chosen from the file **Results.csv**. that contains 50 profiles of "2D-roughness statics" for each volunteer and for each considered time.

- ❑ **Rz (μm): Average Maximum profile height difference (Rptm):** represents the average width of the negative peak.

- ❑ **Ra (μm): Linear average profile roughness:** represents the arithmetical average of the parameters of wrinkledness calculated on the micro profile of the skin.

## CALCULATIONS AND STATISTICS

The average values obtained from the instrumental evaluations and the relative decreases/increases with respect to the basal value, at the 3 fixed values:

- T0 (before the beginning of the test)
- T1 (after 15 days of application)
- T2 (after 30 days of application)

It has been calculated the % variation of the medium instrumental detections with reference to the basal values at the fixed times according to the following formula:

$$\mathrm{var}\,iation\,\% = \left[ \left( v_1 - v_2 \right) / v_2 \right] \times 100$$

where $v_1$ is the detection at the considered time and $v_2$ is the corresponding basal value (T0).
To perform the analysis of the significance, the variance analysis has been applied to the significance level α=0,05.

## RESULTS

### EVALUATION OF THE ANTI-WRINKLE EFFICACY

**before and after application ON PERIOCULAR AREA**
EVALUATION OF THE TREATED AREA BY **DERMATOP BLUE**

The following tables report the **Ra** and **Rz** values for each volunteer at the 3 considered times

| Volunteers nr | T0 | | T1 | | T2 | |
|---|---|---|---|---|---|---|
| | RA (µm) | RZ (µm) | RA (µm) | RZ (µm) | RA (µm) | RZ (µm) |
| 1 | 0,041 | 0,133 | 0,033 | 0,107 | 0,039 | 0,119 |
| 2 | 0,026 | 0,082 | 0,025 | 0,076 | 0,025 | 0,078 |
| 3 | 0,035 | 0,125 | 0,034 | 0,108 | 0,030 | 0,097 |
| 4 | 0,071 | 0,124 | 0,056 | 0,116 | 0,054 | 0,109 |
| 5 | 0,044 | 0,108 | 0,033 | 0,099 | 0,034 | 0,093 |
| 6 | 0,041 | 0,104 | 0,037 | 0,096 | 0,039 | 0,103 |
| 7 | 0,042 | 0,103 | 0,035 | 0,085 | 0,034 | 0,092 |
| 8 | 0,055 | 0,133 | 0,045 | 0,117 | 0,040 | 0,117 |
| 9 | 0,033 | 0,098 | 0,030 | 0,093 | 0,028 | 0,092 |
| 10 | 0,019 | 0,060 | 0,018 | 0,059 | 0,019 | 0,052 |
| 11 | 0,031 | 0,093 | 0,027 | 0,089 | 0,026 | 0,093 |
| 12 | 0,054 | 0,170 | 0,047 | 0,145 | 0,046 | 0,144 |
| 13 | 0,036 | 0,119 | 0,036 | 0,115 | 0,036 | 0,107 |
| 14 | 0,045 | 0,129 | 0,041 | 0,106 | 0,037 | 0,106 |
| 15 | 0,029 | 0,091 | 0,026 | 0,086 | 0,025 | 0,077 |
| 16 | 0,035 | 0,090 | 0,033 | 0,087 | 0,026 | 0,079 |
| 17 | 0,033 | 0,115 | 0,028 | 0,089 | 0,033 | 0,095 |
| 18 | 0,037 | 0,124 | 0,034 | 0,101 | 0,033 | 0,101 |
| 19 | 0,044 | 0,124 | 0,042 | 0,108 | 0,041 | 0,106 |
| 20 | 0,029 | 0,107 | 0,026 | 0,075 | 0,028 | 0,092 |
| **AVERAGE** | **0,039** | **0,112** | **0,034** | **0,098** | **0,034** | **0,098** |

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In addition, we have calculated the percentage decrease of each volunteer at T1 and T2 with respect to the basal values T0:
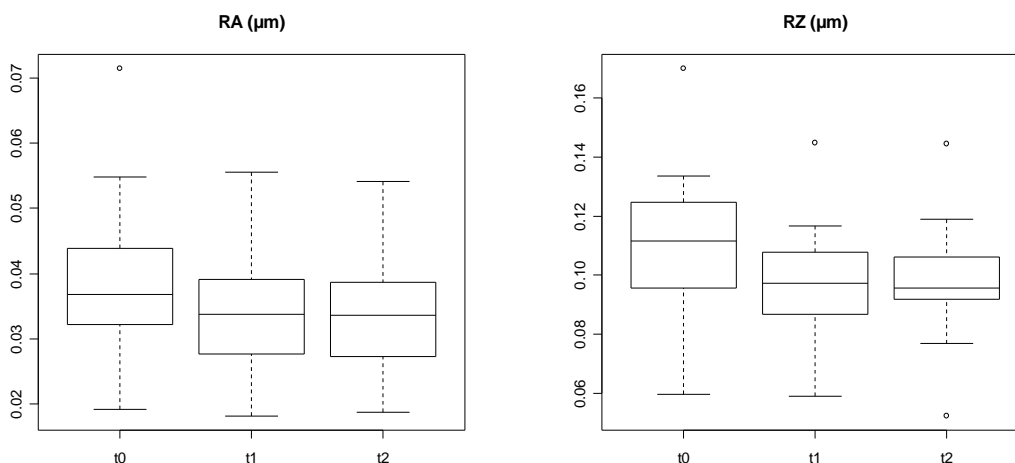
| | DECREMENTS % | | | |
|---|---|---|---|---|
| | T1 VS T0 | | T2 VS T0 | |
| **Volunteers nr** | **RA (µm)** | **RZ (µm)** | **RA (µm)** | **RZ (µm)** |
| 1 | -18,6 | -19,8 | -5,5 | -10,5 |
| 2 | -3,4 | -7,5 | -1,8 | -4,6 |
| 3 | -2,9 | -13,7 | -12,8 | -22,8 |
| 4 | -22,3 | -7,0 | -24,2 | -12,2 |
| 5 | -23,8 | -8,7 | -22,5 | -13,5 |
| 6 | -10,3 | -7,7 | -6,3 | -1,1 |
| 7 | -16,3 | -16,9 | -19,6 | -10,8 |
| 8 | -18,0 | -12,5 | -27,9 | -12,4 |
| 9 | -8,6 | -5,6 | -14,6 | -6,7 |
| 10 | -5,2 | -0,8 | -2,0 | -12,1 |
| 11 | -14,2 | -4,2 | -16,1 | -0,2 |
| 12 | -13,0 | -14,7 | -14,3 | -14,9 |
| 13 | -0,6 | -3,0 | -0,8 | -10,1 |
| 14 | -9,7 | -17,7 | -19,1 | -18,1 |
| 15 | -10,6 | -5,2 | -15,1 | -15,1 |
| 16 | -4,1 | -3,3 | -26,1 | -12,0 |
| 17 | -15,2 | -23,0 | -1,7 | -17,4 |
| 18 | -7,9 | -18,3 | -10,9 | -18,4 |
| 19 | -4,5 | -12,9 | -6,4 | -14,6 |
| 20 | -11,2 | -29,7 | -1,4 | -14,5 |
| **AVERAGE** | **-11,0** | **-11,6** | **-12,5** | **-12,1** |

