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(Regulasiekoerant No. 431), gedateer 31 Desember 1964.

DEPARTEMENT VAN LANDBOU-EKONOMIE
EN -BEMARKING.

No. R. 2152.] [31 Desember 1964.]

GRADE EN MANIER VAN GRADERING VAN
PRODUSENTE SE ONGEDOPE EN GEDOPE
GRONDBOONTJIES EN GEDOPE GRONDBOONTJIES
WAT VIR OLIEPERSDOELEINDES
BESTEM IS.

Die Staatspresident het, kragtens die bevoegdheid hom verleen by artikel *drie-en-veertig* van die Bemerkingswet, 1937 (Wet No. 26 van 1937), soos gewysig, die regulasies wat in die Bylae hiervan uiteengesit is, uitgevaardig met betrekking tot die grade en die manier van gradering van grondbontjies, 'n beheerde produk onder genoemde Wet, ter vervanging, met ingang van die eerste dag van Februarie 1965 in die geval van produsente se ongedope en gedope grondbontjies, en met ingang van die eerste dag van Mei 1965 in die geval van gedope grondbontjies wat vir oliepersdoeleindes bestem is, van die regulasies gepubliseer by Goewermentskennisgewing No. R. 66 van 11 Januarie 1963, soos gewysig deur Goewermentskennisgewing No. R. 616 van 24 April 1964.

BYLAE.

DEEL I.

WOORDOMSKRYWING.

Tensy dit in stryd is met die samehang, beteken in hierdie regulasies—

- (i) "ander tipe", met betrekking tot enige monster grondbontjies, enige ander tipes as die tipe van die klas waaruit daardie monster hoofsaaklik bestaan; (xv)
- (ii) „beskadigde pitte”, grondbontjiepitte waarvan die saadhuid gedeeltelik of heeltemal afgekom het: Met dien verstande dat grondbontjiepitte waarvan die saadhuid op nie meer as twee plekkies van nie meer as 2 millimeter vierkant elk beskadig is nie, nie as beskadigde pitte beskou sal word nie; (iv)
- (iii) „Gebreekte en oop grondbontjies” grondbontjies waarvan die doppe gebreek of op enige wyse oop is; (ii)
- (iv) „gesplete pitte”, grondbontjiepitte waarvan die saadhuid sigbaar los of gekraak is en grondbontjiepitte waarvan gedeeltes afgebreek het en die afsonderlike helftes en gedeeltes van afsonderlike helftes van grondbontjiepitte wat nie deur die ¼-duim rondegatsif gaan nie; (xix)

GOVERNMENT NOTICES.

Republication of *Government Gazette Extraordinary* No. 986 (Regulation Gazette No. 431), dated 31st December, 1964.

DEPARTMENT OF AGRICULTURAL ECONOMICS
AND MARKETING.

No. R. 2152.] [31 December 1964.]

GRADES AND THE MANNER OF GRADING OF
PRODUCERS' UNSHELLED AND SHELLED
GROUNDNUTS, A REGULATED PRODUCT UNDER THE
SAID ACT, IN SUBSTITUTION, WITH EFFECT FROM THE FIRST DAY OF
FEBRUARY, 1965, IN THE CASE OF PRODUCERS' UNSHELLED AND
SHELLED GROUNDNUTS, AND WITH EFFECT FROM THE FIRST DAY OF
MAY, 1965, IN THE CASE OF SHELLED GROUNDNUTS INTENDED FOR
OIL EXPRESSING PURPOSES.

The State President has, under the powers vested in him by section *forty-three* of the Marketing Act, 1937 (Act No. 26 of 1937), as amended, made the regulations set out in the Schedule hereto prescribing grades and the manner of grading of groundnuts, a regulated product under the said Act, in substitution, with effect from the first day of February, 1965, in the case of producers' unshelled and shelled groundnuts, and with effect from the first day of May, 1965, in the case of shelled groundnuts intended for oil expressing purposes, for the regulations published under Government Notice No. R. 66 of the 11th January, 1963, as amended by Government Notice No. R. 616 of the 24th April, 1964.

SCHEDULE.

PART I.

DEFINITIONS.

In these regulations, unless inconsistent with the context, the expression—

- (i) "blemished kernels" shall mean whole groundnut kernels which show rusty, blackish, purplish and/or any streaks or blotches in or on the testae: Provided that where the discoloration is limited to the embryo and/or the veins such groundnut kernels shall not be regarded as blemished; (v)
- (ii) "broken and open groundnuts" shall mean groundnuts of which the shells have been broken or which are open in any way; (iii)
- (iii) "chips" shall mean the smaller parts of groundnut kernels which pass through the ¼-inch round-hole screen; (xviii)
- (iv) "damaged kernels" shall mean groundnut kernels of which the testae have split off partially or entirely: Provided that groundnut kernels of which the testae have been damaged at not more than two spots of not more than 2 millimetres square each shall not be regarded as damaged kernels; (ii)

