Research Note

Organoleptic Evaluation of Coffee Harvested in Plastic Nets

More coffee is being harvested with plastic nets by a method developed by Vicente-Chandler, et al.,[1] which consists of spreading the nets to cover the ground between the coffee rows and then collecting the berries periodically. The coffee berries gathered in the nets are then separated from foreign matter and washed by a procedure developed by Cancel et al.,[2] and later improved by Cancel et al.[3]

In the initial work Vicente-Chandler et al. had samples evaluated by an expert "upper" who found no difference in quality of coffee collected in the nets at 2-, and 4- and 6-week intervals compared to that of hand picked coffee beans. No further study has been conducted to determine the quality and acceptability of the coffee harvested in plastic nets.

This paper reports the results of organoleptic evaluations of coffee collected with plastic nets at intervals of 2, 4, 6, 9 and 10 weeks. A hand picked control was submitted also for evaluation. Beans were uniformly roasted and vacuum packed at the laboratory. Coffee was prepared in an Italian percolator using 25 grams of roasted ground coffee and 500 ml water. A panel of trained laboratory personnel evaluated the coffee. For sensory evaluation, each panelist was presented with a tray consisting of 40 ml of each coded sample. Temperature of the coffee tested was maintained uniform by a hot water bath for the small coffee cups. The amount served was constant throughout the study. Panelists were provided with warm milk and sugar to be used as desired. Plain soda crackers were served for removing flavor from the mouth between samples. Only one pair of samples were evaluated in each mid morning or mid afternoon session. Every possible order occurred an equal number of times. Panelists were asked to select one over the other on the basis of aroma and flavor.

Two types of tests were conducted with the percolated coffee for preference in aroma and flavor. Fifteen pairs of percolated coffee samples were evaluated. Results were statistically analyzed[4].

[1] Vicente-Chandler, J., Silva, S. and Abruña, F., 1969. A new Low Cost Method of Harvesting Coffee in High-Yielding Plantations. J. Agric. Univ. P.R. 53 (4):259–67.

[2] Cancel, L.E., Rivera, J.M. and Ruiz de Montalvo, M.C., 1972. Separating and Washing Coffee Harvested in Plastic Nets, J. Agric. Univ. P.R. 56 (1):11–17.

[3] Cancel, L.E., Hernández-Torres, I., Recio de Hernández, E. and Rosario-Hernández, J.A., 1974. Improvements in the Washing Operation of Coffee Harvested in Plastic Nets. J. Agric. Univ. P.R. 58 (1):1–10.

[4] Larmond, E., 1977. Laboratory Methods for Sensory Evaluation of Food. Research Branch, Canada Dep. Agric. Publ. 1637.

The following tabulation shows the results of the organoleptic evaluation.

Comparisons	Results
Hand-picked vs. 2, 4 weeks	No significant difference in flavor and aroma
Hand-picked vs. 6, 9, 10 weeks	Significant difference in flavor and aroma at the 5% probability level
2 weeks vs. 4, 6, 9, 10 weeks	No significant difference
4 weeks vs. 6, 9, 10 weeks	No significant difference
4 weeks vs. 9, 10 weeks	No significant difference
9 weeks vs. 10 weeks	Significant difference at the 1% probability level

The data show that there is no difference in aroma or flavor between the coffee prepared with a hand-picked sample and that prepared with coffee collected every 2 or 4 weeks with plastic nets. The hand picked sample was preferred to the net samples collected every 6, 9 and 10 weeks.

In a second test, coffee samples were submitted for single evaluation. Tasters were required to indicate their liking or disliking of the product in a 6 point scale.[5] The following tabulation shows the results of the test.

Hand picked	5.0
2 weeks	4.5
4 weeks	4.5
6 weeks	4.4
9 weeks	4.5
10 weeks	3.8

The results indicate that the coffee prepared from hand-picked samples was rated highest by the taste panel, and the coffee prepared with samples harvested with nets at 2-, 4-, 6- and 9-week intervals were found acceptable, while that prepared from 10-week samples was rated lower.

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[5] where 6 = "like very much" and 1 = "do not like."