## ANALYSIS OF SIGNIFICATIVENESS

The table below reports the significativeness indexes obtained after the application of variance analysis (level of significativeness $\alpha=5\%$).

|  | T0 vs T1 | T0 vs T2 |
|---|---|---|
| Ra (µm) | 0,16 | 0,10 |
| p-value<0,05 *significant* <br> p-value≥0,05 *not significant* | *not significant* | *not significant* |
| Rz (µm) | 0,046 | 0,044 |
| p-value<0,05 *significant* <br> p-value≥0,05 *not significant* | **significant** | **significant** |

**BOXPLOT: distribution of Ra(µm) values and Rz(µm) values among the observed times (T0, T1, T2).**

RA (µm)

RZ (µm)

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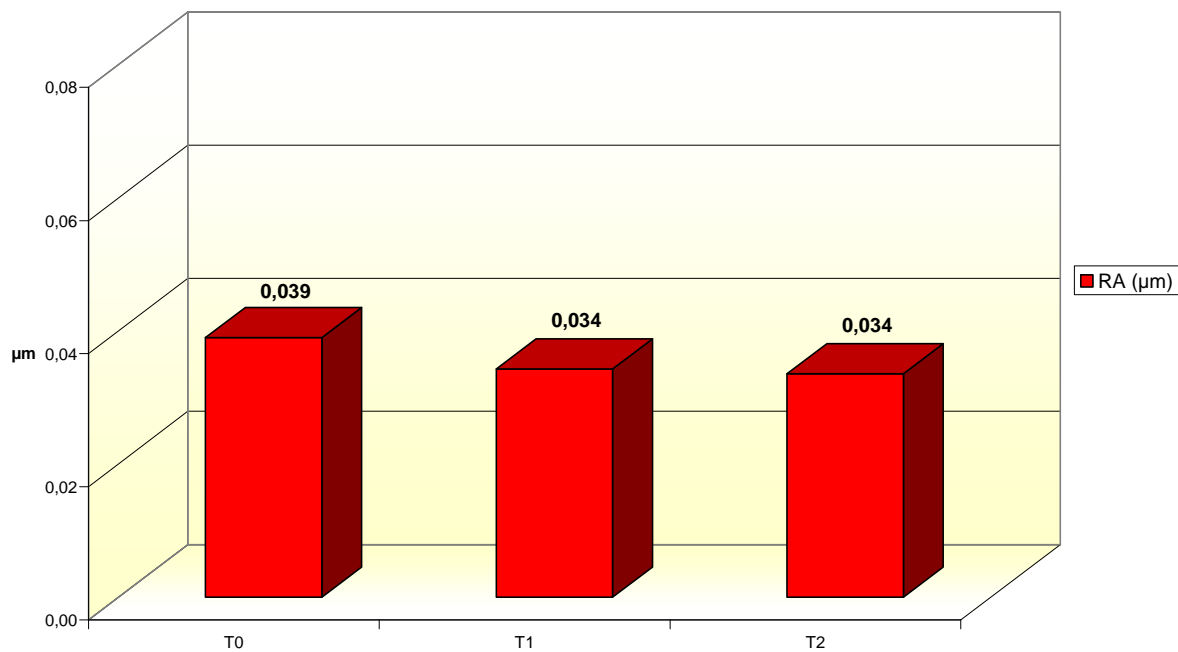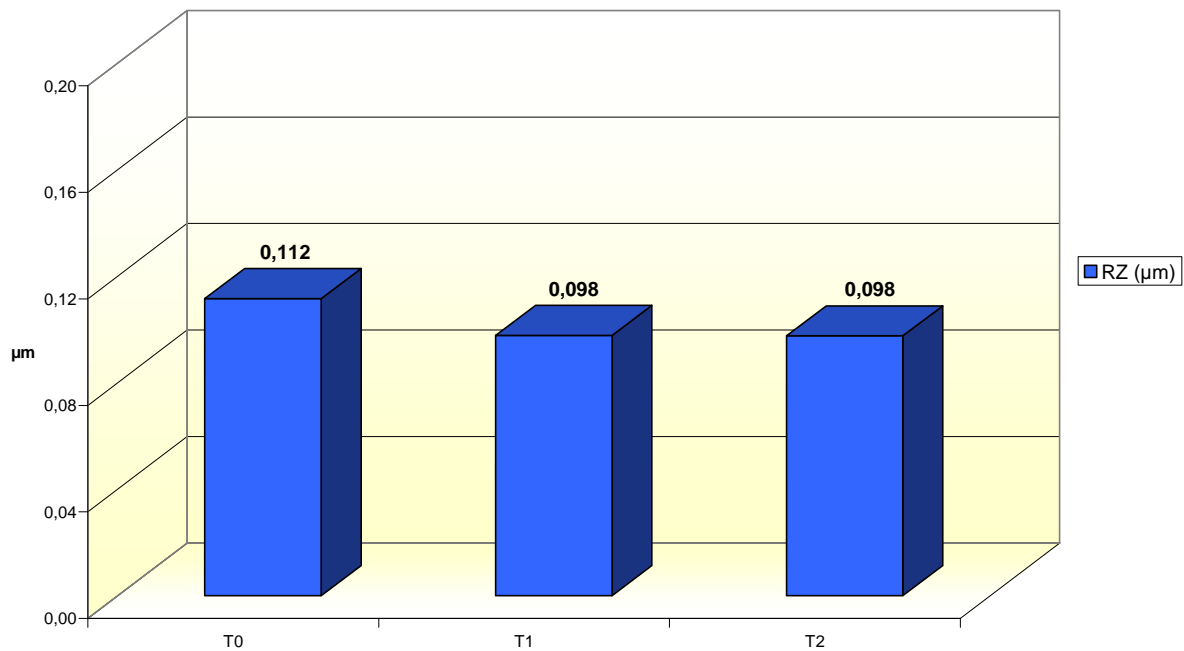
## GRAPHS

