

The study of influence of three potentially significant factors on the weight of eye drops was the object of my work. Simultaneous influence of kind of the dropper tip (factor A), addition of methylcellulose (factor B), dispensing angle (factor C) was evaluated at large in the screening experiment. It was found that non-wetted plastic and rubber dropper tips produce in the upright position of the bottle (dispensing angle  $90^\circ$ ) drops of water with comparable weight. In case of wetting the weights of the drops gained from the rubber dropper tip are significantly higher by both dispensing angles in accordance with the larger effective radius of the area where the drop is formed. From the detailed investigation of the influence of addition of methylcellulose, in the series of concentrations 0 – 0,15 – 0,25 – 0,50 – 0,75%, on the weight of eye drops, it resulted that the addition of methylcellulose in concentration higher than 0,25% leads to a statistically significant increase of the weight of the drops for both kinds of dropper tips and both dispensing angles ( $90^\circ$  also  $45^\circ$ ). The change of dispensing angle from  $90^\circ$  to  $45^\circ$  led to a statistically significant decrease of the weight of the drops produced by the wetted rubber dropper tip and the non-wetted plastic dropper tip. Using the wetted plastic dropper tip, the influence of change of dispensing angle from  $90^\circ$  to  $45^\circ$  on the weight of the drops depended on the concentration of solutions of methylcellulose. However this influence was statistically insignificant. After changing the dispensing angle from  $90^\circ$  to  $45^\circ$  the concentration over 0,5% caused the drops to have higher weight. This is caused by creating the drop from the lateral area of the dropper tip.