

ABSTRAK

Proses ekstraksi minyak dari daun atau batang sel dengan merusak sel yang biasanya dilakukan sebelum atau selama proses penulungan. Merusak sel dapat dilakukan dengan proses mekanis atau proses pembekuan. Memotong daun dilakukan untuk merusak sel-sel melalui proses mekanik, namun kerusakan belum mampu menghancurkan sampai ke tingkat sel. Sementara proses pembekuan dapat diharapkan untuk merusak jaringan di tingkat sel. Penelitian pada skala laboratorium digunakan sebagai metode eksperimen dalam penelitian ini. Suhu pembekuan pra-penyulingan bervariasi pada -50°C , -10°C dan tanpa proses pembekuan. Dalam studi ini nilam disuling pada kondisi kering. LPG digunakan secara otomatis sistem kontrol pembakaran untuk menjaga stabilitas suhu. Suhu penyulingan yang stabil mampu menaikkan volume minyak per kg berat kering bahan baku. Volume minyak nilam yang dihasilkan per kg berat kering bahan baku pembekuan sebelum penyulingan meningkat. Suhu pembekuan yang rendah sebelum penyulingan menghasilkan volume tinggi minyak nilam per kg berat kerangnya. Penyulingan menghasilkan warna yang berbeda dari kuning sampai coklat kemerahan.

Kata Kunci : Optimalisasi, Distilasi, Bahan Kering, Minyak Nilam, Proses Pembekuan

ABSTRACT

The Process of extracting oil from the leaves or stems cells by damaging the cell which usually done before or during distillation process. Damaging the cell can be done by mechanical process or freezing process. Chopping the leaves was done to damage the cells through the mechanical process, however the damage have not been able to destroy up to the cellular level. While the freezing proces could be expected to damage the tissue at the celular level. Pure research on laboratory scale was used as the experiment method in this study. Freezing temperature pasca-distillation was variated on -5°C , -10°C and withouth freezing processs. In this study, patchouli was distilled on dry condition. LPG was used with automatically combustion control system of for keeping the temperature stability. The stable distillation temperature was able to raise the volume of oil per kilogram of dry weight raw material. Patchouli oil volume produced per kilogram of dry raw material post freeze pre- distillation increased. The low freezing temperature of the pre-distillation produced the high volume of patchouli oil per kilogram of raw material. The distillation produced the different colors of patchouli oil from yellow until light brown.

Keywords: Optimalization, Distillation, Dry Material, Patchouli Oil, Freezing Process.