### AVERAGE PERCENTAGE DECREMENTS
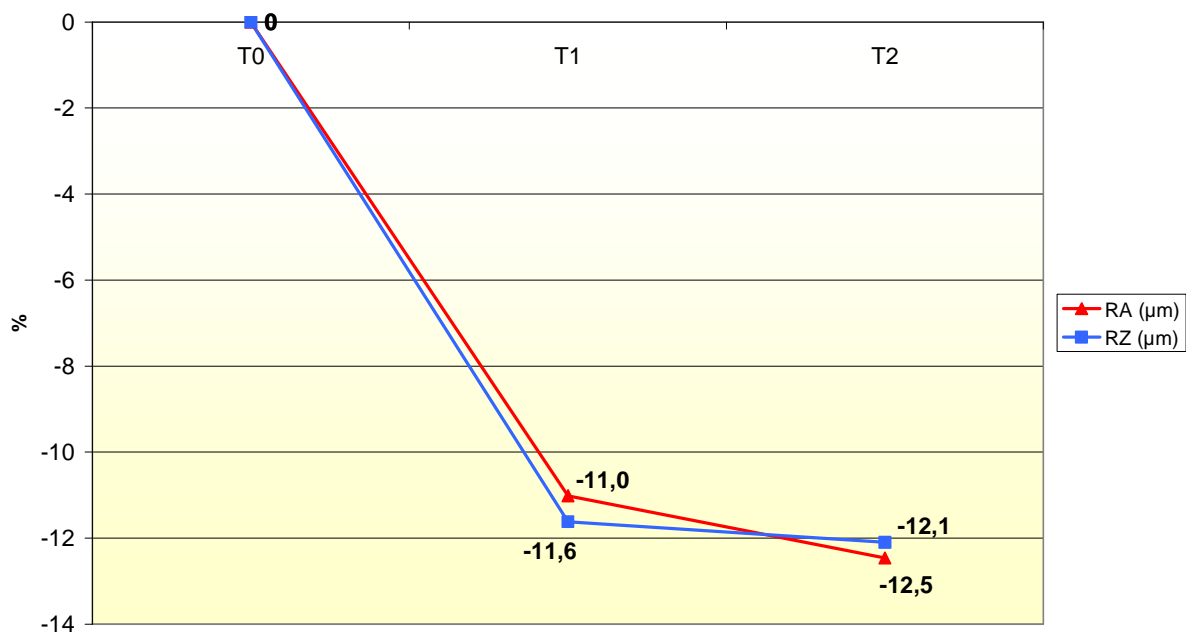


### RA(µm) AVERAGE REDUCTION

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## RZ(µm) AVERAGE REDUCTION
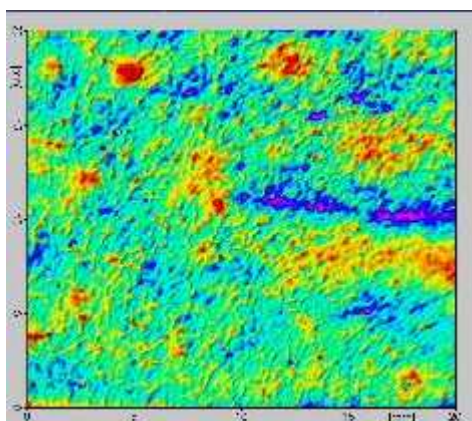
## IMAGES CREATED BY DERMATOP SOFTWARE

Here we have reported an example of images re-elaborated by DERMASURF software (skin topography). Such software permits the skin evaluation by a modification of the image acquired by DERMATOP BLUE instrument.

From the image previously registered by DERMATOP BLUE instrument, we have first extracted an area 20x20 mm width; such area has been visualized as indicated in the image below an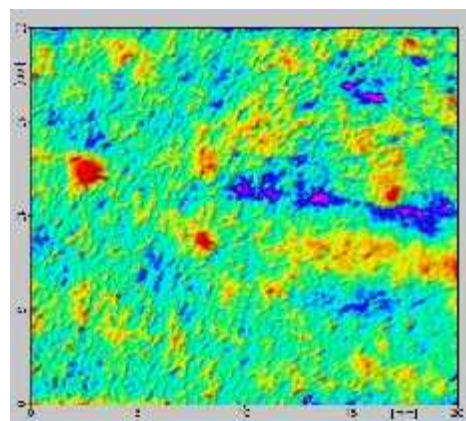d after it has been applied the colour scale ("scaling"). Here we have reported the most significant elaboration respect to T0, T1 and T2.

## VOLUNTEERS NR 1

**Before treatment (T0)**

**After 15 days of application(T1)**

**After 30 days of application (T2)**

scaling

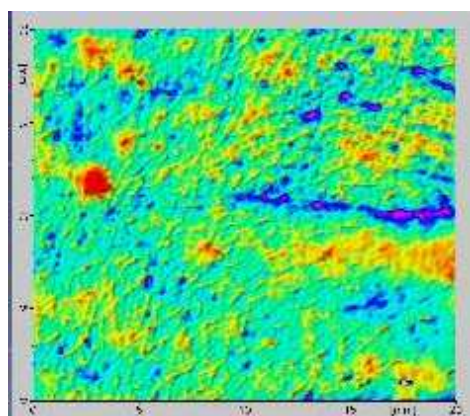| [mm x 1E-3] |
| 161.567 |
| 107.711 |
| 53.856 |
| 0.000 |
| -53.856 |
| -107.711 |
| -161.567 |
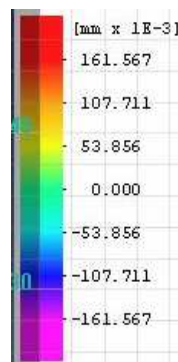
# VOLUNTEERS NR 2

