

Reports of A. Ph. A. Committees

REPORT OF COMMITTEE ON UNOFFICIAL STANDARDS.

The following portion of the report of the Committee on Unofficial Standards relates to certain crude drugs and chemicals suggested for inclusion in the next revision of the National Formulary, and by order of the Council is published in the JOURNAL in order to afford opportunity for discussion before the standards proposed are finally adopted.

Manufacturers, importers, analysts, and others interested in any of the proposed standards, are requested to send their criticisms and comments to the chairman of the committee, Geo. M. Beringer, Ph. M., 501 Federal St., Camden, New Jersey.

APPROVED MONOGRAPHS SUBMITTED AS STANDARDS FOR UNOFFICIAL DRUGS AND CHEMICAL PRODUCTS.

AGARICUS.

White Agaric. Larch Agaric.

1. The dried fruit body of the fungus *Polyporus officinalis* Fries (Fam. *Polyporaceae*) collected from *Larix Pinus* Linné and *Larix Siberica* Ledeb.

2. Light, fibrous, somewhat spongy pieces of irregular shape, grayish-white to pale-brown externally; yellowish and resinous internally; fracture tough, fibrous; while friable it is difficult to powder.

3. The powder examined under the microscope shows numerous non-septate, narrow, mycelial threads and many cubical crystals of Calcium Oxalate .001 mm. to .002 mm. in diameter.

4. To boiling Alcohol it should yield not less than fifty percent of a resinous extract. Upon incineration it should yield not more than 2 percent of a white ash, rich in phosphates.

ALBUMEN OVI RECENS.

Fresh Egg Abumen.

The freshly separated liquid white of recently laid eggs of the hen *Gallus domesticus* Temminck (Fam. *Phasianidae*).

ASCLEPIAS.

Asclepias. Pleurisy Root.

1. The dried root of *Asclepias tuberosa* Linné (Fam. *Asclepiadaceae*).

2. Usually cut or broken pieces, of variable size of an irregularly fusiform root from 10

to 20 cm. long and 2 to 5 cm. thick, and occasionally branched, externally pale orange-brown, annulate above, the surface roughened by numerous fine intersecting grooves; bark thin; fracture tough, the broken surface granular and white, with inconspicuous pale-yellow wood bundles and large white medullary rays; odor slight; taste bitterish and disagreeable, somewhat acrid.

BAPTISIA.

Baptisia. Wild Indigo Root.

1. The dried root of *Baptisia tinctoria* (Linné) R. Brown (Fam. *Leguminosae*).

2. Fleshy, 1.25 to 4 cm. thick usually cut into elongated cylindrical pieces; the crown 5 to 8 cm. thick, more or less warty and marked by stem scars; outer surface dark-brown, transversely warty, or the thicker pieces covered with a soft and friable corky layer, bearing few branching rootlets; fracture tough, the fractured surface whitish; bark-section radially striate, wood section inconspicuously radiate, porous; nearly odorless; the bark tastes bitter and acrid, the wood nearly tasteless.

DELPHINIUM.

Larkspur Seed.

1. The dried seeds of *Delphinium consolida* Linné and *Delphinium ajacis* Linné (Fam. *Ranunculaceae*).

2. Irregularly tetrahedral, or by pressure

somewhat triangulate, acute at one end, obtuse or rounded at the other, about 2 mm. long and equally broad or slightly narrower; surface black or blackish-brown, deeply and narrowly furrowed, the furrows intersecting so as to give a sharply tuberculate appearance to the surface, with serrate or toothed edges; testa crustaceous; kernel whitish, fleshy; embryo small, in fleshy endosperm; odor very little; taste bitter, afterward biting and acrid.

DIOSCOREA.

Dioscorea. Wild Yam Root.

1. The dried rhizome of *Dioscorea villosa* Linné (Fam. *Dioscoreaceae*).

2. Knotted and woody, elongated, sparingly branched, 6 to 12 mm. thick, somewhat compressed, bearing scattered nodular projections at the sides, elongated, slender tough roots underneath and stem-scars on the upper surface; pale brown, surface more or less scaly from the partly detached thin outer layer; fracture short but not weak, the fractured surface whitish or pale-brown, with numerous small wood bundles; odorless; taste starchy and slightly acrid.

