

THE EFFECT OF IONIZED WATER ON SLAUGHTERY WORKING FIELDS AND ON SHEEP KIDNEY

Researchers

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- Ionization; Is the process of converting a molecule into an ion. Depending on the electrical charge of the ion is plus or minus, they are named as anion and cation. Positively charged anions are classified anions as negatively charged are as cations. Ionized Brine (Neuthox) is the ionized water containing NaCl. The resulting anionic and cationic products and pH-rated table are given.

Anionic products

Hypochlorous acid
.Hydrochloric acid
.Cloride
.Hypochloride
.Chlorine
.Oxygen
.Hydrogen

PH: 2,5 - 3,5

Cationic products

.Sodium hydroxide
.Hydrogen peroxide
.Hydrogen

PH: 11 – 12

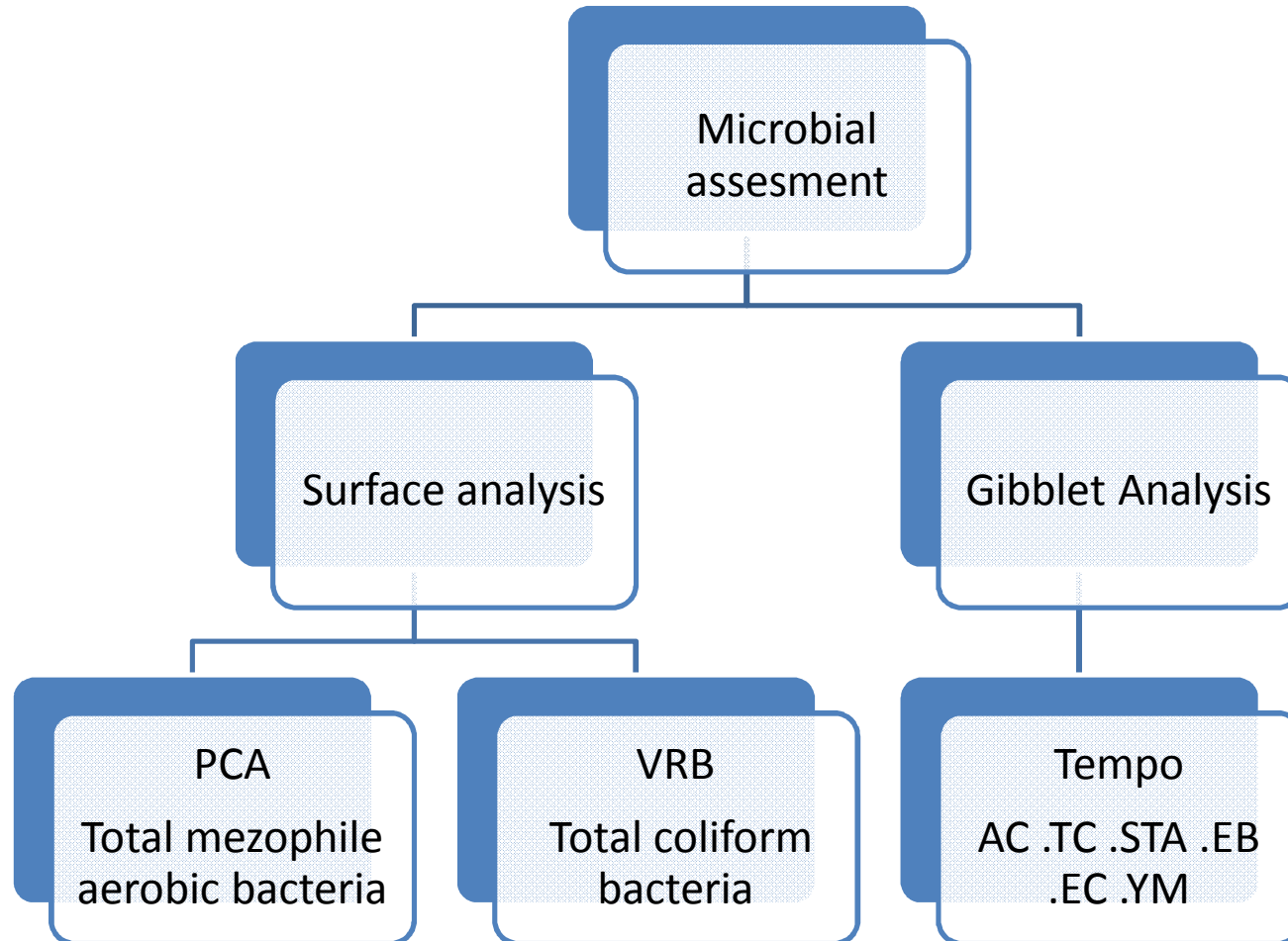
Where can we use?

- In extending the shelf life of gibblets and meat,
- In gaining a more sterile form,
- For the general disinfection of all slaughterhouse, meat cutters, grinders,
- Desinfection of all facility including equipment as meat cutters, knives, grinders