### Before treatment (T0)
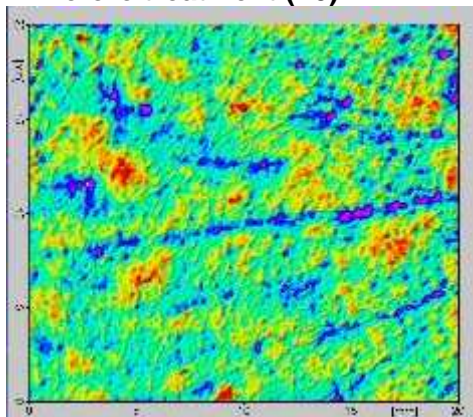


### After 15 days of application(T1)



### After 30 days of application (T2)



**scaling**

| [mm x 1E-3] |
|---|
| 124.148 |
| 82.766 |
| 41.383 |
| 0.000 |
| -41.383 |
| -82.766 |
| -124.148 |

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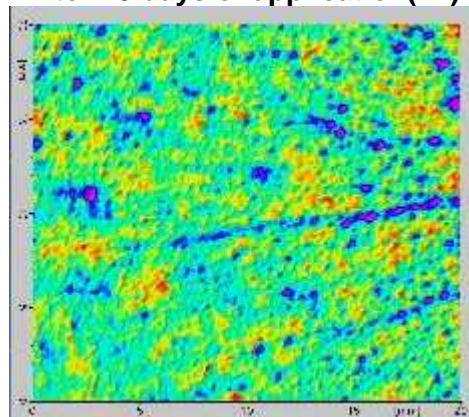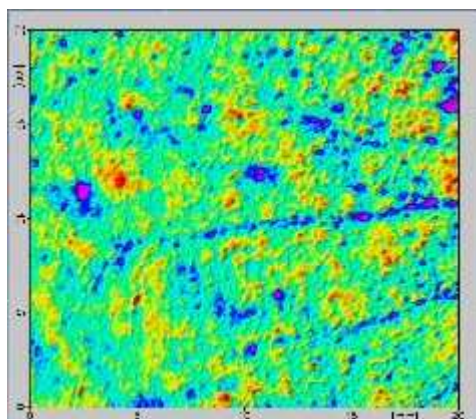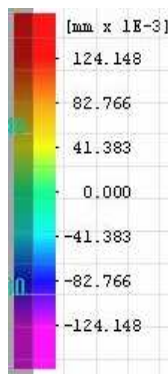
## AUTOEVALUATION QUESTIONNAIRE

### 1. TOTAL RESULTS

### GENERAL INFORMATION

**1. HOW IS YOUR SKIN?**

| | |
|---|---|
| dry | 10% |
| normal | 15% |
| mixed | 60% |
| fat | 15% |

**2. HOW OFTEN DO YOU USE COSMETIC PRODUCTS SPECIFIC FO WRINKLES?**

| | |
|---|---|
| never | 20% |
| sometimes | 45% |
| often | 20% |
| always | 15% |

**3. WHERE DO YOU PREVALENTLY SPEND YOUR DAYS?**

| | |
|---|---|
| outdoor | 15% |
| indoor | 20% |
| mainly outdoor and shortly indoor | 5% |
| mainly indoor and shortly outdoor | 35% |
| equally indoor and outdoor | 25% |

**4. DO YOU USE A SPF CREAM DURING THE SUN EXPOSITION?**

| | |
|---|---|
| never | 10% |
| sometimes | 25% |
| always | 65% |

**5. HOW OFTEN DO YOU USE TANNING LAMPS?**

| | |
|---|---|
| never | 70% |
| sometimes | 30% |
| often (once a week) | 0% |
| always (more than twice a week) | 0% |

### BEFORE USE

**6. IN YOUR OPINION, HOW DO YOU DO FIND YOUR WRINKLES BEFORE THE APPLICATION OF THE COSMETIC PRODUCT?**

| | |
|---|---|
| light | 35% |
| moderate | 55% |
| deep | 10% |

**7. IN YOUR OPINION HOW DO YOU FIND YOUR SKIN BEFORE THE APPLICATION OF THE COSMETIC PRODUCT?**

| | HYDRATED | LUMINOUS | SOFT | ELASTIC | SMOOTH | COMPACT |
|---|---|---|---|---|---|---|
| not at all | 10% | 20% | 0% | 0% | 10% | 15% |
| poorly | 50% | 45% | 35% | 50% | 60% | 30% |
| fairly | 40% | 35% | 65% | 50% | 30% | 55% |
| much | 0% | 0% | 0% | 0% | 0% | 0% |

## AFTER USE

**8. AFTER THE TREATMENT WITH THE COSMETIC PRODUCT, HAS YOUR SKIN IMPROVED?**

| | |
|---|---|
| yes | 60% |
| no | 40% |

**9. IF SO, HOW MUCH?**

| | |
|---|---|
| poorly | 25% |
| sufficiently | 58% |
| much | 17% |

**10. HOW DO YOU FIND YOUR WRINKLES AFTER THE APPLICATION OF THE COSMETIC PRODUCT?**

| | |
|---|---|
| not attenuated at all | 45% |
| lightly attenuated | 40% |
| attenuated | 15% |

**11. IN YOUR OPINION HOW DO YOU FIND YOUR SKIN AFTER THE APPLICATION OF THE COSMETIC PRODUCT?**

| | HYDRATED | LUMINOUS | SOFT | ELASTIC | SMOOTH | COMPACT |
|---|---|---|---|---|---|---|
| not at all | 5% | 5% | 0% | 0% | 0% | 0% |
| poorly | 20% | 30% | 20% | 25% | 35% | 40% |
| fairly | 65% | 55% | 60% | 60% | 55% | 55% |
| much | 10% | 10% | 20% | 15% | 10% | 5% |

**12. EXPRESS A COMPREHENSIVE JUDGEMENT ABOUT THE EFFICACY OF THE COSMETIC PRODUCT**

| | |
|---|---|
| not at all satisfied | 35% |
| quite satisfied | 40% |
| satisfied | 15% |
| very satisfied | 10% |

## ANTIAGING GECE BAKIM KREMI 40+

**1. HOW DO YOU JUDGE THE PERFUME OF THE COSMETIC PROCUCT?**

| | |
|---|---|
| very pleasant | 35% |
| pleasant | 40% |
| no pleasant/ no unpleasant | 15% |
| unpleasant | 10% |
| very unpleasant | 0% |

