



Health Department

CITY HALL

VANCOUVER, B. C.

Coffee

Moisture

in weighing bottles Taring about 2 grams

wt of bottle = 26.078

" " + coffee = 26.021

2.057 = wt of Coffee Tissue

wt of Bottle + dried Coffee = 27.922

" "

26.021

1.901 wt of dried Coffee

2.057 = coffee Tissue

1.901

.156 = wt of Moisture

2.057) .156 (= % Moisture

Wet Substance = to be Tared to equal dry.

How much Coffee must be Tared to equal 10 grams of dry

Moisture = 8.55 %.

$$\begin{array}{r} 100.00 \\ 8.55 \\ \hline 91.45 \end{array}$$

10 grams = 9.145 grams dry.

$91.45 \text{) } 100.000 \text{ (} 1093.482 = 10.935$

• 10.935 grams Coffee = 10 grams of the dry-

Roasting

The effect of roasting is to caramelize the sugar and to develop the characteristic flavor-

Coffetannic Acid

— To 2 grams finely ground add 10 cc H_2O & shake for 1 hour, add 25 cc of 90% alcohol and shake again for 1/2 hour. Filter and wash with 90% alcohol. Drug residue filtrate & washings about 80 cc to boiling add 6 cc Pot with Lead acetate. Separate the ppt Lead



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Coffetannic by Centrifuge. decant the supernatant liquid through Tan-
 jeter - repeat centrifuge treatment twice with 90% alcohol. decanting each
 time through the filter - transfer the ppt to the filter, and wash free
 from lead, wash with ether, dry @ 100°C & weigh. & wt of ppt by 0.876
 gives wt of Coffetannic acid -

Coffeine

Boil 5-10 grms with 100 cc H₂O filter and treat residue twice more with
 boiling H₂O, add 10 units of salts, excess of lead acetate, filter & wash,
 pour H₂S for to remove excess of Pb., filter, wash, and evaporate to
 dryness in a Hoffmann's Schalehen, with some sand and a tube Neg.
 brush the schalehen, and extract with chloroform until exhausted,
 dry the extract @ 100°C weight, if the Coffeine does not appear pure
 determine the nitrogen wt by Kjeldahl method & amount
 of N by 3.464 shows Coffeine pure Coffeine.

U. S. Standard

Roasted Coffee is coffee which by its action of heat has become
 brown, and developed its characteristic aroma, and contains not
 less than 10% fat and not less than 3% ash.

Tacing =

yellow ochre, chrome yellow, burnt amber, Venetian red, Scheels
 green - Iron oxide, tumeric, indigo, prussian blue, etc

Inorganic = look for in ash or sediments of the shaking the beans
 in cold water

Organic = extracted by alcohol.

Glaucous

= by dipping the bean into soln of Iodine & Sugar.



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Coffee - 3

Adulterants - of ground Coffee - Roasted peas - beans, wheat, rye, oats, chicory, brown bread, barks, etc. and cereals, head together by molasses - date stones -

Water test = Cold water - pure coffee floats
Chicory & cereals (minerals) sink. color the water

Starch - ^{and} Direct Conversion - Exhaust 3 grams of finely divided substance on a fine but rapidly acting filter paper, with ether, by washing with 5 successive portions of 10 cc each, and wash the residue first with 150 cc of 10% alcohol and then with a little strong alcohol. Transfer by washing into of flask with 200 cc of H_2O & 20 cc HCl (Sp. Gr. 1.125) Connect with reflux condenser and heat the flask in boiling water for $2\frac{1}{2}$ hours - Cool and carefully neutralize with NaOH. Clarifying if necessary with alumina cream, mix well wash up the volume to 500 cc water, and determine the dextrin in an aliquot part of the filtrate, by any of the methods for dextrin. Convert dextrin to starch by the factor 0.9.

Microscopy - the cells have high characteristic, knotty, thickened walls, The seed coat in the powder shows silver like patches.

10% Mixture - a quantity of the sample corresponding to 10 grams of the dry substance is weighed in a counterbalanced flask and water added until the weight is 110 grams



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Coffee = 4

fit the flask with a reflux condenser, and regulate that boiling begins within 10-15 minutes and continues for 1 hour—
 remove from flame and after 15 minutes pass through dry filter
 Cool and test Sp. Gr. @ 15.° = 10% decoction in pure Coffee = Sp. Gr.
 1.00486 a chicory 1.02821 the difference = 0.01835.

% Chicory = Sp. Gr. of 10% decoction = d. the % of chicory = then
 Chicory % can be calculated as follows—

$$C = 100 - \frac{(1.02821 - d) 100}{0.01835}$$

Another Method = deduct observed grav. from 1.02821 and multiply remainder
 by 5.45

Ash = about 80 % is water sol

" = in Chicory about 35 % sol

Ash = Total ash varies between
 3.5 to 5%.

Coffee ash is reddish owing to Fe
 cereals = lower the ash.

Starch =

Boil Coffee for a few minutes with 10 parts of water
 allow infusion to get quite cold, add dil $\frac{1}{2}$ Sol. and
 some strong sol. of $\frac{1}{4}$ M. of, with agitation, until the
 coloring matter is nearly destroyed. then strain and add
 iodine



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Coffe

The actual amount of Coffe present can be estimated from the Coffine —

Coffeol = gives the Aroma.