- (v) „gevlekte pitte”, heel grondboontjiepitte wat roesagtige, swarterige, persagtige en/of enige strepe of vlekke in of op die saadhuid het: Met dien verstande dat waar die verkleuring tot die kiempunt en/of are beperk is, sodanige grondboontjiepitte nie as gevlekte pitte beskou sal word nie; (i)
- (vi) „grondbesmeerde grondboontjies”, grondboontjies met grond wat oor meer as die helfte van die oppervlakte aan die doppe vaskleef; (xvii)
- (vii) „grondboontjies”, die vrugte van *Arachis hypogaea*; (xi)
- (viii) „grondboontjies, klas A”, grondboontjies van die Virginia Bunch-tipe wat nie meer as 3 persent per gewig van enige ander tipe grondboontjie bevat nie; (vi)
- (ix) „grondboontjies, klas B”, grondboontjies van die Natal Common-tipe wat nie meer as 3 persent per gewig van enige ander tipe grondboontjie bevat nie; (vii)
- (x) „grondboontjies, klas C”, grondboontjies wat nie grondboontjies van klasse A, B en D is nie; (viii)
- (xi) „grondboontjies, klas D”, grondboontjies van die bruin Egyptian Giant-tipe met langwerpige pitte en ander tipes grondboontjies met pitte van min of meer dieselfde grootte wat nie meer as 10 persent per gewig grondboontjies van klasse A en/of B bevat nie; (ix)
- (xii) „insekte”, die graankalander (*Sitophilus granarius* Linn.), die ryskalander (*Sitophilus oryzae* Linn.), die Franse koringmot (*Sitotroga cerealella* Oliv.), die Mediterreense meelmot (*Ephistia kuehniella* Zell.), of die Indiese meelmot (*Plodia interpunctella*); (xii)
- (xiii) „kasteroliesaad”, die saad van *Ricinus Spp.*; (v)
- (xiv) „ongedopte grondboontjies”, grondboontjies of gedeeltes van grondboontjies wat pitte bevat; (xx)
- (xv) „ongesond”, die toestand van grondboontjiepitte en gedeeltes van grondboontjiepitte wat galsterig, bederf, krytagtig of deur hitte of insekte beskadig of uitgeloop is of wat inwendig of wanneer die saadhuid verwyder word, geel, pers, bruin, rooi of enige verkleuring toon, en sluit in skimmelbesmette pitte; (xxi)
- (xvi) „pitte”, die saad van grondboontjies; (xiii)
- (xvii) „skimmelbesmette pitte”, grondboontjiepitte en gedeeltes van grondboontjiepitte waarop uitwendig en/of inwendig skimmelgroeï met die blote oog waarneembaar is, en grondboontjiepitte wat as gevolg van skimmelgroeï beskadig of verkleur is; (xiv)
- (xviii) „stukkies”, die kleinere gedeeltes van grondboontjiepitte wat deur die $\frac{1}{4}$ -duim-rondegatsif gaan; (iii)
- (xix) „verkrimpte pitte”, heel grondboontjiepitte wat 'n verkrimpte en/of gegroefde voorkoms het: Met dien verstande dat heel grondboontjiepitte waarvan die are opgehewe en/of geriffel is, nie as verkrimpte pitte beskou sal word nie; (xvi)
- (xx) „vreemde voorwerpe”, stingels, wortels, doppe, grond en ook enige ander voorwerpe as grondboontjies; (x)
- (xxi) „vuilgesmeerde pitte”, heel grondboontjiepitte wat in so 'n mate vuilgesmeer is dat dit hul voorkoms beïnvloed; (xviii)
- (xxii) „ $\frac{3}{4}$ -duim by $\frac{19}{64}$ -duim-gleufsif”, 'n handsif, 16 duim by 9 duim groot, met gleuwe van $\frac{3}{4}$ duim by $\frac{19}{64}$ duim; (xxii)
- (xxiii) „ $\frac{3}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif”, 'n handsif, 16 duim by 9 duim groot, met gleuwe van $\frac{3}{4}$ duim by $\frac{17}{64}$ duim; (xxiii)
- (xxiv) „ $\frac{3}{4}$ -duim by $\frac{15}{64}$ -duim-gleufsif”, 'n handsif, 16 duim by 9 duim groot, met gleuwe van $\frac{3}{4}$ duim by $\frac{15}{64}$ duim; (xxiv)
- (v) “castor seed” shall mean the seed of *Ricinus Spp.*; (xiii)
- (vi) “class A groundnuts” shall mean groundnuts of the Virginia Bunch type containing not more than 3 per cent by weight of any other type of groundnut; (viii)
- (vii) “class B groundnuts” shall mean groundnuts of the Natal Common type containing not more than 3 per cent by weight of any other type of groundnut; (ix)
- (viii) “class C groundnuts” shall mean groundnuts which are not groundnuts of classes A, B and D; (x)
- (ix) “class D groundnuts” shall mean groundnuts of the brown, long-kernelled Egyptian Giant type and other types of groundnuts with kernels of more or less the same size which do not contain more than 10 per cent by weight of classes A and/or B groundnuts; (xi)
- (x) “foreign matter” shall mean stems, roots, shells, soil and also any material other than groundnuts; (xx)
- (xi) “groundnuts” shall mean the fruits of *Arachis hypogaea*; (vii)
- (xii) “insects” shall mean the grain weevil (*Sitophilus granarius* Linn.), the rice weevil (*Sitophilus oryzae* Linn.), the Angoumois grain moth (*Sitotroga cerealella* Oliv.), the Mediterranean meal moth (*Ephistia kuehniella* Zell.), or the Indian meal moth (*Plodia interpunctella*); (xii)
- (xiii) “kernels” shall mean the seeds of groundnuts; (xvi)
- (xiv) “mould-infested kernels” shall mean groundnut kernels and parts of groundnut kernels on which external or internal mould growth is visible to the naked eye, and groundnut kernels which are damaged or discoloured as the result of mould growth; (xvii)
- (xv) “other type” in relation to any sample of groundnuts, shall mean any type other than the type of the class of which that sample mainly consists; (i)
- (xvi) “shrivelled kernels” shall mean whole groundnut kernels which have a shrivelled and/or grooved appearance: Provided that whole groundnut kernels of which the veins are raised and/or crinkled, shall not be regarded as shrivelled kernels; (xix)
- (xvii) “soiled groundnuts” shall mean groundnuts with soil adhering to more than half the surface of the shells; (vi)
- (xviii) “soiled kernels” shall mean whole groundnut kernels which are soiled to the extent that their appearance is affected; (xxi)
- (xix) “split kernels” shall mean groundnut kernels of which the testae are visibly loose or cracked and groundnut kernels of which parts have broken off and the separated halves and parts of separated halves of groundnut kernels which do not pass through the $\frac{1}{4}$ -inch round-hole screen; (iv)
- (xx) “unshelled groundnuts” shall mean groundnuts or parts of groundnuts containing kernels; (xiv)
- (xxi) “unsound” shall mean the condition of groundnut kernels and parts of groundnut kernels which are rancid, decayed, chalky or damaged by heat insects or sprouted or showing internally or when the testae are removed, yellow purple, brown, red or any discoloration, and includes mould infested kernels; (xv)
- (xxii) “ $\frac{3}{4}$ -inch by $\frac{19}{64}$ -inch screen” shall mean a hand-screen 16 inches by 9 inches having $\frac{3}{4}$ -inch by $\frac{19}{64}$ -inch slotted perforations; (xxii)
- (xxiii) “ $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch screen” shall mean a hand-screen 16 inches by 9 inches having $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch slotted perforations; (xxiii)
- (xxiv) “ $\frac{3}{4}$ -inch by $\frac{15}{64}$ -inch screen” shall mean a hand-screen 16 inches by 9 inches having $\frac{3}{4}$ -inch by $\frac{15}{64}$ -inch slotted perforations; (xxiv)

- (xxv) „ $\frac{1}{4}$ -duim-rondegatsif”, 'n handsif, 16 duim by 9 duim groot, met ronde gate $\frac{1}{4}$ duim in deursnee; (xxv)
- (xxvi) „ $\frac{17}{64}$ -duim-rondegatsif”, 'n handsif, 16 duim by 9 duim groot, met ronde gate $\frac{17}{64}$ duim in deursnee; (xxvi)
- (xxvii) „ $\frac{23}{64}$ -duim-rondegatsif”, 'n handsif, 16 duim by 9 duim groot, met ronde gate $\frac{23}{64}$ duim in deursnee. (xxvii)

DEEL II.

GRADE EN MANIER VAN GRADERING VAN PRODUSENTE SE ONGEDOPTE GRONDBOONTJIES.