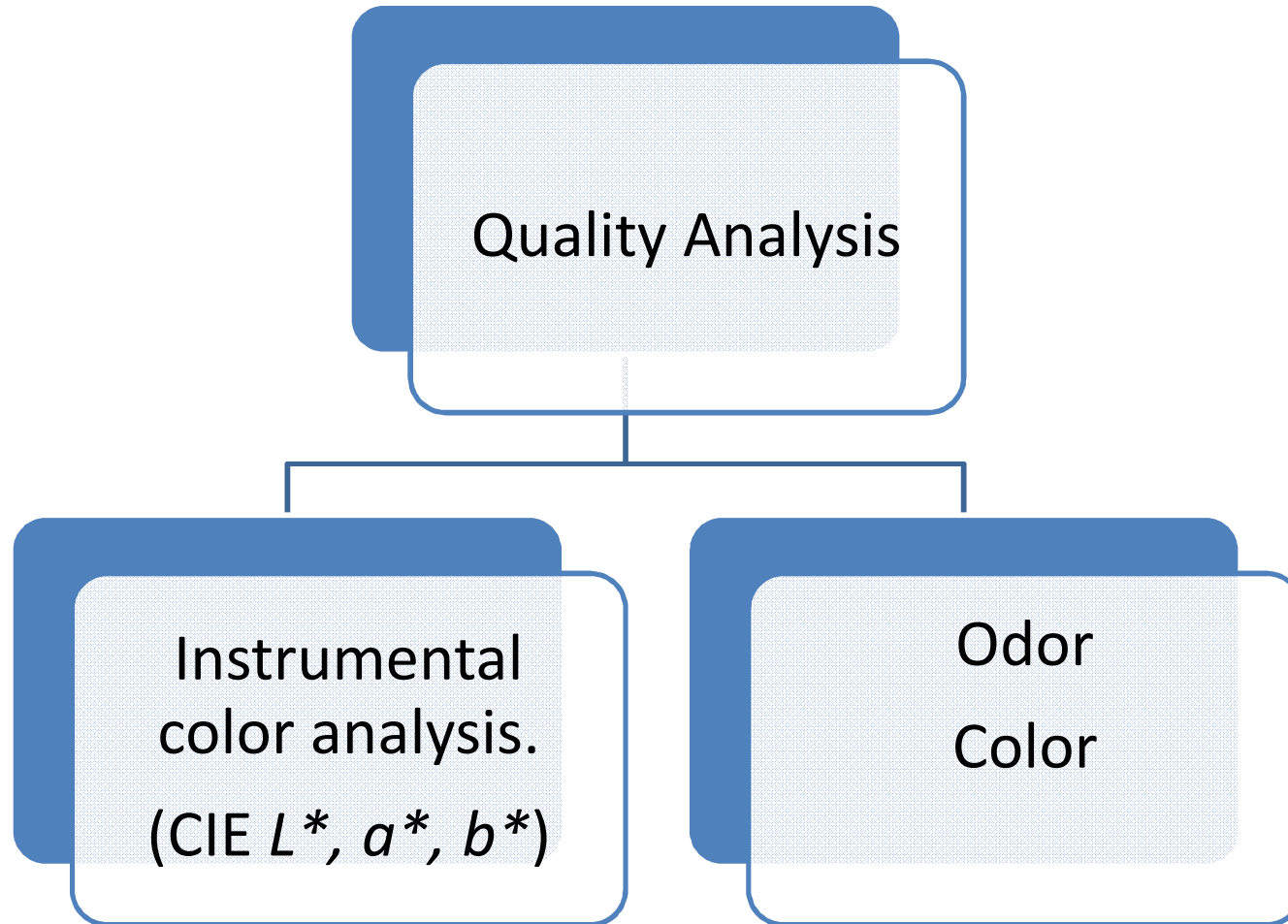
Materials and methods;

- TEMPO®
- TEMPO quality indicators automate the analysis of living organisms. TEMPO technology is based on the Most Probable Number (MPN) microbiological method. Thanks to automation, TEMPO takes the place of the old, highly labor-intensive MPN method and standardizes many preparation steps, interpretation and test results. The result is obtained with a fast, accurate method that is more reliable than the original process.
- PCA
- Swabs were reconstituted in 9 ml MRD-containing tubes and seeded in PCA medium. Petri dishes were left to incubate for 48 hours at 37 °C. At the end of the incubation, all the colonies in the culture were counted, and the total number of mesophilic aerobic bacteria in the food was calculated. Petri's boxes were thrown away from autoclaving.
- VRB
- Swabs were reconstituted in 9 ml MRD-containing tubes and seeded on VRB medium. Petri dishes were left in incubation at 35-37 ° C for 24 hours. Dark red colonies surrounded by a reddish precipitate zone 1-2 mm in diameter were counted. After Sterilization, Petri dishes were thrown away.
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- INSTRUMENTAL COLOR ANALYSIS
- . A * value (redness),
- . B * value (yellowness),
- . L * value measures the degree of light between 0 (black) and 100 (white).

Microbial Analysis Methods



Quality Criteria on Gibblets



Swap samples from contaminated surfaces

Flat Surface



Marble Counter



Rough Surface



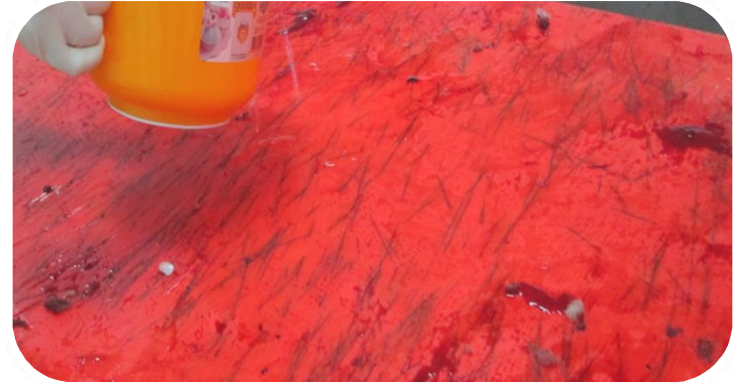
Plastic Counter and Axe



Treated with ECA Water



Marble Counter
CATHOX® + NEUTHOX®



Plastic Counter and Axe
CATHOX® + NEUTHOX®



Flat Surface
CATHOX® + NEUTHOX®



Rough Surface
CATHOX® + NEUTHOX®

Then, 1% (N-1), 10% (N-10), 50% (N-50) and 100% (N-100) NEUTHOX[®] solutions were prepared. Sheep kidneys were treated with the prepared solutions. The specimens were divided into 5 groups, one of which was the control, and the samples were analyzed on the 1st, 2nd and 4th day of storage.



Sheep kidneys



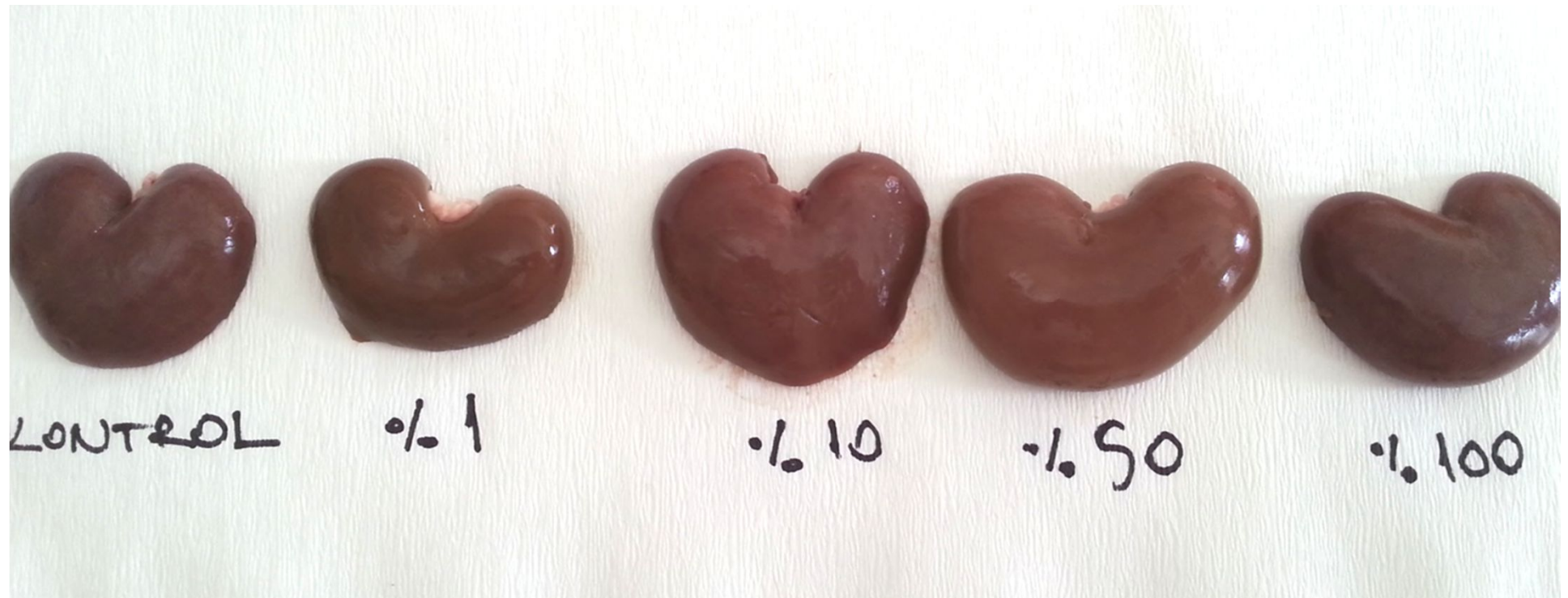
%1-%10-%50-%100'lük
NEUTHOX[®]



