

Abstract

Charles University, Faculty of Pharmacy in Hradec Králové

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| Department of: | Pharmaceutical technology |
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| Title of Thesis: | Evaluation of uniformity of dose of veterinary eye drops |

The thesis studies the effect of dispensing angle and residual volume on drop mass produced by commercially available eye drops for vaccination using two dispensing regimes. Manual dispensing regime done via commercial dispensing system which consists of a plastic bottle and a dropper is compared to dispensing regime done via prototype device which produces drops at an angle of 45°. Experiment confirmed significant effect of dispensing angle on drop mass produced by manual dispensing regime; by decreasing the dispensing angle from 90° to 45° the drop mass has decreased. Standard dropping rate had significantly decreasing drop mass with decreasing residual volume in the bottle for manually produced drops and also the for the prototype produced drops. When comparing the standard dropping rate and fast dropping rate, higher drop mass was recorded mostly for the standard dropping rate. Disregarding the dropping rate, higher drop mass was recorder for the drops produced by the prototype device, with shorter dispensing time needed for producing ten drops in a row and with lower variability compared to manual regime.