1. Ongedopte grondboontjies van klasse A, B, C en D word behoudens die bepalings van regulasie 2 hiervan, gegradeer ooreenkomstig die vereistes vir die onderskeie grade, soos in paragrawe (a) tot (d) uiteengesit:

(a) Ongedopte grondboontjies van klas A moet soos volg gegradeer word:—

- (xxv) “ $\frac{1}{4}$ -inch round-hole screen” shall mean a hand-screen 16 inches by 9 inches with round perforations $\frac{1}{4}$ -inch in diameter; (xxv)
- (xxvi) “ $\frac{17}{64}$ -inch round-hole screen” shall mean a hand-screen 16 inches by 9 inches with round perforations $\frac{17}{64}$ -inch in diameter; (xxvi)
- (xxvii) “ $\frac{23}{64}$ -inch round-hole screen” shall mean a hand-screen 16 inches by 9 inches with round perforations $\frac{23}{64}$ -inch in diameter. (xxvii)

PART II.

GRADES AND MANNER OF GRADING OF PRODUCERS' UNSHELLED GROUNDNUTS.

1. Unshelled groundnuts of classes A, B, C and D shall, subject to the provisions of regulation 2 hereof, be graded in accordance with the requirements specified for the respective grades in paragraphs (a) to (d):—

(a) Unshelled groundnuts of class A shall be graded as follows:—

Graad No.	Minimum per-sentasië per gewig pitte vereis bo die $\frac{1}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif en afsonderlike helftes van pitte op die $\frac{17}{64}$ -duim rondegatsif.	Maksimum persentasie per gewig toegelaat van—					
		Uitgedopte pitte.	Gebreekte en oop en grond-besmeerde grondboontjies.	Gevlekte, verkrumpte en ongesonde pitte bo die $\frac{1}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif met nie meer as 10 persent ongesonde pitte nie.	Ongesonde pitte.	Pitte onder $\frac{1}{4}$ -duim-rondegatsif.	Pitte waarvan die saadhuid maklik afkom.
OS.....	85	1	15	10	—	—	5
1.....	75	2	20	20	—	—	10
2.....	65	3	30	30	—	—	10
3.....	—	5	—	—	10	10	10

Grade No.	Minimum Percentage by Weight of Kernels required above the $\frac{1}{4}$ -inch by $\frac{17}{64}$ -inch Screen and Separated Halves of Kernels on the $\frac{17}{64}$ -inch Round-Hole Screen.	Maximum Percentage by Weight allowed of—					
		Shelled Kernels.	Broken and Open and Soiled Ground-nuts.	Blemished, Shrivelled and Unsound Kernels above the $\frac{1}{4}$ -inch by $\frac{17}{64}$ -inch Screen, with not more than 10 per cent of Unsound Kernels.	Unsound Kernels.	Kernels below $\frac{1}{4}$ -inch Round-Hole Screen.	Kernels of which the Testae split off readily.
OS.....	85	1	15	10	—	—	5
1.....	75	2	20	20	—	—	10
2.....	65	3	30	30	—	—	10
3.....	—	5	—	—	10	10	10

(b) Ongedopte grondboontjies van klasse B en C moet soos volg gegradeer word:—

(b) Unshelled groundnuts of classes B and C shall be graded as follows:—

Graad No.	Minimum per-sentasië per gewig pitte vereis bo die $\frac{1}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif en afsonderlike helftes van pitte op die $\frac{17}{64}$ -duim rondegatsif.	Maksimum persentasie per gewig toegelaat van—					
		Uitgedopte pitte.	Gebreekte en oop en grond-besmeerde grondboontjies.	Gevlekte, verkrumpte en ongesonde pitte bo die $\frac{1}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif met nie meer as 10 persent ongesonde pitte nie.	Ongesonde pitte.	Pitte onder $\frac{1}{4}$ -duim-rondegatsif.	Pitte waarvan die saadhuid maklik afkom.
OS.....	85	1	15	5	—	—	5
1.....	75	2	25	10	—	—	10
2.....	65	3	35	20	—	—	10
3.....	—	5	—	—	10	10	10

Grade No.	Minimum Percentage by Weight of Kernels required above the $\frac{3}{16}$ -inch by $\frac{17}{64}$ -inch Screen and Separated Halves of Kernels on the $\frac{17}{64}$ -inch Round-Hole Screen.	Maximum Percentage by Weight allowed of—				
		Shelled Kernels.	Broken and Open and Soiled Groundnuts.	Blemished, Shrivelled and Unsound Kernels above the $\frac{3}{16}$ -inch by $\frac{17}{64}$ -inch Screen, with not more than 10 per cent of Unsound Kernels.	Unsound Kernels.	Kernels below $\frac{3}{16}$ -inch Round-Hole Screen.
OS.....	85	1	15	5	—	5
1.	75	2	25	10	—	10
2.	65	3	35	20	—	10
3.	—	5	—	—	10	10

(c) Ongedopte grondboontjies van klas D moet soos volg gegradeer word:—

Graad No.	Minimum persentasie per gewig heel en gesplete pitte vereis bo die $\frac{3}{16}$ -duim by $\frac{19}{64}$ -duim-gleufsif en afsonderlike helftes van pitte op die $\frac{22}{64}$ -duim rondegatsif.	Maksimum persentasie per gewig toegelaat van—		
		Uitgedopte pitte	Gebreekte en oop en grondbesmeerde grondboontjies.	Ongesonde pitte.
1.	60	3	20	3
2.	50	5	35	5

(d) Ongedopte grondboontjies wat aan die vereistes vir enigeen van die grade in paragrawe (a), (b) en (c) genoem, voldoen, maar wat per gewig meer as 10 persent pitte bevat waarvan die saadhuid maklik afkom, word nie in die een of ander van daardie grade geplaas nie, maar word as "Songedroogde" grondboontjies gegradeer.

(e) Ongedopte grondboontjies wat aan die vereistes vir enigeen van die grade in paragrawe (a), (b), (c) en (d) genoem, voldoen, maar wat meer as 25 skimmelbesmette pitte per 5 pond pitte bevat, word nie in die een of ander van daardie grade geplaas nie maar word as „Skimmelbesmette” grondboontjies gegradeer.

2. Enige ongedopte grondboontjies wat nie voldoen aan die vereistes vir die een of ander van die grade in regulasie 1 genoem nie, of wat—

- 'n muwwe, suur of enige ander onaangename reuk het; of
- meer as drie persent per gewig vreemde voorwerpe bevat; of
- meer as sewe persent vog bevat; of
- lewende insekte bevat;

is ondergraad.

3. Ondanks anders luidende bepalings in hierdie regulasies vervat, mag grondboontjies van enige van die grade in hierdie Deel genoem, geen kasteroliesaad en/of enige ander giftige sade bevat nie.

4. By die bepaling van die grade van ongedopte grondboontjies soos in regulasie 1 genoem, in enige besondere besending, en vir die doel van regulasie 2, moet die volgende metodes gevolg word:—

(a) *Neem van monsters.*—Monsters van minstens 20 lb. word verkry deur min of meer gelyke hoeveelhede grondboontjies uit minstens vyf persent van die totale aantal sakke in 'n besending te haal en al die hoeveelhede aldus verkry uit sakke met grondboontjies wat oor die algemeen van dieselfde kwaliteit is, met mekaar te meng. Enige sakke waarvan die grondboontjies in enige opsig van die res van die besending verskil, moet opsy gesit en afsonderlik gegradeer word.