1 minute of treatment

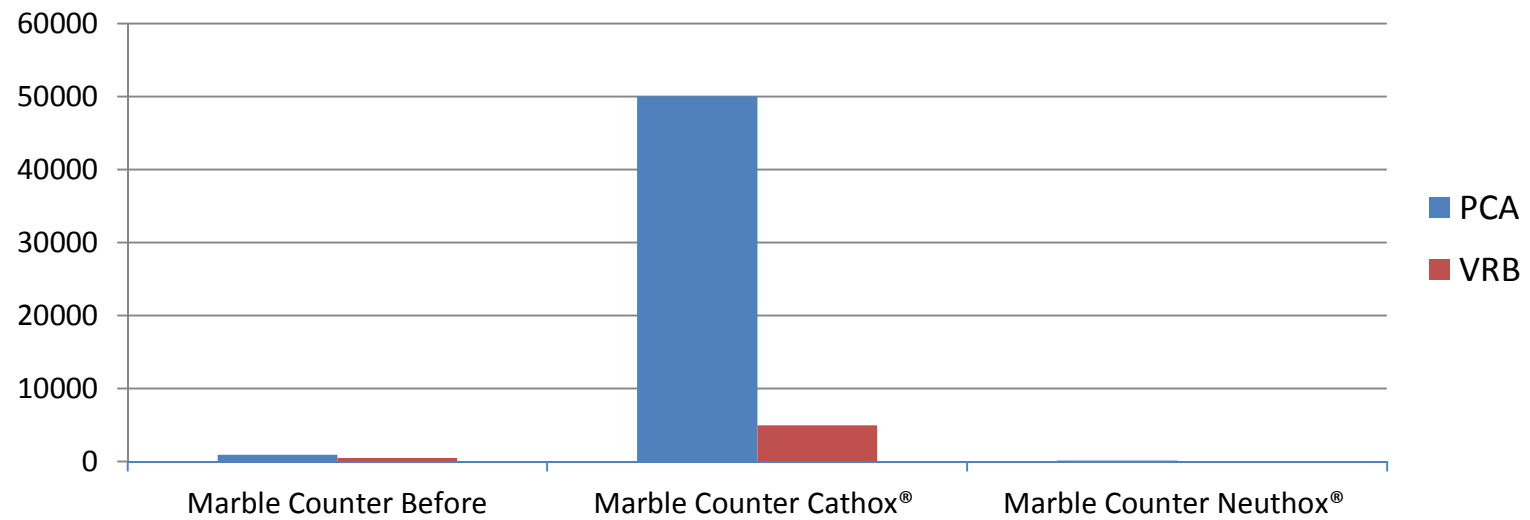


Transported in cold chain

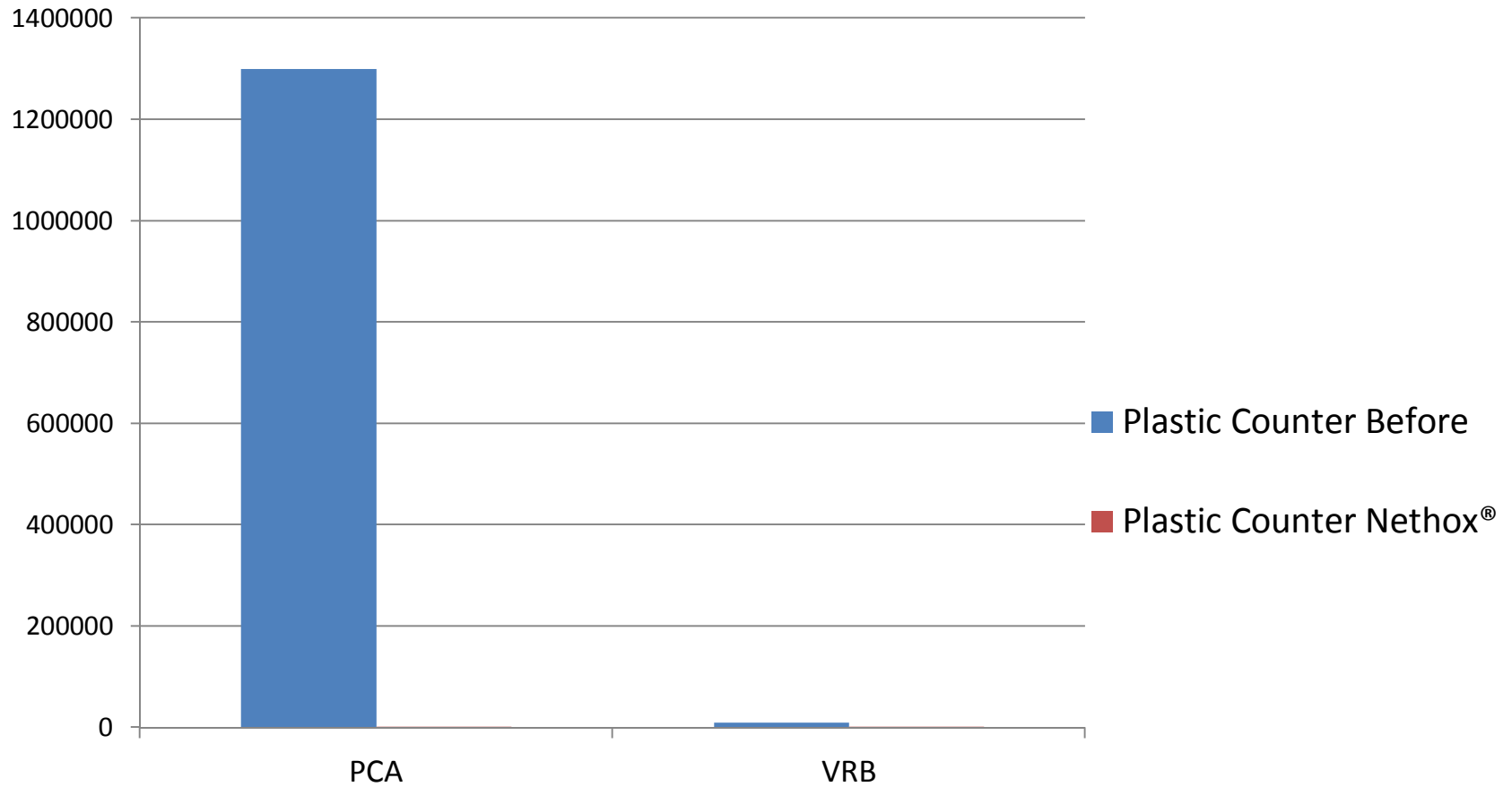


- According to the odor test done on the 4th day samples in the kidneys;
- No odor changes were found in 1% and 10% solutions.