FRAXINUS.

White Ash Bark.

1. The dried bark, deprived of the corky layer, of the trunk of *Fraxinus Americana* Linné (Fam. *Oleaceae*) and probably of other species of *Fraxinus*.

2. In flat pieces of varying length and width 3-6 mm. thick; externally yellowish or pale brown, sometimes with ridges of a warty nature and fissures of a grayish-brown color with markings of lichens; inner surface, pale brown to yellowish, striate; fracture very uneven, somewhat fibrous; odor faintly aromatic; taste bitter, weakly acrid.

3. Ash not over 10 percent.

FRUCTUS RUBI.

Blackberry.

1. The fresh ripe fruit of varieties of *Rubus nigrobaccus*, Bailey, or *Rubus villosus* Aiton (Fam. *Rosaceae*).

2. An aggregate fruit, ovate to oblong-rounded or slightly pointed, composed of numerous shining black drupelets attached to an esculent receptacle; pericarps externally smooth or with only a few hairs (*R. villosus*); mesocarps fleshy, juice purple-red; endocarps hard, black, surfaces deeply wrinkled; taste sweet and slightly acid.

FRUCTUS RUBI IDAEI.

Raspberry.

1. The fresh ripe fruit of varieties of *Rubus Idaeus* Linné (Fam. *Rosaceae*).

2. An aggregate fruit, globular or hemispherical with a concave depression at the base where separated from the receptacle, composed of twenty or more small rounded polygonal succulent drupelets; pericarps externally red, hairs numerous; mesocarps fleshy, juice red; endocarps small stones with wrinkled surfaces; odor characteristic, aromatic; taste pleasant, sweet, acidulous.

3. For pharmaceutical purposes, the black raspberry, the fresh ripe fruit of cultivated varieties of *Rubus occidentalis* Linné (Fam. *Rosaceae*) may be used either in part or entirely in place of the red raspberry.

FRUCTUS SOLANI CAROLINENSIS.

Horse-nettle Berry.

1. The air dried ripe fruit of *Solanum Carolinense* Linné (Fam. *Solanaceae*).

2. Globose, slightly depressed and somewhat shriveled and wrinkled in drying .8 to 2 cm. in diameter, orange-yellow, glabrous, fleshy, two-celled, many-seeded, calyx and pedicle usually persistent; calyx stellate-pubescent, deeply five-lobed, the lobes ovate or ovate-lanceolate, acuminate and enclosing half or more of the berry; seeds orbicular, flat, yellow, smooth shining; odor pepper-like; taste bitter and acrid.

3. Ash about 5 percent.

GEMMAE POPULI.

Balsam Poplar Buds. Balm of Gilead Buds.

1. The air dried closed winter leaf buds of *Populus nigra* Linné and *Populus balsamifera* Linné (Fam. *Salicaceae*), collected early in the spring. Balsam poplar buds should be kept in tightly closed containers of glass or tin.

2. Conical, pointed, up to 2 cm. long and 2 to 5 mm. thick, consisting of closely imbricated scales, externally brown and glossy, glutinous with fragrant resin; odor pleasant, balsamic; taste aromatic, bitter.

JUGLANS.

Juglans. Butternut Bark.

1. The dried bark of the root of *Juglans cinerea* Linné (Fam. *Juglandaceae*) collected in autumn.

2. In quills, curved strips or chip-like pieces 3 to 10 mm. thick; deep chocolate-

brown color on both surfaces and throughout, except for the faint intersecting whitish radial and tangential lines seen on transverse section; outer surface smoothish or somewhat warty, the inner bearing fragments of adhering thin stringy fiber; fracture short, rather weak, slightly fibrous; taste faintly aromatic, bitter, somewhat pungent and acrid.

JUNIPERUS.

Juniper Berries.

1. The carefully dried ripe fruit of *Juniperus communis* Linné (Fam. *Coniferae*). Juniper berries should be kept in air-tight tin or glass containers. Old or insect-infected fruit should not be used.