(c) Unshelled groundnuts of Class D shall be graded as follows:—

Grade No.	Minimum Percentage by Weight of Whole and Split Kernels required above the $\frac{3}{16}$ -inch by $\frac{19}{64}$ -inch Screen and Separated Halves of Kernels on the $\frac{22}{64}$ -inch Round-hole Screen.	Maximum Percentage by Weight Allowed of—		
		Shelled Kernels.	Broken and Open and Soiled Groundnuts.	Unsound Kernels.
1.	60	3	20	3
2.	50	5	35	5

(d) Unshelled groundnuts conforming to the requirements for any of the grades mentioned in paragraphs (a), (b) and (c), but which contain more than 10 per cent by weight of kernels of which the testae split off readily, shall not be placed in one or other of those grades but shall be graded as "Sundried" groundnuts.

(e) Unshelled groundnuts conforming to the requirements for any of the grades provided for in paragraphs (a), (b), (c) and (d), but which contain more than 25 mould-infested kernels per five pounds of kernels shall not be placed in one or other of those grades but shall be graded as "Mould-infested" groundnuts.

2. Any unshelled groundnuts which do not conform to the requirements for one or other of the grades referred to in regulation 1, or which—

- have a musty, sour or any other objectionable odour; or
- contain more than 3 per cent by weight of foreign matter; or
- contain more than 7 per cent of moisture; or
- contain live insects;

shall be undergrade.

3. Notwithstanding anything to the contrary contained in these regulations, groundnuts of any of the grades set out in this Part shall not contain any Castor seed and/or any other poisonous seeds.

4. To determine the grades of unshelled groundnuts as specified in regulation 1 in any particular consignment, and for the purposes of regulation 2, the following methods shall be followed:—

(a) *Taking of Samples.*—Samples of not less than 20 lb. shall be obtained by taking more or less equal quantities of groundnuts from at least 5 per cent of the total number of bags in a consignment, and by mixing together all the quantities so taken from bags containing groundnuts found to be generally of the same quality. Any bags of which the groundnuts differ in any respect from the rest of the consignment shall be placed aside and graded separately.

(b) *Bepaling van die persentasie vreemde voorwerpe.*—Die persentasie vreemde voorwerpe in ongedopte grondboontjies word bepaal deur 'n monster van minstens 20 lb. verkry op die wyse in paragraaf (a) voorgeskryf, te sif en/of met die hand uit te soek: Met dien verstande dat ingeval grond aan die grondboontjies vaskleef, 'n monster van 200 gram, waaruit ander vreemde voorwerpe verwyder is, van die grondboontjies geneem word om die grond met die hand van die doppe af te vryf. Die persentasie vreemde voorwerpe op dié wyse bepaal word bygetel by die persentasie ander vreemde voorwerpe, uit die groter monster bepaal, en die totaal van die persentasies aldus bepaal, gee die vreemde voorwerpinhoud van die monster.

(c) *Bepaling van die persentasie uitgedopte pitte.*—Die persentasie uitgedopte pitte in ongedopte grondboontjies word bepaal deur 'n monster van minstens 20 lb. ongedopte grondboontjies en uitgedopte pitte verkry op die wyse in paragraaf (a) voorgeskryf, te sif en/of met die hand uit te soek.

(d) *Bepaling van die persentasie gebreekte en oop en grondbesmeerde grondboontjies.*—Die persentasie gebreekte en oop en grondbesmeerde grondboontjies word bepaal deur 200 gram ongedopte grondboontjies van die monster verkry op die wyse in paragraaf (a) voorgeskryf, na verwydering van die uitgedopte pitte en vreemde voorwerpe met die hand uit te soek.

(e) *Uitdop van monster en bepaling van die persentasies heel en gesplete pitte, gevlekte, ongesonde en verkrimpte pitte.*—Die monster ongedopte grondboontjies verkry op die wyse in paragraaf (a) voorgeskryf, word, nadat die vreemde voorwerpe en uitgedopte pitte verwyder is, gedop en die pitte gesuiwer van vreemde voorwerpe. Die pitte word dan met behulp van 'n monsterverdeler deeglik gemeng en verdeel totdat minstens 100 gram pitte beskikbaar is. Honderd gram pitte word dan afgeveeg en moet met die hand uitgesoek word en met behulp van siwwe geskei word in die volgende:—

(a) Vir grondboontjies van klasse A, B en C in—

- (i) heel en gesplete pitte bo die $\frac{3}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif en afsonderlike helftes van pitte op die $\frac{17}{64}$ -duim-rondgatsif;
- (ii) gevlekte, verkrimpte en ongesonde heel en gesplete pitte bo die $\frac{3}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif;
- (iii) pitte onder die $\frac{1}{4}$ -duim-rondgatsif; en
- (iv) ongesonde heel en gesplete pitte.

(b) Vir grondboontjies van klas D in—

- (i) heel en gesplete pitte bo die $\frac{3}{4}$ -duim by $\frac{19}{64}$ -duim-gleufsif en afsonderlike helftes van pitte op die $\frac{22}{64}$ -duim-rondgatsif; en
- (ii) ongesonde heel en gesplete pitte.

(f) *Bepaling van die persentasie pitte waarvan die saadhuid maklik afkom.*—Die persentasie pitte waarvan die saadhuid maklik afkom, word bepaal deur 100 gram uitgedopte pitte verkry op die wyse in paragraaf (e) voorgeskryf, liggies met die hand te vryf en die pitte waarvan die saadhuid maklik afgekom het, met die hand uit te soek.

(g) *Bepaling van die aantal skimmelbesmette pitte.*—Die aantal skimmelbesmette pitte word bepaal deur 5 pond uitgedopte pitte, vry van vreemde voorwerpe, verkry op die wyse in paragraaf (e) voorgeskryf, met die hand uit te soek en enige verdagte pitte word in helftes oopgebreek of oopgesny om inwendige skimmelgroei te bepaal.

(h) *Bepaling van die persentasie vog.*—Die persentasie vog in ongedopte grondboontjies word bepaal deur grondboontjies verkry op die wyse in paragraaf (a) voorgeskryf, uit te dop en die voggehalte van die pitte aldus verkry, te bepaal, volgens die Brown-Duvel-metode of the Marconi-elektriese weerstandsmetode soos in Deel IV voorgeskryf.

(b) *Determining the Percentage of Foreign Matter.*—The percentage of foreign matter in unshelled groundnuts shall be determined by screening and/or hand-picking a sample of at least 20 lb. obtained in the manner prescribed in paragraph (a): Provided that in the event of soil adhering to the groundnuts a sample of 200 grammes, from which other foreign matter has been removed, shall be taken to rub the soil by hand off the shells. The percentage of foreign matter determined in this manner shall be added to the percentage of other foreign matter determined on the larger sample, and the total of the percentages thus determined shall be the foreign matter content of the sample.

