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PRASIT NGAMSANTIA : A COMPARATIVE STUDY OF 3 DIFFERENT BLACK AND WHITE NEGATIVE FILMS BY USING DIFFERENT KINDS OF DEVELOPER FOR SCANNING ELECTRON MICROSCOPE PHOTOGRAPHY. THESIS ADVISORS : VIRUL MUNGCLAVIRAJ, DIPL.ING. STUTTGART UNIVERSITY GERMANY., SAPHA LIMPHANICHAKARN M.D., CERT IN ART AS APPLIED TO MEDICINE (JOHNS HOPKINS.), NARONG SURINWONG M.Sc. (MEDICAL ARTS & COMMUNICATION), CHAIYUT BEUVITANA ,B.Sc.(MEDICAL ILLUSTRATION & AV TECHNOLOGY), 127 p. ISBN 974-663-905-6

The objective of this study is to compare the quality of three different black and white negative films for scanning electron microscope photography. This comparative study was done under the same photographic method and development processing, with different types of developers and processing times. The results of the study are used to determine the different quality of films and developers as a criteria to select the films and developers for black and white photography with the best efficiency and accuracy in scientific research. There were there different films used in the study: 20 rolls of Kodak Verichrom pan film /6041 ISO 125/22⁰, 20 rolls of ILFORD 100 DELTA PROFESSIONAL ISO 100/21⁰ and 20 rolls of FUJI NEOPAN SS100 ISO100/21⁰. Each roll of the films mentioned above was automatically developed at 20 C⁰ with four different developers which were D-76.; Microphen.;Perceptol.;and Microdol-x

The quality of the different black and white films were evaluated by 47 professors , medical doctors, researchers, scientists, medical illustrators, educational technologists and laboratory technicians who work in fields of study from nine different institutes. The statistical analysis used in the study is the parameter statistical test : the one-way analysis of variance, (ANOVA). The results of the study show that there was a statistically significant difference ($P<0.05$) among the different films and a statistically significant difference ($P<0.05$), by using Multiple comparison by Scheffé ,between each pair of those films. The results also show a statistically significant difference between using two difference black and white films in the same condition of scanning electron microscope photography. solutions ordered as following: Microphen, Perceptol and D-76 give highest quality when used with Fuji film as well as Ilford film. For Kodak film, D-76 and Microphen give the best result; Perceptol and Microdol-x give lower quality respectively , Kodak film gives the highest quality followed by Ilford film and Fuji film when used with all 4 solutions.