2. Nearly globular, about 8 mm. in diameter; externally smooth, shining black-brown to purplish-black with a blue-gray bloom, at the apex a three rayed furrow marks the cohesion of the three fleshy bracts forming the pericarp; internally loosely fleshy, greenish-brown, containing numerous large schizogenous cavities; seeds three, triangular ovate, hard, brown, with large uneven oil glands on the surface; odor aromatic; taste sweet, pleasant, terebinthinate, slightly bitter.

3. Ash not more than 5 percent.

4. Sections examined under the microscope exhibit a pericarp consisting of an epiderm of a single row of rounded polygonal cells filled with a brown granular substance, at the sutures of the bracts these become blunt papillae, a hypoderm of 2 or 3 rows of brown-red, wide collenchyma thickened at the angles; the fleshy portion (mesophyl) composed of loose irregular parenchyma with large oval canals and traversed by fibro-vascular bundles with areolated fibers; a sclerenchymatous ring of 6 to 8 rows of very thick cells with pitted walls many enclosing prismatic crystals of calcium oxalate; the seed-testa shows a layer of 2 to 10 rows of stone cells with radial markings on the walls and each enclosing a polygonal crystal of calcium oxalate; endosperm and embryo rich in fat and aleurone.

LAC VACCINUM.

Cow's Milk.

The fresh whole milk, complying with the legal standard, of the domestic cow *Bos taurus* Linné (Fam. *Bovidae*.)

MENYANTHES.

Menyanthes Leaves.

Buckbean. Marsh Trefoil.

1. The dried leaves of *Menyanthes trifoliata* Linné (Fam. *Menyanthaceae*).

2. Glabrous; petioles 10 to 15 cm. long, stout but soft and weak, the base more or less sheathed with broad, thin and membranaceous, somewhat translucent stipules; blade ash-green, trifoliate; leaflets sessile or very short-petioled 5 to 8 cm. long and usually about two-thirds as broad, obovate, blunt, entire or occasionally coarsely and unequally crenate; odor slight but characteristic; taste decidedly bitter.

3. Ash not more than 10 percent.

OLEUM AURANTII AMARI CORTICIS.

Oil of Bitter Orange Peel.

1. A volatile oil obtained by expression from the fresh peel of the Bitter Orange, *Citrus Aurantium* Linné *subspecies amara* Linné (Fam. *Rutaceae*). It should be kept in small amber-colored well-stoppered bottles, in a cool place. Oil that has developed a terebinthinate odor should not be dispensed.

2. A pale yellow liquid, having the characteristic, aromatic odor of orange and an aromatic somewhat bitter taste.

3. Soluble in four volumes of Alcohol, the solution should be neutral to litmus paper; also soluble in all proportions in Absolute Alcohol and in an equal volume of Glacial Acetic Acid.

4. Specific gravity: 0.846 to 0.854 at 25° C.

5. Its optical rotation dextrogyrate from 92° to 94° in a 100 mm. tube at 25° C.

6. Introduce 50 cc. of Oil of Bitter Orange Peel into a 200 cc. three bulb, fractionating flask. Distil the oil at the rate of 2 cc. per minute until 5 cc. of distillate has been collected. The angle of rotation of this distillate of 10 percent of the oil, should be equal to or slightly higher than that of the sample before distillation.

OLEUM AURANTII FLORUM.

Oil of Orange Flowers. Oil of Neroli.

1. A volatile oil distilled from the fresh flowers of the Bitter Orange, *Citrus Aurantium* Linné *subspecies amara* Linné (*Citrus vulgaris* Risso, *Citrus Bigaradia* Risso) (Fam. *Rutaceae*). It should be kept in small amber-colored well-stoppered bottles in a cool place, protected from light.

2. A pale yellow, slightly fluorescent, neut-

ral liquid, having the fragrant odor of orange blossoms and an aromatic, at first sweet then somewhat bitter taste.

3. Specific gravity: 0.868 to 0.875 at 25° C. Optical rotation is dextrogyrate from 1° 30' to 5° in a 100 mm. tube at 25° C.

4. Shaken with a concentrated solution of sodium bisulphate it assumes a permanent purple-red color.

5. Soluble in an equal volume of Alcohol, the solution having a violet fluorescence and a neutral reaction to litmus paper. Soluble in 2 volumes of 80 percent Alcohol, the solution becoming cloudy on further addition of Alcohol of same percentage.