**2. CAN YOU EASILY SMEAR THE COSMETIC PRODUCT?**

| | |
|---|---|
| yes | 95% |
| no | 5% |

**3. DOES THE COSMETIC PRODUCT EASIILY ABSORB?**

| | |
|---|---|
| yes | 35% |
| no | 65% |

**4. HOW DO YOU JUDGE THE SENSORY ASPECT (COLOUR, PERFUME, TEXTURE) OF THE COSMETIC PRODUCT DURING THE APPLICATION?**

| | |
|---|---|
| very pleasant | 0% |
| pleasant | 45% |
| no pleasant/ no unpleasant | 45% |
| unpleasant | 10% |
| very unpleasant | 0% |

## ARINDIRICI VE CANLANDIRICI TONIK

**1. HOW DO YOU JUDGE THE PERFUME OF THE COSMETIC PROCUCT?**

| | |
|---|---:|
| very pleasant | 15% |
| pleasant | 65% |
| no pleasant/ no unpleasant | 15% |
| unpleasant | 5% |
| very unpleasant | 0% |

**2. CAN YOU EASILY SMEAR THE COSMETIC PRODUCT?**

| | |
|---|---:|
| yes | 100% |
| no | 0% |

**3. DOES THE COSMETIC PRODUCT EASIILY ABSORB?**

| | |
|---|---:|
| yes | 100% |
| no | 0% |

**4. HOW DO YOU JUDGE THE SENSORY ASPECT (COLOUR, PERFUME, TEXTURE) OF THE COSMETIC PRODUCT DURING THE APPLICATION?**

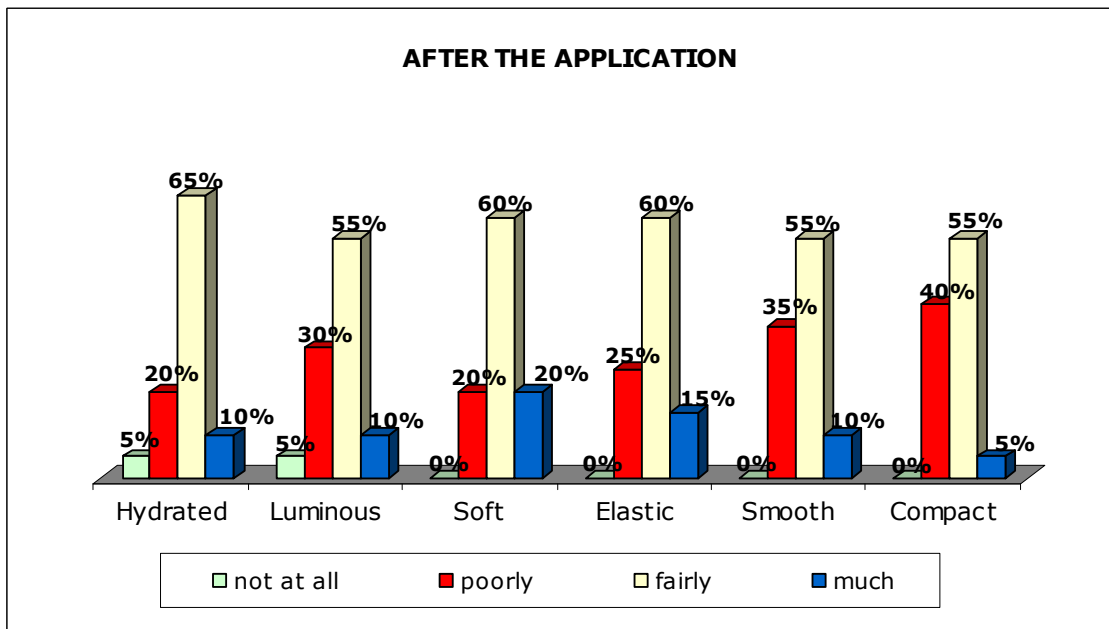| | |
|---|---:|
| very pleasant | 10% |
| pleasant | 85% |
| no pleasant/ no unpleasant | 5% |
| unpleasant | 0% |
| very unpleasant | 0% |

**Notes:**
11 volunteers on 20 (the 55% of the panel) have noticed that the cream (antiaging gece bakim kremi 40+) is too greasy, so the skin is glossy/fat.

# 2. COMPARISON OF THE CHARACTERISTICS OF THE SKIN BEFORE AND AFTER THE APPLICATION OF TREATMENT

GRAPH – Comparison of the skin condition **before** the treatment

**BEFORE THE APPLICATION**

| Characteristic | not at all | poorly | fairly | much |
|---|---|---|---|---|
| Hydrated | 10% | 50% | 40% | 0% |
| Luminous | 20% | 45% | 35% | 0% |
| Soft | 0% | 35% | 65% | 0% |
| Elastic | 0% | 50% | 50% | 0% |
| Smooth | 10% | 60% | 30% | 0% |
| Compact | 15% | 30% | 55% | 0% |
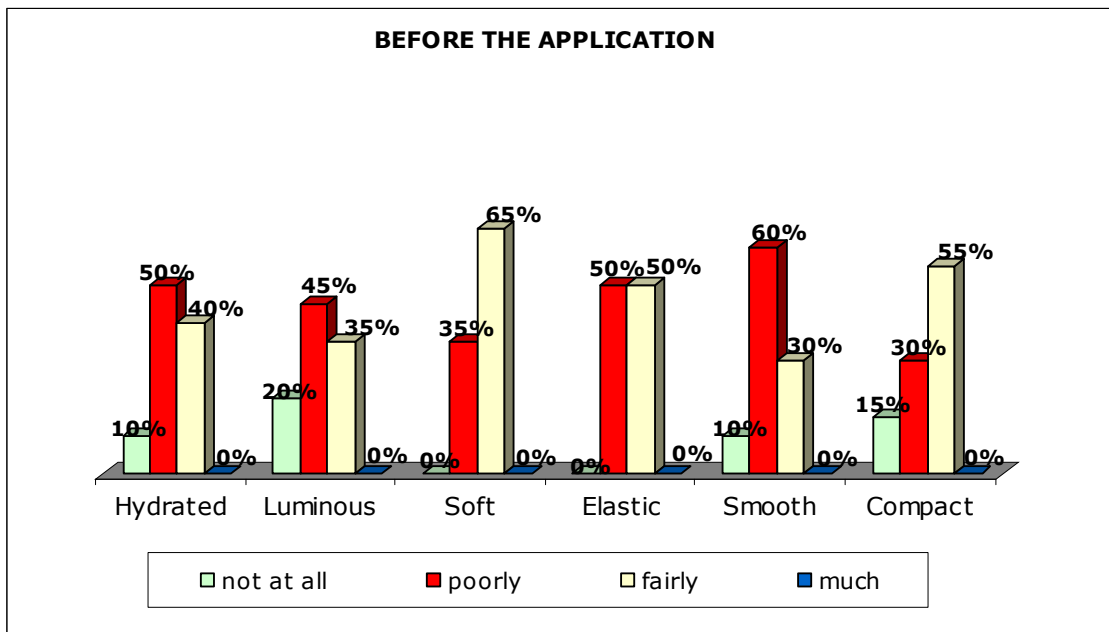
GRAPH – Comparison of the skin condition **after** the treatment