(c) *Determining the Percentage of Shelled Kernels.*—The percentage of shelled kernels in unshelled groundnuts shall be determined by screening and/or hand-picking a sample of at least 20 lb. of unshelled groundnuts and shelled kernels obtained in the manner prescribed in paragraph (a).

(d) *Determining the Percentage of Broken and Open and Soiled Groundnuts.*—The percentage of broken and soiled groundnuts shall be determined by hand-picking 200 grammes of unshelled groundnuts of the sample obtained in the manner prescribed in paragraph (a), after removal of the shelled kernels and foreign matter.

(e) *Shelling of Sample and Determining the Percentages of Whole and Split Kernels, Blemished, Unsound and Shrivelled Kernels.*—The sample of unshelled groundnuts obtained in the manner prescribed in paragraph (a) shall, after removal of the foreign matter and shelled kernels, be shelled and foreign matter removed from the kernels. The kernels shall then be thoroughly mixed and divided by means of a sample divider until at least 100 grammes of kernels are available. One hundred grammes of kernels shall be weighed off and shall be hand-picked and separated by means of screens, into the following:—

(a) For groundnuts of classes A, B and C into—

- (i) whole and split kernels above the $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch screen and separated halves of kernels on the $\frac{17}{64}$ -inch round-hole screen;
- (ii) blemished, shrivelled and unsound, whole and split kernels above the $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch screen;
- (iii) kernels below the $\frac{1}{4}$ -inch round-hole screen; and
- (iv) unsound whole and split kernels.

(b) For groundnuts of class D into—

- (i) whole and split kernels above the $\frac{3}{4}$ -inch by $\frac{19}{64}$ -inch screen and separated halves of kernels on the $\frac{22}{64}$ -inch round-hole screen; and
- (ii) unsound whole and split kernels.

(f) *Determining the Percentage of Kernels of which the Testae Split off Readily.*—The percentage of kernels of which the testae split off readily shall be determined by rubbing 100 grammes of shelled kernels obtained in the manner prescribed in paragraph (e), lightly with the hands and by hand-picking the kernels of which the testae have split off.

(g) *Determining the Number of Mould-infested Kernels.*—The number of mould-infested kernels shall be determined by hand-picking 5 pounds of shelled kernels, free from foreign matter, obtained in the manner prescribed in paragraph (e) and any suspect kernels shall be cut or broken into halves to determine internal mould growth.

(h) *Determining the Percentage of Moisture.*—The percentage of moisture in unshelled groundnuts shall be determined by shelling groundnuts obtained in the manner prescribed in paragraph (a) and determining the moisture in the kernels so obtained by either Brown-Duvel method or the Marconi electrical resistance method as prescribed in Part IV.

DEEL III.

PART III.

GRADE EN MANIER VAN GRADERING VAN PRODUSENTE SE GEDOPTE GRONDBOONTJIES EN GEDOPTE GRONDBOONTJIES WAT VIR OLIEPERSDOELEINDES BESTEM IS.

1. Gedopte grondboontjies van klasse A, B, C en D, word, behoudens die bepalings van regulasie 2 hiervan, gegradeer ooreenkomstig die vereistes vir die onderskeie grade soos in paragrawe (a), (b) en (c) uiteengesit:—

(a) Gedopte grondboontjies van klasse A, B en C moet soos volg gegradeer word:—

GRADES AND MANNER OF GRADING OF PRODUCERS' SHELLED GROUNDNUTS AND SHELLED GROUNDNUTS INTENDED FOR OIL EXPRESSING PURPOSES.

1. Shelled groundnuts of the classes A, B, C and D shall subject to the provisions of regulation 2 hereof, be graded in accordance with the requirements specified for the respective grades in paragraphs (a), (b) and (c):—

(a) Shelled groundnuts of classes A, B and C shall be graded as follows:—

Graad No.	Minimum persentasie per gewig pitte vereis bo die $\frac{3}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif.	Minimum persentasie per gewig pitte vereis bo die $\frac{3}{4}$ -duim by $\frac{15}{64}$ -duim-gleufsif.	Maksimum persentasie per gewig toegelaat van—					
			Pitte en stukkie onder die $\frac{1}{4}$ -duim-rondegatsif.	Ongedopte grondboontjies en/of vreemde voorwerpe maar nie meer vreemde voorwerpe as die persentasies in hakkes nie.	Gesplete pitte.	Gevlekte verkrimpte, vuilgesmeerde, beskadigde en ongesonde pitte bo die $\frac{3}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif met nie meer as 4 persent ongesonde pitte nie.	Verkrimpde pitte bo die $\frac{1}{4}$ -duim-rondegatsif.	Ongesonde stukkie, gesplete verkrimpde, vuilgesmeerde, beskadigde en heel pitte.
SS...	85	—	1	2.0 (1.0)	4	15	—	—
S1...	75	—	3	3.5 (1.5)	7	20	—	—
S2...	—	60	8	5.0 (2.0)	15	—	35	4
S3...	—	—	13	6.5 (2.5)	—	—	—	10
S4...	—	—	40	8.0 (3.0)	—	—	—	20
S5...	—	—	—	20.0 (10.0)	—	—	—	30

Grade No.	Minimum Percentage by Weight of Kernels required above the $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch Screen.	Minimum Percentage by Weight of Kernels required above the $\frac{3}{4}$ -inch by $\frac{15}{64}$ -inch Screen.	Maximum Percentage by Weight allowed of—					
			Kernels and Chips below the $\frac{1}{4}$ -inch Round-hole Screen.	Unshelled Groundnuts and/or Foreign Matter with not more Foreign Matter than the Percentages in Brackets.	Split Kernels.	Blemished, Shrivelled, Soiled, Damaged and Unsound Kernels above the $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch Screen with not more than 4 per cent of Unsound Kernels.	Shrivelled Kernels above the $\frac{1}{4}$ -inch Round-hole Screen.	Unsound Chips, Splits, Shrivelled, Soiled, Damaged and Whole Kernels.
SS...	85	—	1	2.0 (1.0)	4	15	—	—
S1...	75	—	3	3.5 (1.5)	7	20	—	—
S2...	—	60	8	5.0 (2.0)	15	—	35	4
S3...	—	—	13	6.5 (2.5)	—	—	—	10
S4...	—	—	40	8.0 (3.0)	—	—	—	20
S5...	—	—	—	20.0 (10.0)	—	—	—	30