- 50% and 100% solitary smell of sour was taken.
- Macroscopic color change was not detected in any of the samples.

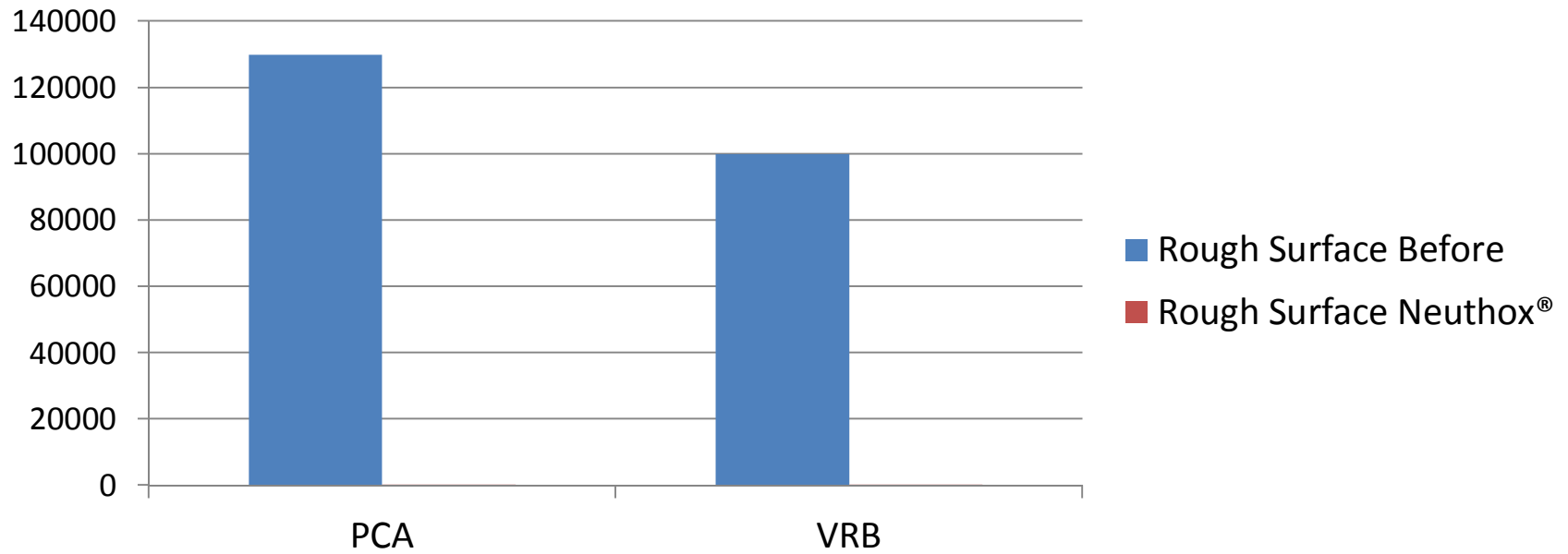
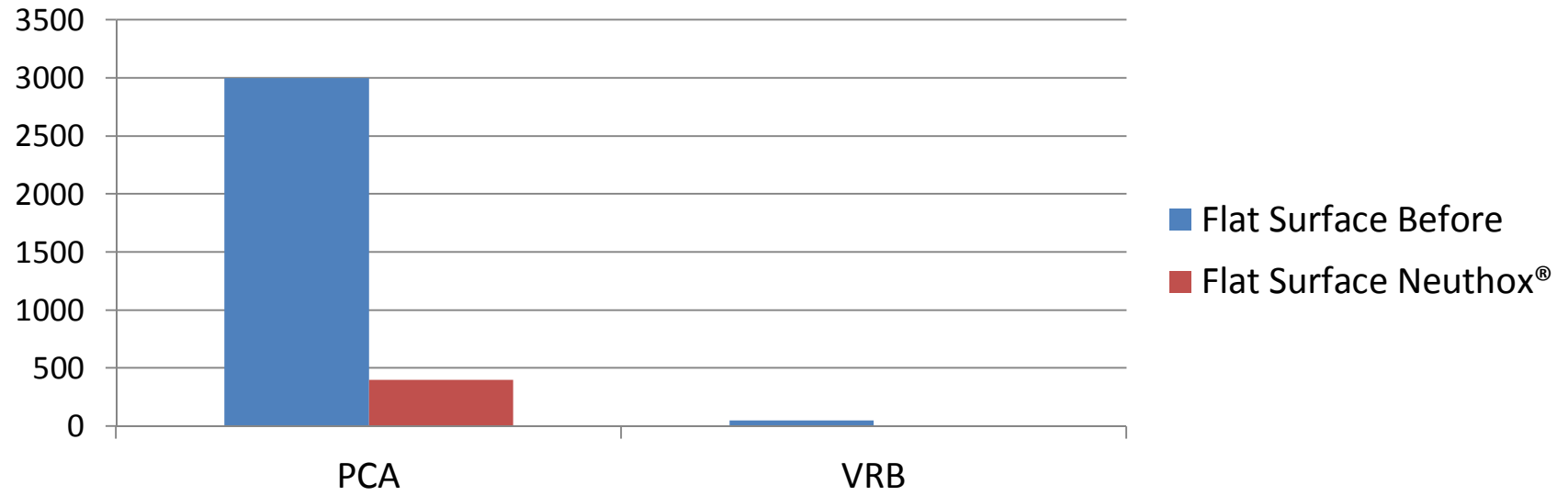
Results for Fat Removal and Disinfection