OLEUM BERGAMOTTAE.

Oil of Bergamot.

1. A volatile oil obtained by expression from the rind of the fresh fruit of *Citrus Bergamia* Risso (Fam. *Rutaceae*). It should be kept in small amber-colored well-stoppered bottles in a cool place, protected from light.

2. A green or greenish-yellow liquid, neutral or only faintly acid, having a characteristic fragrant odor and a bitter taste.

3. Specific gravity: 0.875 to 0.880 at 25° C. Optical rotation dextrogyrate from 8° to 24° in a 100 mm. tube at 25° C.

4. Two volumes of the Oil, when mixed with one volume of Alcohol, should give a clear solution and this should not become turbid on the further addition of Alcohol. Soluble in two volumes of 80 percent Alcohol with not more than a slight cloudiness and no separation of oil globules. Soluble in all proportions in Glacial Acetic Acid.

5. If a weighed portion, about 2 gm. of the Oil be evaporated in a tared dish, on a water-bath, until the odor has completely disappeared, a soft green, homogeneous residue should be left, amounting to not more than 6 percent of the Oil (fixed oils).

6. To 2 gm. of Oil of Bergamot add 10 cc. of alcoholic potassium hydroxide, V. S., evaporate to dryness and incinerate. Extract the ash with water and acidify with diluted nitric acid, no cloudiness should be produced on addition of silver nitrate T. S. (Chlorinated Compounds).

7. To 2 gm. of Oil of Bergamot add 20 cc. of half-normal alcoholic potassium hydroxide V. S. and heat the mixture in a flask on a water-bath filled with boiling water under a reflux condenser for a half hour. Cool the

mixture and add 100 cc. Distilled Water and titrate with half-normal sulphuric acid V. S., using phenolphthalein as indicator, not more than 12.6 cc. of acid should be required, indicating a minimum content of 36 percent of ester, calculated as linalyl acetate, in the oil.

OLEUM MYRCIAE.

Oil of Myrcia. Oil of Bay.

1. A volatile oil distilled from the leaves of *Pimenta acris* Wight (Fam. *Myrtaceae*). It should be kept in small well-stoppered amber-colored bottles, in a cool place, protected from light.

2. A yellow or brownish-yellow liquid having a pleasant aromatic odor and a pungent spicy taste.

3. Specific gravity: 0.965 to 0.985 at 25° C. Optical rotation levorotatory from 2° to 6° in a 100 mm. tube.

4. With an equal volume of Alcohol, Glacial Acetic Acid, or Carbon Disulphide, it yields slightly turbid solutions. The alcoholic solution is slightly acid to litmus paper.

5. When mixed with an equal volume of a concentrated solution of sodium hydrate, it forms a semi-solid mass.

6. If 2 drops of the Oil be dissolved in 4 cc. of alcohol, and a drop of ferric chloride T. S. be added, a light green color will be produced; and if the same test be made with a drop of diluted ferric chloride T. S., prepared by diluting the test solution with four times its volume of water, a light bluish coloration will be produced, which soon disappears.

7. To 3 drops of the Oil, contained in a small test-tube, add 3 drops of sulphuric acid, cork the test-tube and allow the mixture to stand for half an hour, a resinous mass should be obtained. On adding to this mass 4 cc. of diluted alcohol, vigorously shaking the mixture, and gradually heating on a water-bath to the boiling point, the liquid should remain nearly colorless, and should not acquire a red or purplish-red color (distinction from oil of pimenta and oil of cloves).

8. Shake 1 cc. of the Oil with 20 cc. of hot water, the water should not give more than a scarcely perceptible acid reaction with litmus paper.

9. If, after cooling, the liquid in the test above be passed through a wet filter, the clear filtrate should produce, with a drop of ferric

chloride T. S., only a transient grayish-green, but not a blue or violet, color (absence of phenol).

OVUM GALLINACEUM.

Hen's Egg.

The recently laid egg of the hen *Gallus domesticus* Temminck (Fam. *Phasianideae*).

PASSIFLORA.

Passion Flower. Passion Vine.