**AFTER THE APPLICATION**

| Characteristic | not at all | poorly | fairly | much |
|---|---|---|---|---|
| Hydrated | 5% | 20% | 65% | 10% |
| Luminous | 5% | 30% | 55% | 10% |
| Soft | 0% | 20% | 60% | 20% |
| Elastic | 0% | 25% | 60% | 15% |
| Smooth | 0% | 35% | 55% | 10% |
| Compact | 0% | 40% | 55% | 5% |

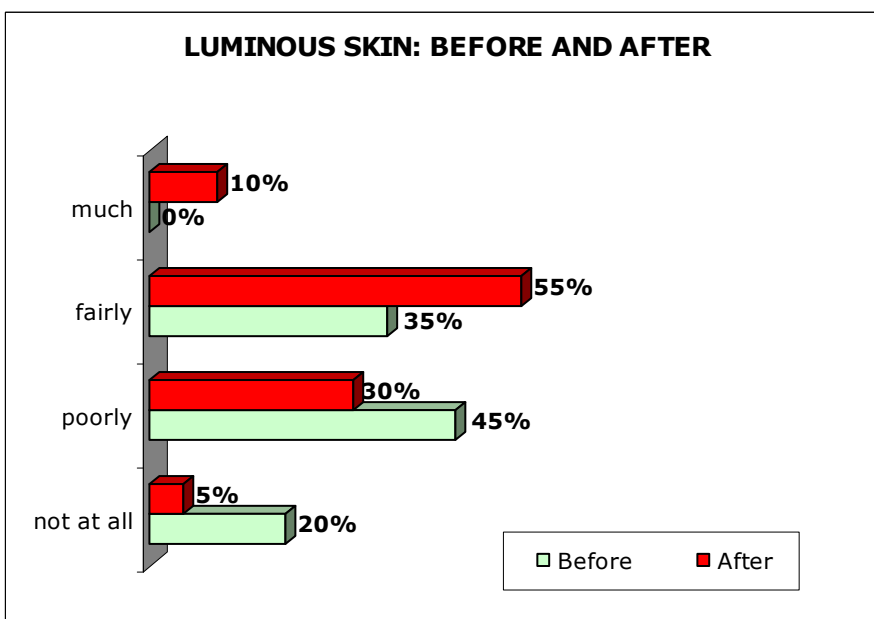**CHELAB**®

**In the specific:**

GRAPH – Hydrated skin: comparison before and after the application of cream

**HYDRATED SKIN: BEFORE AND AFTER**

| | |
|---|---|
| much | After 10% / Before 0% |
| fairly | After 65% / Before 40% |
| poorly | After 20% / Before 50% |
| not at all | After 5% / Before 10% |
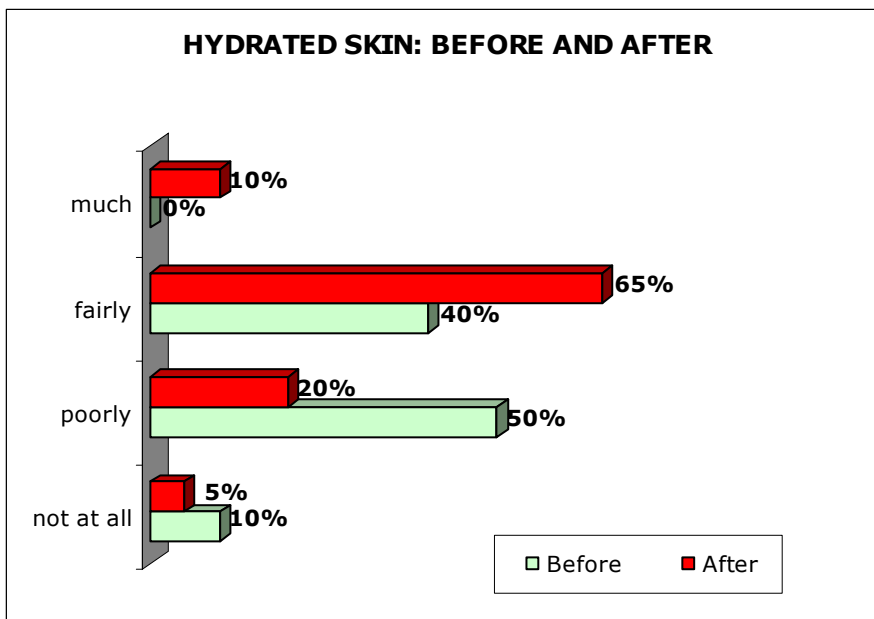
☐ Before   ■ After

GRAPH – Luminous skin: comparison before and after the application of cream

**LUMINOUS SKIN: BEFORE AND AFTER**

| | |
|---|---|
| much | After 10% / Before 0% |
| fairly | After 55% / Before 35% |
| poorly | After 30% / Before 45% |
| not at all | After 5% / Before 20% |

☐ Before   ■ After

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GRAPH – Soft skin: comparison before and after the application of cream