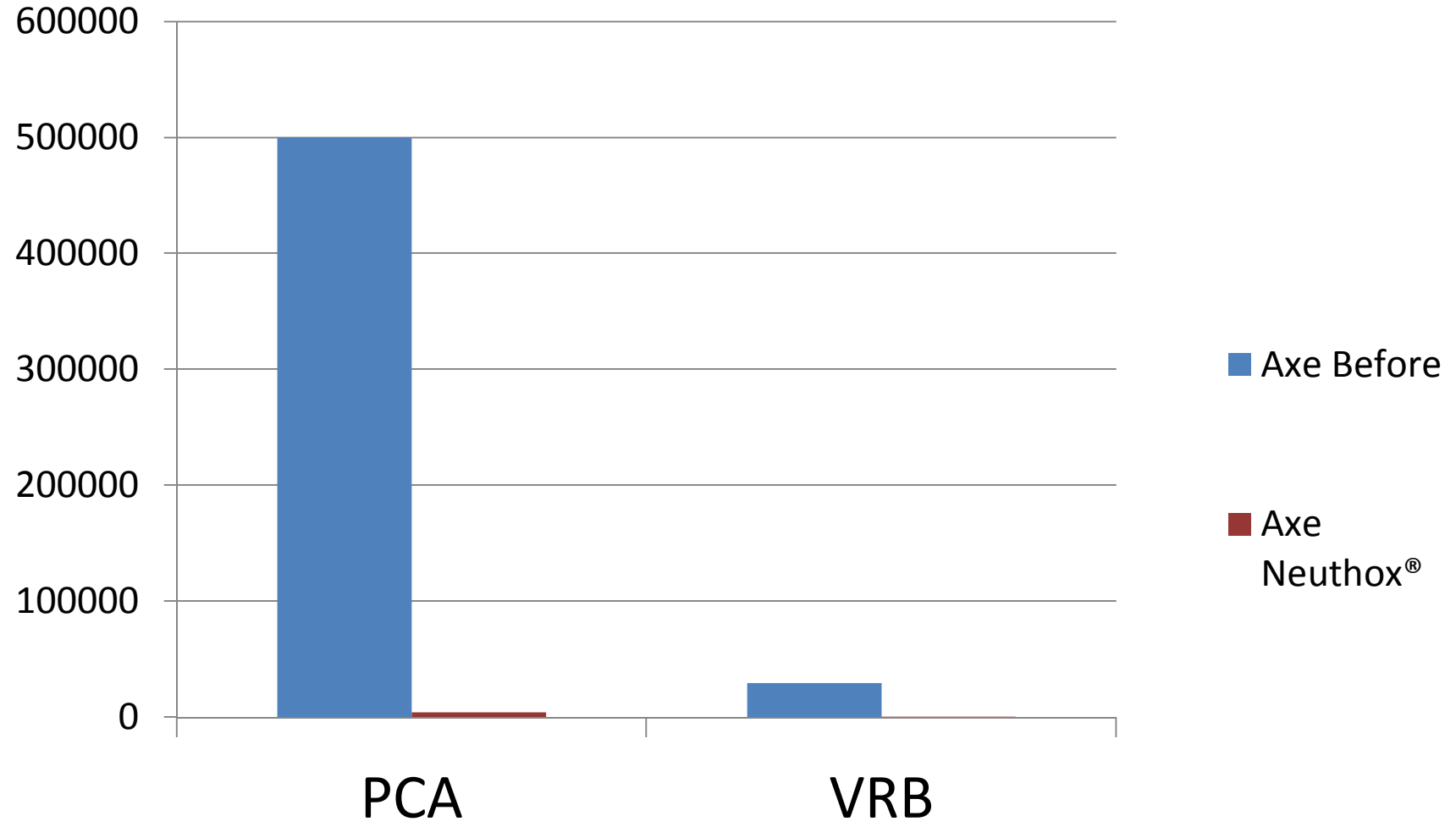
Results for disinfection on Plastic Counter