1. The dried herbage of *Passiflora incarnata* Linné (Fam. *Passifloraceae*) collected after some of the berries have matured.

2. Stems glabrous or slightly pubescent above, striate, 6 to 8 mm. in diameter, of variable length, woody, hollow, the cavity about one-half the diameter; bark very thin, greenish or purplish; wood very porous and bordered on the inner side by a thin layer of pith; fracture uneven, of the stem smooth, of the bark coarsely fibrous.

3. Leaves more or less broken in drying, rather thick, glabrous or often pubescent, nearly orbicular in outline, base cordate, deeply 3 to 5 lobed, lobes ovate, acute, finely serrate, petioles 1 to 5 cm. long with 2 glands near the summit. Tendrils numerous and closely coiled.

4. Flowers solitary, axillary, peduncles as long as the petioles, usually 3 bracted; calyx cup-shaped 4-5 lobes, lobes linear, imbricated, cuspidate, corona purplish; petals 4-5 dirty yellow; ovary oblong, stalked; stamens monadelphous in a tube about the stalk of the ovary, separated above, anthers narrow, versatile.

5. Fruit 4 to 5 cm. long, an ovid many-seeded berry; externally green or yellow, shriveled and wrinkled; seeds flat, ovate, yellowish to brown arilled.

6. Taste and odor slight.

7. Ash not over 12 percent.

PUMEX.

Pumice.

1. A substance of volcanic origin, consisting chiefly of complex silicates of aluminum, potassium and sodium.

2. Very light, hard, rough, porous gray masses or a gritty, gray-colored powder.

3. Permanent in the air, odorless and tasteless. The dry masses usually float on water.

4. Boil 10 gm. of Pumice with 50 cc. distilled water for one-half hour, adding water from time to time to maintain approximately the original volume and filter; the filtrate

should be neutral to litmus paper, and one-half of this filtrate when evaporated and dried at 110° C. should yield not more than 0.01 gm. residue (*limit of soluble substances*). The remaining half of the filtrate after slightly acidulating with hydrochloric acid should not yield a blue color with Potassium Ferrocyanide T. S. (absence of iron).

5. Boil 1 gm. with 25 cc. diluted hydrochloric acid for one-half hour, adding water from time to time to maintain approximately the original volume, then filter the liquid; the filtrate should yield upon evaporating to dryness, igniting and quickly weighing, not more than 0.05 gm. of residue.

SAMBUCUS.

Sambucus. Elder Flowers.

1. The air dried flowers of *Sambucus canadensis* Linné or of *Sambucus nigra* Linné (Fam. *Caprifoliaceae*) separated from the peduncles and pedicels.

2. Small, about 2 to 3 mm. broad, shriveled; calyx superior, five lobed; corolla cream colored to brownish-yellow, rotate, flat or slightly campanulate, regularly five lobed; stamens five inserted at the base of the corolla and alternating with its lobes, filaments slender, anthers oblong, yellow; pollen ellipsoidal or tetrahedral and rounded, covered with finely punctate markings and three parallel longitudinal slits; taste slightly bitter; odor faintly sweet and aromatic.

3. Ash white and not more than 8 percent.

SENECIO.

Senecio. Life Root.

1. The dried overground portions of *Senecio aureus* Linné (Fam. *Compositae*) gathered when flowering.

2. Stems 3 to 6 dm. long, if entire bearing a basal rosette of leaves; sparingly clothed with successively smaller leaves and bearing at the summit several yellow heads in a loose corymb, white floccose when young, but mostly glabrous when in flower; radical leaves on long slender petioles, mostly of the rounded form 5 to 7 cm. broad, the base often cordate, the summit rounded, the margin crenate-dentate; stem-leaves gradually changing from the shape of the radical leaves to lyrate pinnate, then pinnatifid and sessile, and at length clasping, oblong and incised; heads slender peduncled, 12 to 25 mm. broad, the lance-linear involucrel scales in about 2 series, closely appressed, rays about 10,

bright-yellow, disk flowers very numerous, small, bearing a glabrous akene and a white pappus; odor characteristically aromatic; taste bitter, slightly astringent and distinctly acid and pungent.

STRONTII CARBONAS.

Strontium Carbonate.