**SOFT SKIN: BEFORE AND AFTER**

much — After 20% / Before 0%
fairly — After 60% / Before 65%
poorly — After 20% / Before 35%
not at all — After 0% / Before 0%
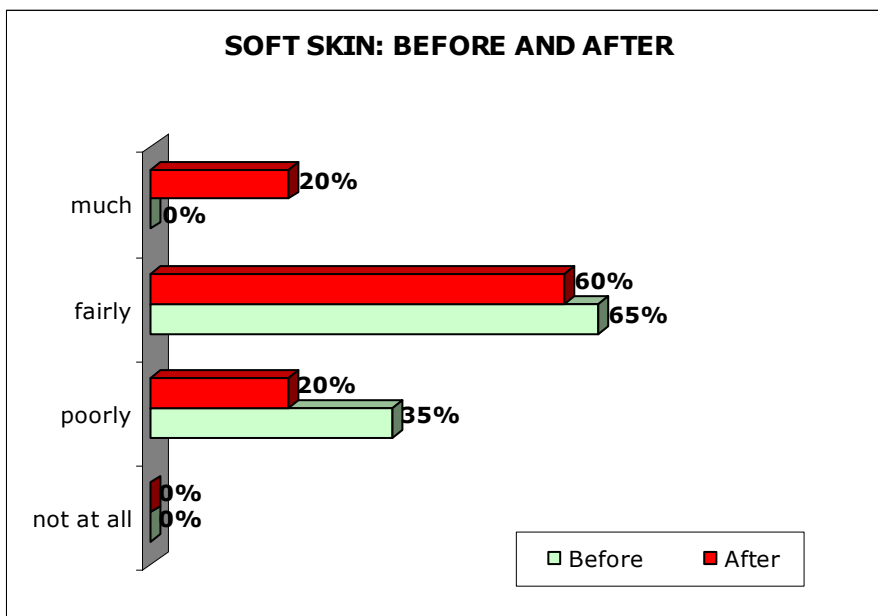
☐ Before   ■ After

GRAPH – Elastic skin: comparison before and after the application of cream



**ELASTIC SKIN: BEFORE AND AFTER**

much — After 15% / Before 0%
fairly — After 60% / Before 50%
poorly — After 25% / Before 50%
not at all — After 0% / Before 0%

☐ Before   ■ After

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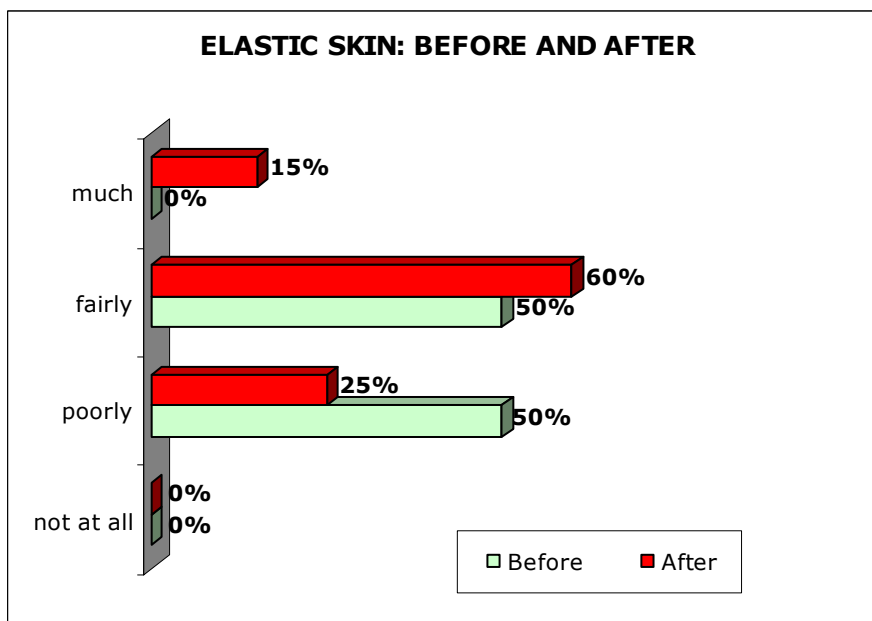
GRAPH – Smooth skin: comparison before and after the application of cream

## SMOOTH SKIN: BEFORE AND AFTER

| Category | Before | After |
|----------|--------|-------|
| much | 0% | 10% |
| fairly | 30% | 55% |
| poorly | 60% | 35% |
| not at all | 10% | 0% |
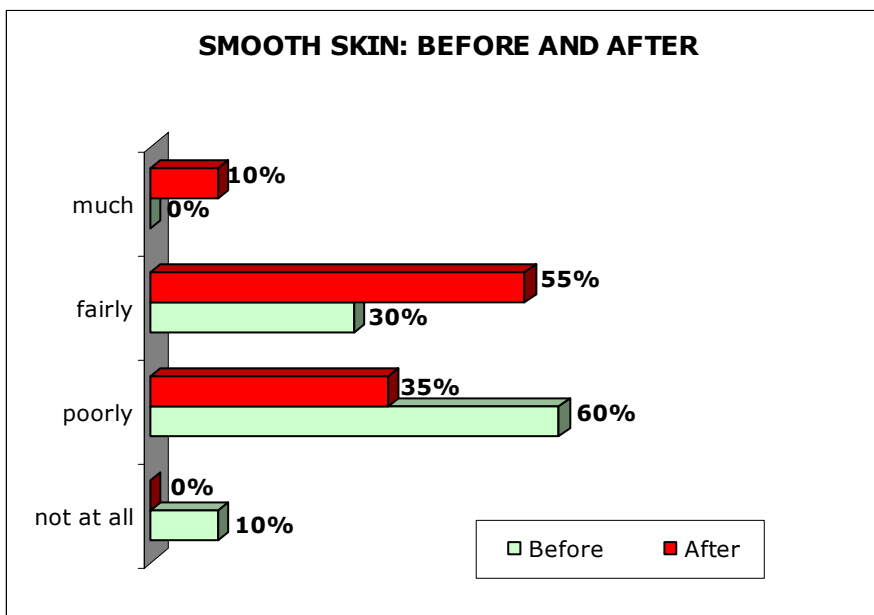
□ Before ■ After