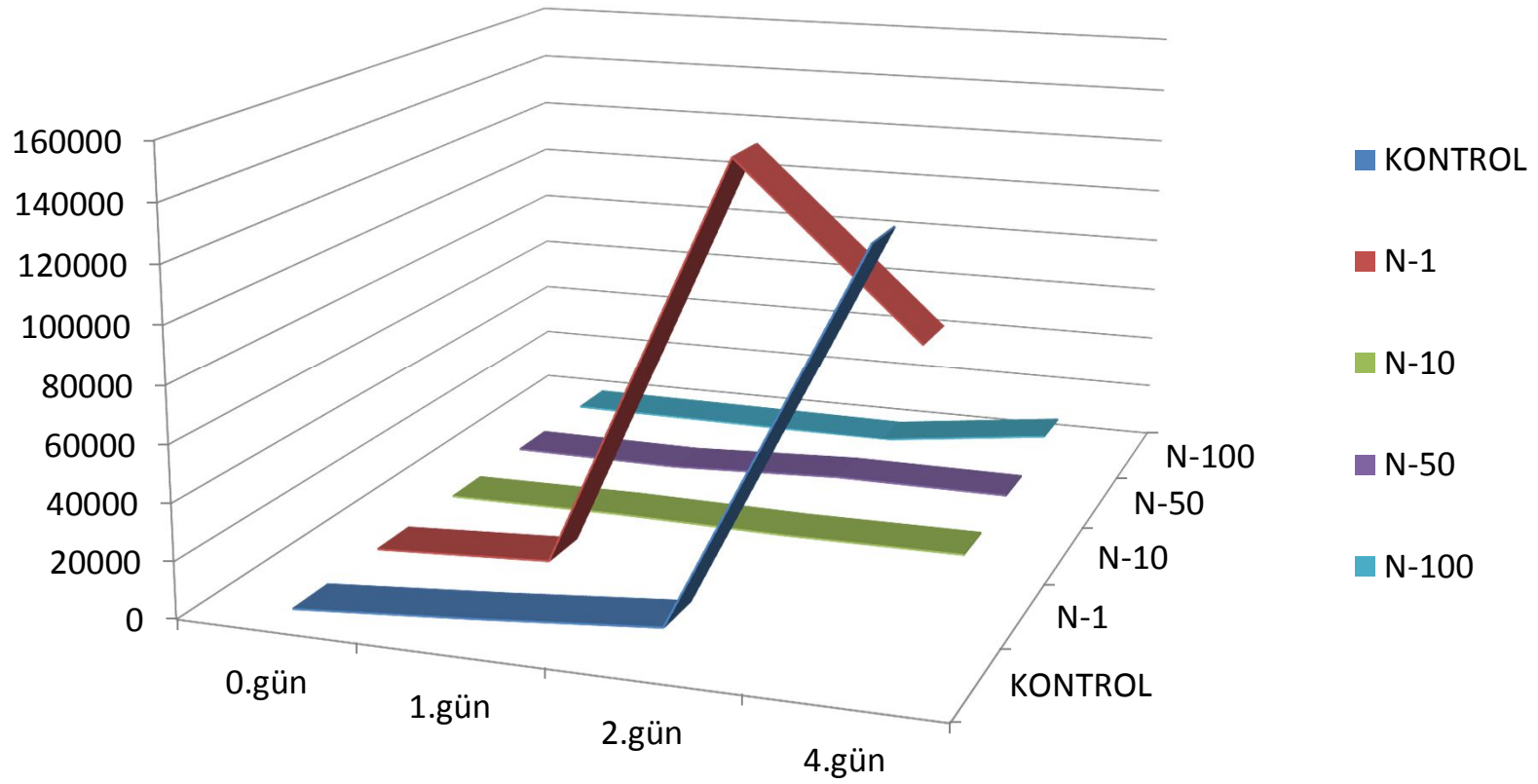
Surface Disinfection Results



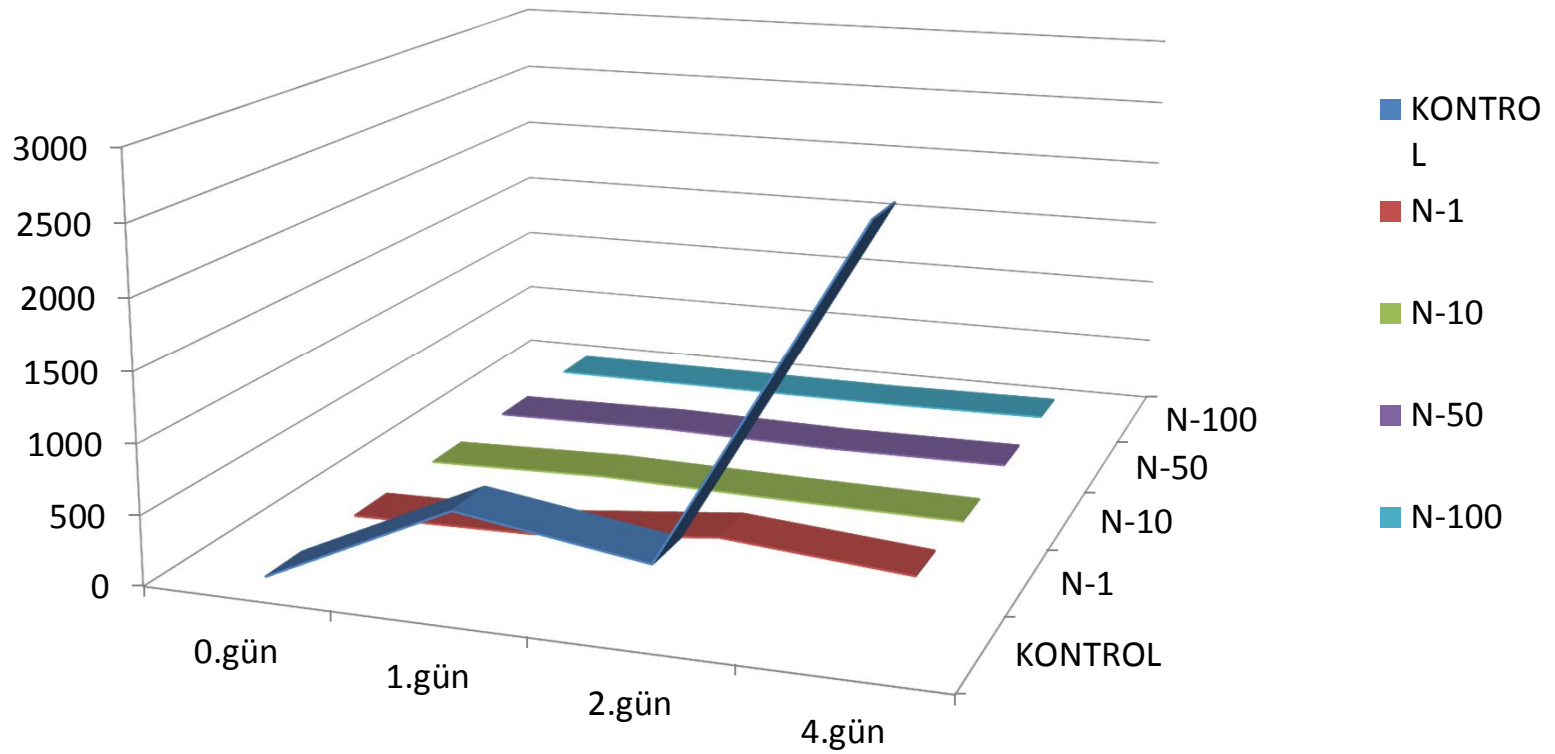
Equipment Test Results



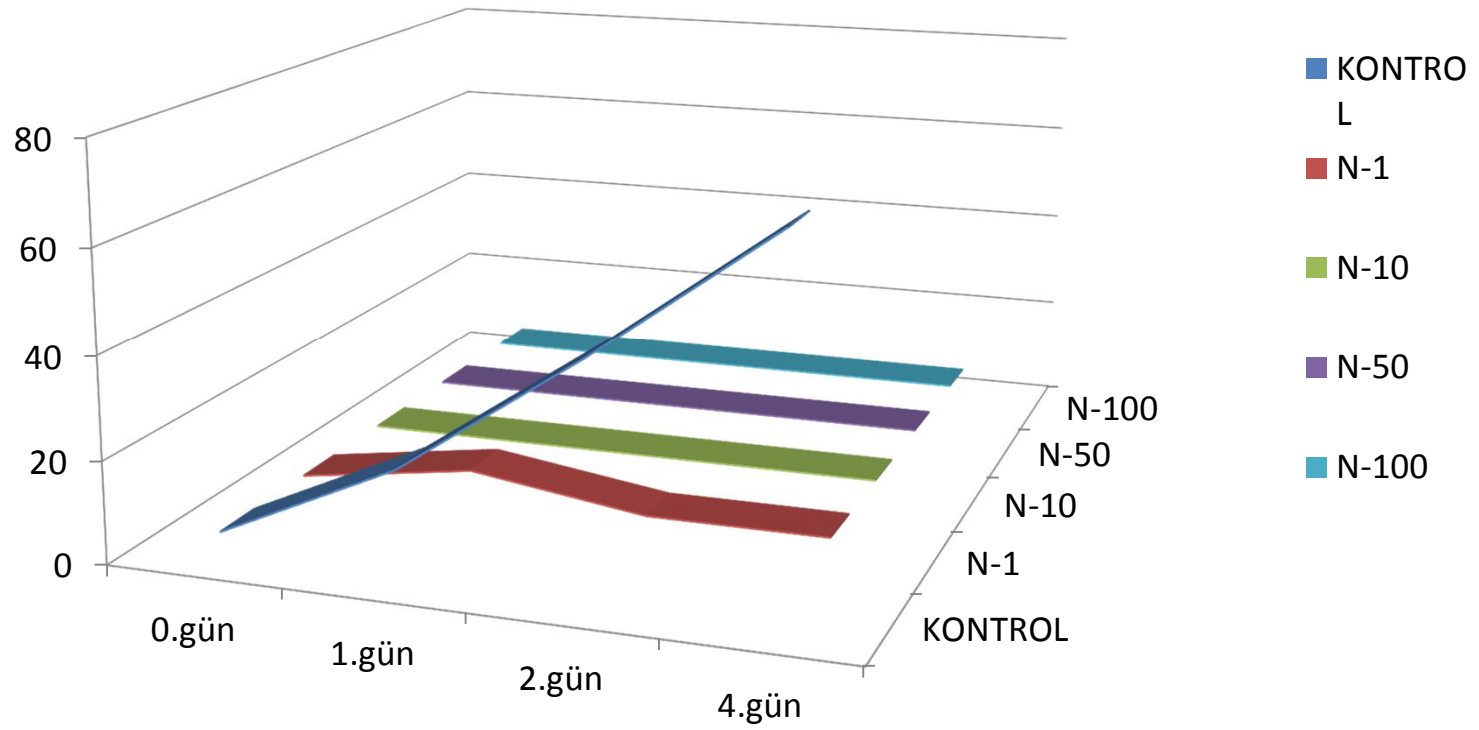
Mezophilic Aerobic Bacteria Count on Day 0, 1st, 2nd and 4th with Neuthox %1, %10, %50 and %100