(b) Gedopte grondboontjies van klas D moet soos volg gegradeer word:—

(b) Shelled groundnuts of class D shall be graded as follows:—

Graad No.	Minimum persentasie per gewig pitte bo die $\frac{3}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif vereis.	Minimum persentasie per gewig pitte bo die $\frac{3}{4}$ -duim by $\frac{15}{64}$ -duim-gleufsif vereis.	Maksimum persentasie per gewig toegelaat van—					
			Pitte en stukkie onder die $\frac{1}{4}$ -duim rondegatsif.	Vreemde voorwerpe.	Ongedopte grondboontjies.	Gesplete pitte.	Gevlekte, vuilgesmeerde en beskadigde pitte bo die $\frac{3}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif.	Ongesonde stukkie, gesplete, vuilgesmeerde, beskadigde en heel pitte.
DG 1...	80	—	3	2	3	10	20	5
DG 2...	60	—	8	3	4	15	30	10
DG 3...	—	60	13	4	6	—	—	20
DG 4...	—	—	—	8	9	—	—	30

Grade No.	Minimum Percentage by Weight of Kernels required above the $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch Screen.	Minimum Percentage by Weight of Kernels required above the $\frac{3}{4}$ -inch by $\frac{15}{64}$ -inch Screen.	Maximum Percentage by Weight allowed of—					
			Kernels and Chips below the $\frac{1}{4}$ -inch Round-hole Screen.	Foreign Matter.	Unshelled Groundnuts.	Split Kernels.	Blemished, Soiled and Damaged Kernels above the $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch Screen.	Unsound Chips, Splits, Soiled, Damaged and Whole Kernels.
DG 1...	80	—	3	2	3	10	20	5
DG 2...	60	—	8	3	4	15	30	10
DG 3...	—	60	13	4	6	—	—	20
DG 4...	—	—	—	8	9	—	—	30

(c) Gedopte grondboontjies wat aan die vereistes vir enigeen van die grade SS, S1, S2, S3 en S4 en DG1, DG2 en DG3 in paragrafe (a) en (b) genoem, voldoen, maar wat meer as 25 skimmelbesmette pitte per vyf pond grondboontjiepitte bevat, word nie in die een of ander van daardie grade geplaas nie, maar word na gelang van die geval, as S5 of DG4 gegradeer.

2. Gedopte grondboontjies wat nie voldoen aan die vereistes vir een of ander van die grade in regulasie 1 genoem nie, of wat—

- (i) 'n muwwe, suur of enige ander onaangename reuk het; of
- (ii) met enige chemiese stof behandel en sodoende of op 'n ander wyse ongeskik gemaak is sodat dit nie tot gesonde voedsel vir mens en dier verwerk kan word nie; of
- (iii) meer as sewe persent vog bevat; of
- (iv) lewende insekte bevat;

is ondergraad.

3. By die bepaling van die grade van gedopte grondboontjies, soos in regulasie 1 genoem, en vir die doel van regulasie 2, moet die volgende metodes gevolg word:—

(a) *Neem van monsters.*—Monsters vir die toets van gedopte grondboontjies word verkry deur min of meer gelyke hoeveelhede met die hand en/of 'n graansteker en/of 'n buissteker uit te haal uit die sakke wat gegradeer moet word. Wanneer die monster met die hand geneem word, moet die gradeerder minstens 5 persent van die sakke na willekeur uit al die sakke in 'n besending geneem, oopmaak. Wanneer die monster met 'n buissteker geneem word, moet die gradeerder minstens 5 persent van die sakke, na willekeur uit al die sakke in 'n besending geneem, monster deur die buissteker op een of meer plekke by die bek van die sak, vir die volle lengte van die sak, in te steek. Indien gevind word dat die pitte uit al die sakke in 'n besending oor die algemeen van dieselfde klas en kwaliteit is, moet die monsters uit al die sakke saam in 'n pan gegooi word. Die graad en klas word bepaal uit die saamgevoegde monster wat verkry word nadat die pitte deeglik gemeng is. Enige sakke waarvan die grondboontjies in enige opsig van dié van die res verskil, moet opsy gesit en afsonderlik gegradeer word.

(b) *Hoe monsters gradeer word.*—Die hoeveelheid grondboontjies verkry op die wyse in paragraaf (a) omskryf, word deeglik gemeng en verdeel en 'n hoeveelheid van 5 (vyf) pond afgeweg en die vreemde voorwerpe en ongedopte grondboontjies met die hand uitgesoek vir die bepaling van die persentasies. Vyf pond grondboontjiepitte, vry van vreemde voorwerpe en ongedopte grondboontjies, word dan met behulp van 'n monsterverdeler deeglik gemeng en verdeel totdat voldoende grondboontjies beskikbaar is om 100 gram af te weeg. Honderd gram pitte moet met die hand uitgesoek en met behulp van siwwe geskei word in—

- (i) gesplete pitte op die $\frac{3}{4}$ -duim by $\frac{17}{64}$ -duim- en $\frac{3}{4}$ -duim by $\frac{15}{64}$ -duim-gleufsif en die $\frac{1}{4}$ -duim-rondegatsif;

(c) Shelled groundnuts conforming to the requirements for any of the grades SS, S1, S2, S3 and S4 and DG1, DG2 and DG3 referred to in paragraphs (a) and (b) above, but which contain more than 25 mould-infested kernels per five pounds of kernels, shall not be placed in one or other of those grades but shall be graded as S5 or DG4, as the case may be.

2. Shelled groundnuts which do not conform to the requirements for one or other of the grades referred to in regulation 1 above or which—

- (i) have a musty, sour or any other objectionable odour; or
- (ii) have been treated with any chemical and thereby or otherwise rendered unsuitable for the processing therefrom of sound food or feed; or
- (iii) contain more than 7 per cent of moisture; or
- (iv) contain live insects;

shall be undergrade.

3. To determine the grades of shelled groundnuts as specified in regulation 1, and for the purposes of regulation 2, the following methods shall be followed:—

(a) *Taking of Samples.*—Samples for the testing of shelled groundnuts shall be obtained by taking more or less equal quantities by hand or by means of a grain probe and/or a tubular probe from the bags to be graded. When the sample is taken by hand, the grader shall open not less than 5 per cent of the bags taken at random from all the bags in a consignment. When the sample is taken by means of a tubular probe, the grader shall sample at least 5 per cent of the bags, taken at random from all the bags in a consignment, by inserting the tubular probe at one or more places at the mouth of the bag for the full length of the bag. If the kernels from all the bags in a consignment are found to be generally of the same class and quality the samples from all the bags shall be thrown together in a pan. The grade and class shall be determined from the composite sample obtained after the kernels have been thoroughly mixed. Any bags of which the contents differ in any respect from the other shall be placed aside and graded separately.