GRAPH – Compact skin: comparison before and after the application of cream

## COMPACT SKIN: BEFORE AND AFTER

| Category | Before | After |
|----------|--------|-------|
| much | 0% | 5% |
| fairly | 55% | 55% |
| poorly | 30% | 40% |
| not at all | 15% | 0% |
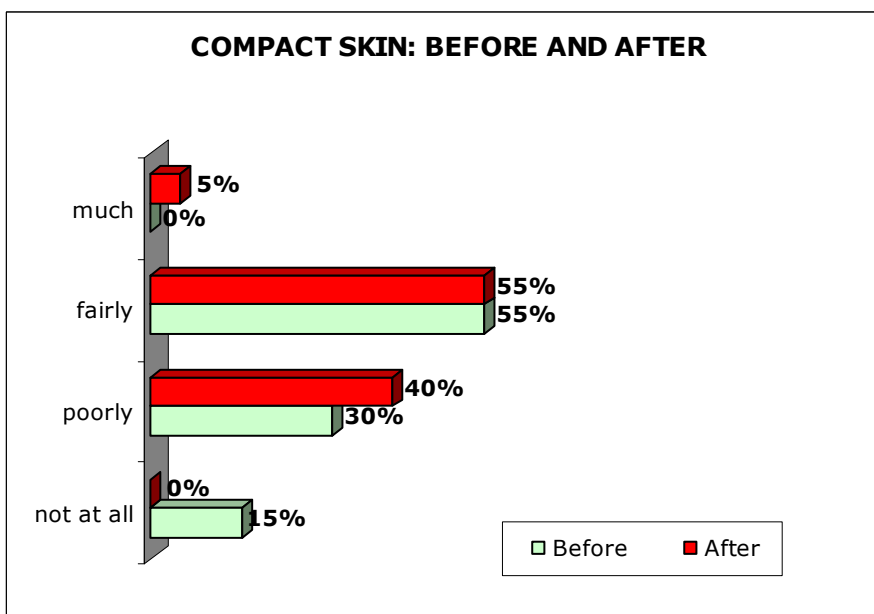
□ Before ■ After

Tab. – Evaluation of the skin before and after the application of the treatment

|  | Judgement | BEFORE | AFTER |
|---|---|---|---|
| **HYDRATED** | fairly + much | 40% | **75%** |
|  | not at all + poorly | 60% | 25% |
| **LUMINOUS** | fairly + much | 35% | **65%** |
|  | not at all + poorly | 65% | 35% |
| **SOFT** | fairly + much | 65% | **80%** |
|  | not at all + poorly | 35% | 20% |
| **ELASTIC** | fairly + much | 50% | **75%** |
|  | not at all + poorly | 50% | 25% |
| **SMOOTH** | fairly + much | 30% | **65%** |
|  | not at all + poorly | 70% | 35% |
| **COMPACT** | fairly + much | 55% | **60%** |
|  | not at all + poorly | 45% | 40% |

The table, that divides in 2 groups the conditions "much", "fairly", "poorly" and "not at all", points out the improvement of the skin after the application of the products.


**3. COMPREHENSIVE JUDGEMENT ABOUT THE ANTIWRINKLE EFFECT OF THE TREATMENT**

GRAPH – Comprehensive judgement about the efficacy of antiwrinkle product

### JUDGEMENT ON ANTIWRINKLE EFFICACY

- very satisfied: 10%
- satisfied: 15%
- quite satisfied: 40%
- not at all satisfied: 35%
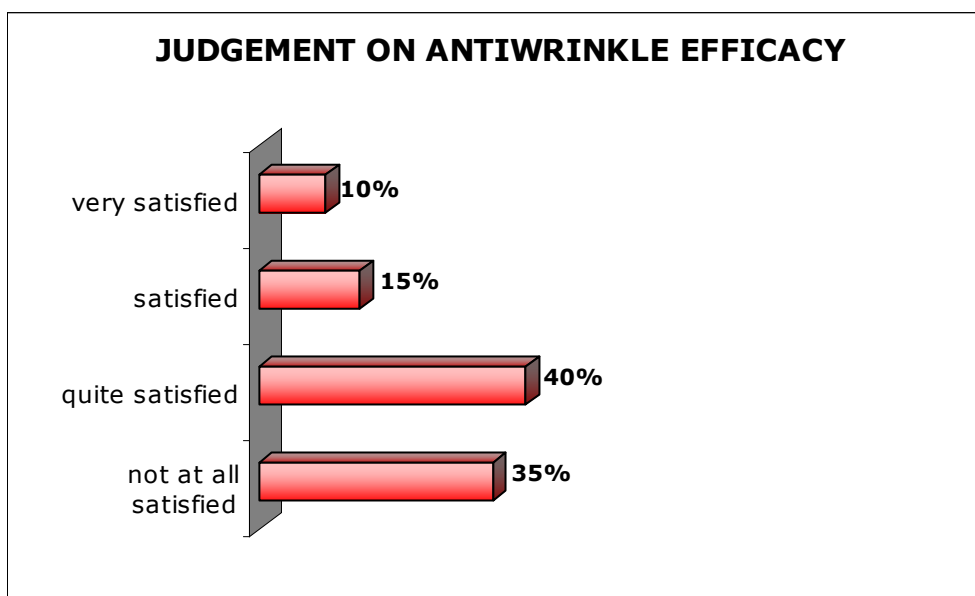
# CONCLUSIONS

Considered the obtained results following the indicated protocol, it is possible to draft these conclusions:

❑ **INSTRUMENTAL CONTROL**

Considering the results obtained we can conclude that – in the conditions expected by the test - the treatment ANTIAGING GECE BAKIM KREMI 40+ and ARINDIRICI VE CANLANDIRICI TONIK is able to change the micro-relief of the skin, in terms of reduction of wrinkles.

In fact, with the continuous application of the product twice a day for 30 days we have pointed out an average reduction of R parameter (wrinkledness). **Ra parameter** - which represents an arithmetical average of wrinkledness parameters calculated on the micro profile of the skin is reduced by 12,5% on the average. **Rz parameter** – which represents the average width of the negative peak is reduced by 12,1% on the average.

❑ **AUTOEVALUATION STUDY**

From the study performed on 20 questionnaires, we can conclude as follows:

After 30 days of constant application, the 60% of the volunteers have noticed an improvement of the skin aspect.

The answers to the questionnaires have shown that the volunteers have appreciated the smooth, compact, hydrated and elastic effect of the products on their skin.

On the whole, the volunteers are satisfied of the efficacy of the antiwrinkle treatment. In particular, the 40% is quite satisfied, the 15% is satisfied and the 10% is very satisfied.

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