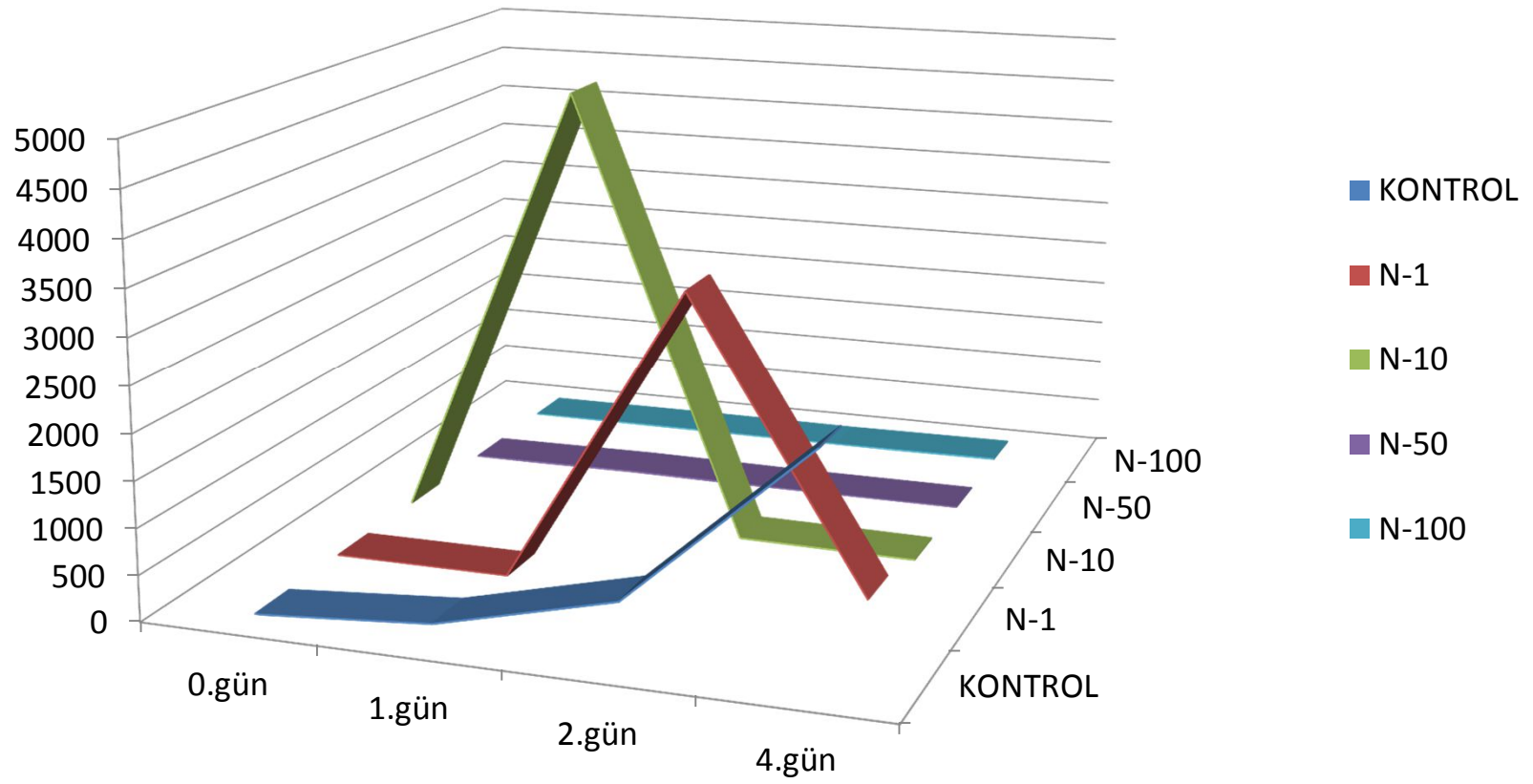
Coliforms Count on Day 0, 1st, 2nd and 4th with Neuthox %1, %10, %50 and %100