1. It should contain at least 99 percent of Strontium Carbonate ($\text{Sr CO}_3 = 147.62$).

2. A white powder, odorless and tasteless.

3. Insoluble in water, soluble with effervescence in diluted hydrochloric, nitric or acetic acids. Addition of diluted sulphuric acid to these solutions produces a white precipitate.

4. 1 gm. should yield a clear solution with 10 cc. of diluted hydrochloric acid (*sulphate*).

5. 10 cc. of a 1:100 solution, solution being effected by a slight excess of nitric acid added to the water, should not become more than slightly opalescent at once on adding silver nitrate T. S. (limit of *chloride*).

6. Dissolve 1 gm. in water by means of a slight excess of acetic acid, and dilute to 100 cc. On adding to 10 cc. of this solution 5 drops of potassium dichromate T. S. no turbidity should develop within five minutes (limit of *barium*).

7. .5 gm. dissolved in diluted hydrochloric acid should not respond to the U. S. P. Time Limit Test for *heavy metals*.

8. Shake 2 gm. with 25 cc. of water and filter, on evaporation of the filtrate and drying the residue at 100°C . it should weigh not more than 0.01 gm. (limit of *soluble substances*).

9. Dissolve about 1.5 gm. (accurately weighed) in 30 cc. of hydrochloric acid V. S. and titrate the excess of acid with sodium hydroxide V. S., using methyl orange as indicator. Each cc. of normal acid consumed is equivalent to 0.07381 gm. strontium carbonate.

SUCCUS CITRI.

Lime Juice.

1. The expressed juice of the ripe fruit of *Citrus medica*, var. *acida* Linné (Fam. *Rutaceae*). 100 cc. should contain from 5 to 10 gm. of total acids, calculated as crystallized citric acid.

2. A clear or slightly turbid, pale yellow or yellowish-green liquid, having the characteristic odor and taste of limes.

3. Specific gravity: 1.025 to 1.040 at 25°C .

4. To 5 cc. of Lime Juice add 20 cc. solu-

tion of potassium hydroxide and heat in a 100 cc. flask together with 0.5 gm. of granular aluminum or aluminum foil on a water bath for 10 minutes, no odor of ammonia should be noticeable at any time during the heating (absence of *nitrates*).

5. If .1 cc. of barium chloride T. S. be added to 5 cc. of clear filtered Lime Juice, only a slight turbidity should be produced after standing two minutes (limit of *sulphates*).

6. If .1 cc. of nitric acid followed by .1 cc. of silver nitrate T. S. be added to 5 cc. clear filtered Lime Juice, only a slight opalescence should be produced after standing two minutes (limit of *chlorides*).

7. If 5 cc. each of sulphuric acid, alcohol and Lime Juice be heated, no odor of acetic ether should be developed (limit of *acetates*).

8. Add 1 cc. of an aqueous solution of potassium acetate (1 to 3) to 5 cc. of filtered Lime Juice and then add to the mixture alcohol in excess, a slight cloudiness may occur but no crystalline precipitate should be formed within 15 minutes (limit of *tartrates*).

9. Upon evaporation and ignition until free from carbon, Lime Juice should not leave more than 0.5 percent of ash. The ash from 5 cc. of lime juice when dissolved in a few drops of nitric acid and diluted with water should show not more than traces of phosphate when tested with ammonium molybdate T. S.

10. Lime Juice should contain not more than 0.04 percent of sulphurous acid (SO_2) when tested by the method of the U. S. P. IX Revision for determining SO_2 in gelatin.

11. Upon distilling 200 cc. of Lime Juice with excess of calcium hydroxide until 100 cc. of distillate is obtained, the specific gravity of the distillate should indicate not more than 2 percent of absolute alcohol by volume in the distillate or 1 percent in the lime juice (limit of *alcohol*).

12. Shake 10 cc. of Lime Juice acidified with sulphuric acid with 25 cc. of ether, separate the ether and evaporate it to dryness, the residue should not be crystalline and, when dissolved in about 3 cc. of water, should not produce a purplish color on addition of one drop of ferric chloride T. S. (*salicylic acid*).