(b) *Manner of Grading Samples.*—The quantity of groundnut kernels obtained in the manner prescribed in paragraph (a) shall be thoroughly mixed and divided and a quantity of 5 (five) pounds shall be weighed off and the foreign matter and unshelled groundnuts hand-picked for the determination of the percentages. Five pounds of groundnut kernels, free from foreign matter and unshelled groundnuts, shall be thoroughly mixed and divided by means of a sample divider until sufficient kernels are available to weigh off 100 grammes. Hundred grammes of kernels shall be hand-picked and separated by means of screens, into—

- (i) split kernels on the $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch, $\frac{3}{4}$ -inch by $\frac{15}{64}$ -inch screens and $\frac{1}{4}$ -inch round-hole screen;

- (ii) pitte bo die $\frac{3}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif;
- (iii) pitte bo die $\frac{3}{4}$ -duim by $\frac{15}{64}$ -duim-gleufsif;
- (iv) pitte en stukkies onder die $\frac{1}{4}$ -duim-rondegatsif;
- (v) gevlekte, beskadigde, verkrimpte, vuilgesmeerde en ongesonde pitte bo die $\frac{3}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif;
- (vi) verkrimpte pitte bo die $\frac{1}{4}$ -duim-rondegatsif; en
- (vii) ongesonde stukkies, gesplete, beskadigde, verkrimpte, vuilgesmeerde en heel pitte.

Vyf pond grondboontjiepitte verkry op die wyse hierbo voorgeskryf, gesuiwer van vreemde voorwerpe en ongedopte grondboontjies, word met die hand uitgesoek vir die bepaling van die aantal skimmelbesmette pitte en enige verdagte grondboontjiepitte word in helstes oopgebreek of oopgesny om inwendige skimmelgroei te bepaal: Met dien verstande dat 'n graderder 'n hele houer grondboontjies met die hand kan uitsoek om die aantal skimmelbesmette pitte te bepaal: Voorts met dien verstande dat in so 'n geval die resultaat omreken moet word om die getal skimmelbesmette pitte per vyf pond te bepaal.

By die bepaling van die graad van 'n monster, mag ongedopte grondboontjies in 'n monster nie uitgedop word nie.

Iedere persentasie moet bereken word in verhouding tot die totale gewig van die proefmonster.

Die persentasie pitte bo die $\frac{3}{4}$ -duim by $\frac{15}{64}$ -duim-gleufsif, moet die persentasie pitte bo die $\frac{3}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif insluit.

- (c) *Bepaling van die persentasie vog.*—Die persentasie vog in gedopte grondboontjies word bepaal op 'n monster grondboontjies verkry volgens die metode in paragraaf (a) voorgeskryf deur middel van die Brown-Duvel-metode of die Marconi-elektriese weerstandsmetode soos in Deel IV voorgeskryf.

4. Ondanks andersluidende bepalings in hierdie regulasies vervat, mag grondboontjies van enige van die grade in hierdie Deel genoem, geen kasteroliesaad en/of enige ander giftige sade bevat nie.

DEEL IV.

METODES OM DIE VOGGEHALTE VAN GRONDBOONTJIES TE BEPAAL.

Die voggehalte van grondboontjies word bepaal volgens die Brown-Duvel-metode of die Marconi-elektriese weerstandsmetode soos hieronder uiteengesit:—

- (a) *Die Brown-Duvel-vogtoets.*—Die apparaat vir hierdie toets bestaan uit die Brown-Duvel-vogtoets-apparaat waarin vog afgedryf word deur warm olie waarin die grondboontjies gedompel is en welke vog dan gedistilleer word in maatsilinders wat so gekalibreer is dat die voggehalte direk daarop afgelees kan word.

Toetsmetode.—Die apparaat word in 'n plek waar daar geen trek is nie, opgestel. Honderd gram grondboontjies word in die fles gegooi en dan 150 cc. vogtoetsolie daarby gevoeg. Die grondboontjies en olie word gemeng deur dit goed te skud. Die bek van die fles word gesluit deur middel van 'n gomlastiekprop met 'n termometer daardeur, so gestel dat vier-vyftes van die kwikbol onder die oppervlakte van die olie en grondboontjies is. Slegs 'n korrek gegradeerde Celsius-termometer wat spesiaal vir hierdie apparaat vervaardig is, mag gebruik word. Die fles word dan in die Brown-Duvel-apparaat geplaas en die arm

- (ii) kernels above the $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch screen;
- (iii) kernels above the $\frac{3}{4}$ -inch by $\frac{15}{64}$ -inch screen;
- (iv) kernels and chips below the $\frac{1}{4}$ -inch round-hole screen;
- (v) blemished, damaged, shrivelled, soiled and unsound kernels above the $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch slotted screen;
- (vi) shrivelled kernels above the $\frac{1}{4}$ -inch round-hole screen; and
- (vii) unsound chips, splits, damaged, shrivelled, soiled and whole kernels.

Five pounds of groundnut kernels obtained in the manner prescribed above, free from foreign matter and unshelled groundnuts, shall be hand-picked for the determination of the number of mould-infested kernels and any suspect groundnut kernels shall be cut or broken into halves to determine internal mould growth: Provided that a grader may pick by hand a whole container of groundnuts to determine the number of mould-infested kernels: Provided further that in such a case the number of mould-infested kernels shall be converted to determine the number of mould-infested kernels per five pounds.

Unshelled groundnuts in a sample shall not be shelled when determining the grade of the sample.

Every percentage shall be calculated in relation to the total weight of the test sample.

The percentage of kernels above the $\frac{3}{4}$ -inch by $\frac{15}{64}$ -inch screen shall include the kernels above the $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch screen.

- (c) *Determining the Percentage of Moisture.*—The percentage of moisture in shelled groundnuts shall be determined on a sample of groundnuts obtained in the manner prescribed in paragraph (a) by either the Brown-Duvel method or the Marconi electrical resistance method as prescribed in Part IV.

4. Notwithstanding anything to the contrary contained in these regulations groundnuts of any of the grades set out in this Part shall not contain any Castor seed and/or any other poisonous seeds.

PART IV.

METHODS OF DETERMINING THE MOISTURE CONTENT OF GROUNDNUTS.

The moisture content of groundnuts shall be determined by either the Brown-Duvel method or the Marconi electrical resistance method set out below:—

- (a) *The Brown-Duvel Moisture Test.*—The apparatus for this test shall consist of a Brown-Duvel moisture testing apparatus in which moisture is driven off by hot oil in which groundnuts have been immersed, and which moisture is distilled into measuring cylinders so calibrated that the moisture content may be read directly.

Method of Testing.—The apparatus shall be installed in a place free from draughts. Hundred grammes of groundnuts shall be introduced into the flask, and 150 c.c. of moisture testing oil then added. The groundnuts and oil shall be well mixed by shaking. The mouth of the flask shall be closed by means of a rubber stopper through which passes a thermometer so adjusted that four-fifths of the mercury bulb is submerged in the groundnuts and

van die fles met die kondenseerbuis verbind sodat dit dig sluit. Die gaasdraad met 'n asbesmiddelstuk wat onder die fles kom, moet in 'n goeie toestand wees en so gestel word dat wanneer die fles verhit word, die vlam reg in die middel van die asbes brand. Die staander waarop die fles rus, moet so hoog wees dat die bodem van die fles omtrent $\frac{3}{4}$ duim bokant die asbes is. 'n Korrek gekalibreerde maatsilinder word onder die kondenseerbuis geplaas om die water op te vang wat afgedryf word. 'n Stroom koue water moet gedurig deur die kondenseertenk loop, of, as 'n klein Brown-Duvel-apparaat met enkelvak gebruik word met geen voorsiening vir 'n stroom water nie, moet die water in die tenk na elke toets vervang word.