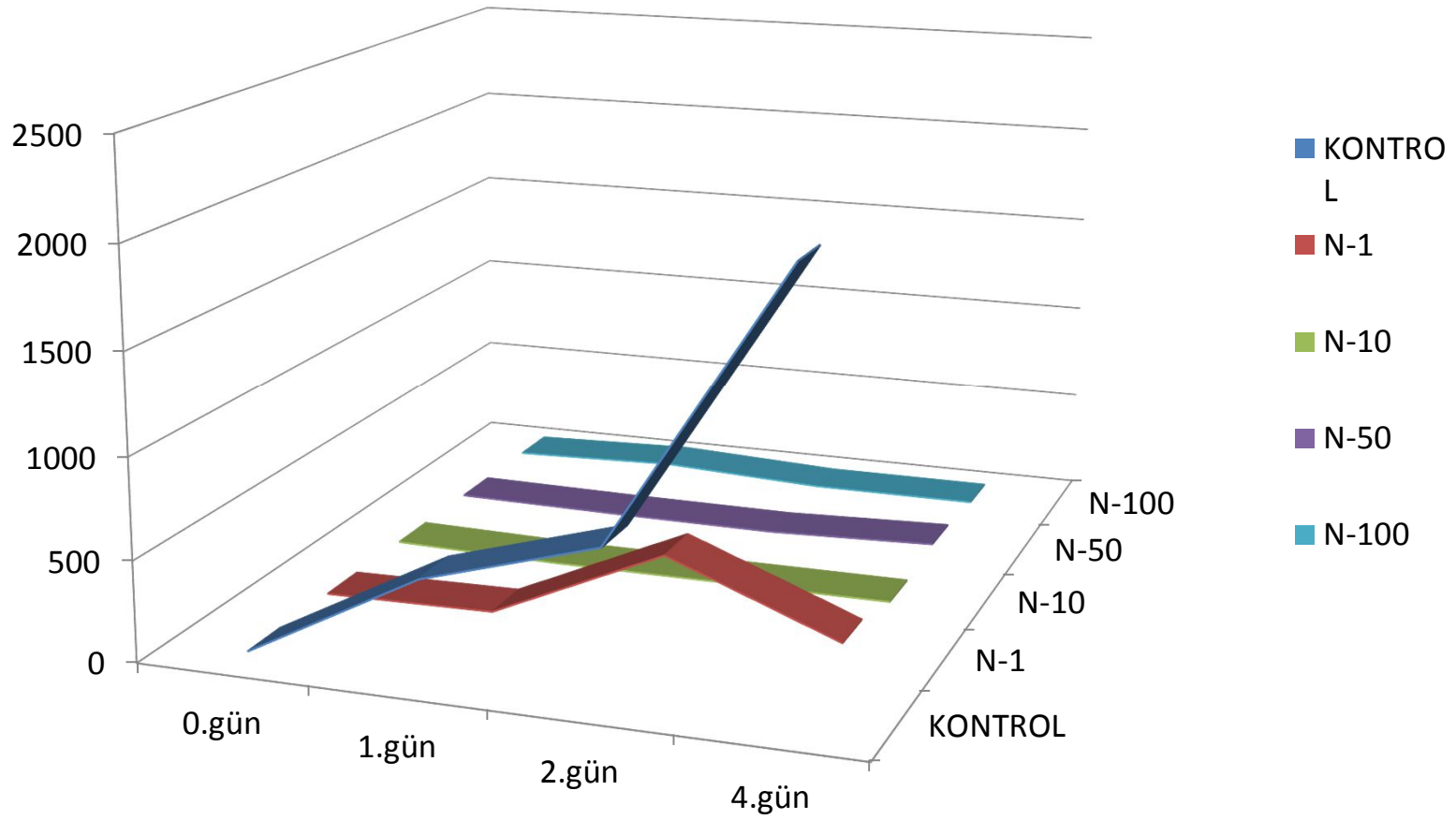
Staphylocococcus Count on Day 0, 1st, 2nd and 4th with Neuthox %1, %10, %50 and %100



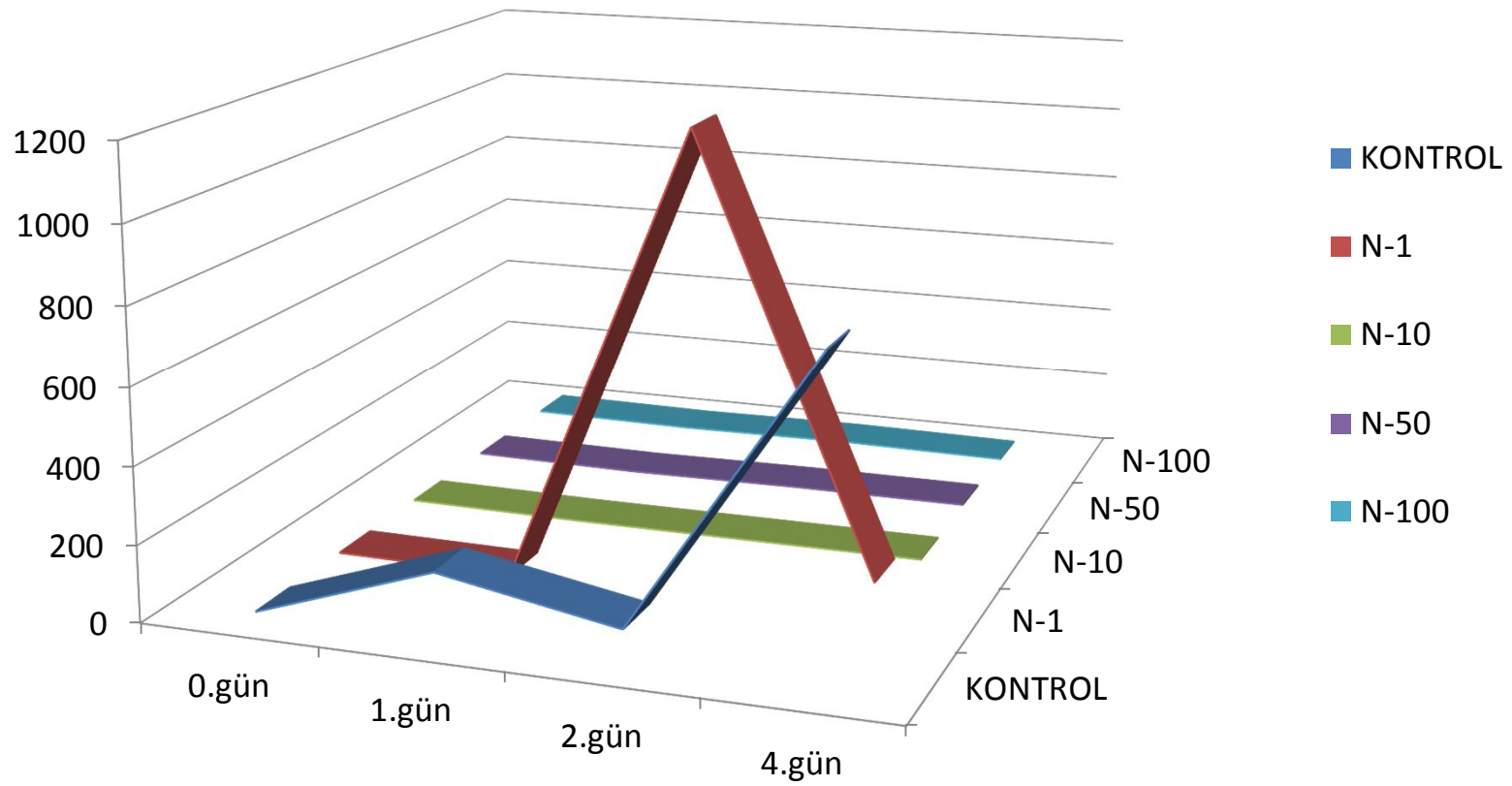
E. Coli Count on Day 0, 1st, 2nd and 4th with Neuthox %1, %10, %50 and %100



Enterobacter Count on Day 0, 1st, 2nd and 4th with Neuthox %1, %10, %50 and %100



Yeasts and Moulds Count on Day 0, 1st, 2nd and 4th with Neuthox %1, %10, %50 and %100



Instrumental Color Analysis Report