13. Shake 10 cc. of Lime Juice acidified with sulphuric acid with 25 cc. of ether and

separate the ether and evaporate it to dryness, the residue should not be crystalline and, when dissolved in 3 cc. of water and carefully neutralized with ammonia water, should not produce a flesh colored precipitate on the addition of one drop of ferric chloride T. S. (*benzoic acid*).

14. Dilute 20 cc. of Lime Juice with 100 cc. of water, filter, if necessary, and add 4 cc. of diluted hydrochloric acid. Into this solution immerse a piece of wool which has been boiled in a very dilute solution of potassium hydroxide T. S. and then washed in water, and boil for 5 to 10 minutes. Remove the wool, wash thoroughly in water, and boil in a very dilute solution of hydrochloric acid. After washing out the acid with water, boil with about 200 cc. of 2 percent solution of ammonium hydroxide until the color on the wool, if any, is dissolved. Remove the wool, and add a slight excess of hydrochloric acid to the solution. Immerse in this solution another piece of wool which has been treated with potassium hydroxide solution in the same manner as the first. Boil. This second piece of wool should not be dyed (*aniline dyes*).

SUCCUS POMORUM.

Fresh Apple Juice.

The freshly expressed juice of sound, ripe, sour apples, the fruit of cultivated varieties of *Pyrus malus* Linné (Fam. *Rosaceae*).

TRIFOLIUM.

Trifolium. Red Clover Blossoms.

1. The dried flowering heads of *Trifolium pratense* Linné (Fam. *Leguminosae*).

2. Heads ovoid with rounded summit, mostly 12 to 25 mm. long and broad, shriveled, purplish and more or less brown from drying, consisting of many small papilionaceous flowers, crowded together and clothed at the base with broad, pointed, ciliate stipules of a pale green color with darker veins, and which may or may not be accompanied by diminutive trifoliolate leaves. Flowers 12 to 15 mm. long; calyx about two-thirds the length of the corolla, the pilose campanulate tube a little longer than the four short nearly equal teeth and shorter than the narrower fifth one, calyx-teeth subulate, tapering; petals united into a tube below, the standard longer than the wings but when recurved appears shorter; stamens diadelphous (9 and 1); style slender; odor faintly aromatic

and somewhat tea-like; taste sweetish, then slightly bitter.

TRILLIUM.

Beth Root.

1. The dried rhizome of *Trillium erectum* Linné (Fam. *Liliaceae*) and closely allied species of *Trillium*.

2. Rhizome oblique, globular, oblong or obconic, truncate below, terminated by a small bud surrounded by a sheath of scarious leaf bases, annulated by leaf scars and fissured by stem scars; .6 to 2.5 cm. wide by .6 to 5 cm. long, more or less compressed laterally, rootlet scars in several concentric rows on the under side in the upper portions; externally yellowish to reddish-brown; internally of a pale yellow; fracture somewhat uneven with a more or less spongy appearance; odor distinct; taste bitter and acrid with a sensation of warmth in the throat and when chewed causing an increased flow of saliva.

3. Ash not more than 5 percent.

VERBENA.

Verbena. Blue Vervain.

1. The dried overground portion of *Verbena hastata* Linné (Fam. *Verbenaceae*) collected when flowering.

2. In broken or cut pieces of stout, obtusely quadrangular stems which bear opposite leaves and terminal interrupted panicles of spikes of blue flowers; rough, hairy throughout, except the corolla, the tube of which is externally pubescent; petioles 12 to 25 mm. long; leaves 6 to 12 cm. long, lanceolate, acuminate and acute, coarsely and sharply serrate, or the lower hastately lobed, deep green above, paler beneath, conspicuously veined; spikes erect, cylindraceous, densely flowered, each flower subtended by a lanceolate acute bract; calyx adherent, a little more than half the length of the corolla, tubular, 5 lobed, the mouth slightly oblique; corolla small, bright blue, salver-form, sub-equally 5 lobed; stamens adnate to the corolla tube, included, didynamous; fruit dividing at maturity into four one-seeded parts; odor heavy, especially if dampened; taste bitter and disagreeable.

VITELLUM OVI RECENS.

Fresh Egg Yolk.

The freshly separated yolk of recently laid eggs of the hen *Gallus domesticus* Temminck (Fam. *Phasianidae*).