

The possibility to apply steam blanching method for pepper (*Piper nigrum* L.) processing

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Vegetables, fruits and other fresh plant materials are heat blanched with water or steam for a short time will inactivate the enzymes and results in a better quality food. Blanching will also destroy surface microorganisms and reduce the initial infections. The food will also shrink slightly for increase storing period. The blanching technique gives more advantage in black pepper processing which is called as 'hot water treatment' in the pepper industry and had recommended to practice. Usually fresh pepper soaks in 98°C of hot water for two minutes and expects a good appearance with uniform blackish colour. In addition to that blanched pepper helps to reduce the duration of drying time. The aim of this study was to apply steam blanching techniques for pepper and find out the possibility of success and suitable time period for steam.

First step of the experiment was done to find out the possibility of applying steam blanching technique for pepper and to detect the suitable rang of time for steam. Pepper blancher was renovated to use as a steam blancher. Twenty five kg of green pepper samples were cleaned and subjected to the treatments numbered as 1-6, respectively as hot water treatment for 2 min (standard method for pepper balancing), steamed for 5min, 10min, 15min and 20min. treatment no. one was used as the control. Final physical quality attributes such as overall appearance, colour were considered to compare the treatment performances with the control and selected a suitable time range for pepper steam blanch was 10-15 min.

The second step was to determine the appropriate time of steam without affect to the both physical and chemical quality of pepper. The five treatments were chosen and numbered as 1-5. Treatment no. one was the control, which was same to the step 01. Rest of the treatments were the steamed for

10min, 12min, 14min and 16min. The same physical quality as step 01 and oil content of the treated black pepper samples were got concerned to compare with the control. The most acceptable final product was given by the treatment no. 03. The product was totally uniform blackish colour and an attractive appearance was presented which was same as to the pepper obtained by the control or hot water treated sample. There was no big effect of steaming for 12min on oil content when compared to the oil percentage of the treatment no. 03 (3.49 %) with the control sample (3.19 %). The steam blanching method can be applied for the blanching of pepper without any considerable change of the physical and chemical quality attributes of black pepper. The time of steaming should be 12 min to get good quality black pepper, which is same as to the hot water, treated black pepper.