

ABSTRACT

Platform tests are usually simple and rapid quality control tests which serve as a basis for accepting, setting aside or rejecting raw milk. Some of the rapid antibiotic residues test kits available in the Kenyan market include: Delvo test Fast BL, Delvo Sulphadiazine Penicillin No Tablet (SPNT), Mtusbio Beta-lactam BLQ Rapid Test Kit and Ringbio beta-lactam, tetracycline, sulfa drugs, BTS 3 in 1 TriTest S. Ndungu Antibiotic residues (NAR) is a colour comparison test that is simple, rapid and does not require electric power in its analysis procedure. This study compared these four rapid antibiotics tests with novel NAR test method in terms of sensitivity and specificity. A total of 28 samples were prepared; 8 milk samples without residues were spiked with milk known to have beta-lactam residues while 10 had no residues and 10 had known beta-lactam (benzyl penicillin) residues. The four analysis methods were carried out as described in their technical bulletins and manuals. For the NAR test, 50 mg of its active ingredient was mixed with 3 ml of milk and colour change observations made. The sensitivity and specificity of the NAR test was found to be 66.7 and 100% respectively while for all the other four tests, sensitivity and specificity was established to be 100% for each. The Kappa coefficient was 0.5882 which indicates moderate agreement, between NAR test method and the other test methods, according to Landis-Koch scale. The odds ratio exhibited positive association between the NAR test and the four methods. NAR test is best applicable at the milk collection routes or farm level before bulking for transportation.

Key words: Antibiotic residues, rapid test kit, beta-lactam, beta-lactamase, NAR test.