Daarna word 'n deksel oor die fleshouer geplaas en met verhitting begin. Verhitting kan deur middel van elektrisiteit, paraffienblaaslampe of alkoholbranders (spirituslampe) geskied wat vir die apparaat verskaf word. Die hitte moet egter altyd so gereguleer word dat 'n temperatuur van 175°C . nie gouer as na 19 minute nie, maar binne 21 minute, bereik word. As die verhittingstyd langer duur, gee dit te lae resultate en duur dit korter, is die resultate weer te hoog. Die verhitting moet afgesluit word sodra die vereiste temperatuur bereik is. As die voggehalte van die monster besonder hoog is, sal die mengsel skuim en oorkook met die normale metode van verhitting. Onder sulke omstandighede kan die juiste voggehalte die beste bepaal word deur die mengsel vinnig te verhit totdat die olie borrel en dan weer baie min totdat 'n paar kubieke sentimeter water afgedryf is. Daarna kan die normale verhitting weer toegepas en die oorblywende vog afgedryf word binne die voorgeskrewe verhittingstyd sonder skuimvorming. Nadat die verhitting afgesluit is, kan 'n geringe geleidelike styging in temperatuur verwag word. 'n Skielike styging of daling van 'n enkele grade in die temperatuur dui aan dat die vlam gedurende die laaste deel van die verhitting te skerp was en die toets moet dan herhaal word. As die water wat oordistilleer, gekleur is, het die grondboontjies waarskynlik aangebrand en moet die toets herhaal word. Die deksel of die termometer mag nie afgehaal word nie voordat die temperatuur tot 160°C . of laer gedaal het nie. Die deksel word dan afgehaal, die kondenseerbuis en die prop losgemaak en dan word die termometer uitgehaal.

Alle druppels aan die kante van die maatsilinder word afgeskud en die persentasie vog daarop afgelees. Die lesings word geneem onderkant die laag olie bo-op die water. Die resultate word tot een-tiende van een persent gelees. Alle toetse moet tweekeer gedoen word en as die verskil tussen die twee lesings nie groter as 0.2 is nie, moet die gemiddelde van die twee lesings as die voggehalte geneem word. As die verskil groter as 0.2 is, moet die toets herhaal word.

By die gebruik van hierdie apparaat moet gesorg word dat geen voos gomlastiekproppe gebruik word nie; dat die maatsilinder voor 'n toets droog- en skoongemaak word; dat olie nie onmiddellik na 'n vorige toets gebruik word nie en dat die kwikkolom in die termometer ongebroke is voordat daar met 'n toets begin word.

Vars olie of olie wat vir geruime tyd nie gebruik is nie, moet vir elke toets gebruik word en die olie in iedere geval verhit word tot 'n temperatuur van 200°C . en dan gelaat word om af te koel voordat dit gebruik word.

oil. Only a correctly graduated Celsius thermometer specially made for this apparatus shall be used. The flask shall then be placed in the Brown-Duvel apparatus, and the arm of the flask connected with the condenser tube so that it fits properly. The wire gauze with asbestos centre which is placed below the flask shall be in good condition and so adjusted that when the flask is heated, the flame plays directly in the centre of the asbestos. The stand upon which the flask rests, shall be of such a height that the bottom of the flask is about $\frac{3}{4}$ inch above the asbestos. A correctly calibrated measuring cylinder shall be placed under the condenser tube to collect the water driven off. A continuous stream of cold water shall pass through the condenser tank, or if a small single compartment Brown-Duvel outfit with no provision for a stream of water is used, the water in the tank shall be changed after each test.

The cover shall then be placed over the flask compartment and heating started. The heating may be effected by electric elements, paraffin blow-lamps or alcohol burners (spirit lamps) as supplied for the apparatus. In all cases, however, the heat shall be so regulated that a temperature of 175°C . is reached in not less than 19 minutes and in not longer than 21 minutes. A longer heating time gives results too low and a shorter heating time results too high. The heat shall be cut off immediately the desired temperature is reached. If the moisture content of the sample is very high, foaming and bubbling over may result with the normal method of heating. Under such conditions the best way of getting the true moisture content is to heat rapidly until the oil bubbles, and then to apply little heat until a few cubic centimetres of water have been driven off. Then the heat may be turned on to normal again and the remaining moisture driven off, within the prescribed period of heating, without foaming taking place.

After the heat is cut off, a slight gradual rise in temperature is to be expected. A sudden increase or decrease in temperature of several degrees indicates that the flame was too intense during the latter part of the heating and the test shall be repeated. If the water which distills over is discoloured, the groundnuts may have been burnt and the test shall be repeated. The cover or the thermometer shall not be removed before the temperature has dropped to 160°C . or lower. Then the cover shall be removed and the thermometer, the stopper and then the delivery tube disconnected.

All drops clinging to the sides of the measuring cylinder shall be shaken down and the percentage of moisture read off. The reading shall be taken beneath the layer of oil on top of the water. Results to one-tenth of 1 per cent shall be read. All tests shall be made in duplicate and if the difference between the two readings does not exceed 0.2, the average of the two readings shall be taken as the moisture content. If the difference exceeds 0.2, the test shall be repeated.

In using this apparatus care shall be taken to avoid the use of mushy rubber stoppers, to clean and dry the measuring flasks before using them for a test, not to use oil directly from a previous test, and to see that the column of mercury in the thermometer is unbroken before commencing any test.

Either fresh oil, or oil which has not been used for some time, shall be used for every test, and the oil should in any case be heated to a temperature of about 200°C . and allowed to cool before use.

Vir die doeleindes van hierdie toets, kan enige plantaardige slaai- en kookolie van goeie gehalte gebruik word.

- (b) *Marconi-elektriese weerstandsmetode.*—Die apparaat vir die bepaling van voggehalte volgens hierdie metode moet bestaan uit die Marconi-Vogmeter Model T.F. 933 of T.F. 933A, waardeur vog in die grondboontjies deur middel van elektriese weerstand bepaal word. Die apparaat moet weg van 'n trek en direkte sonlig geplaas word, in 'n vaste posisie in 'n kamer of skuur waar alle vogbepalings uitgevoer moet word. 'n Celsiustermometer moet aan die buitekant van die instrumentekas van die apparaat aangeheg word sodat die termometerbol ten volle blootgestel is aan die vry lug in die kamer of skuur.

'n Hoeveelheid van minstens 40 en hoogstens 50 gram van 'n verteenwoordigende monster van die grondboontjies waarvan die voggehalte getoets moet word, moet in 'n handgraanmeul gemaal word wat gestel is deur die meulplate so styf moontlik deur middel van die stelskroef vas te draai en die stelskroef dan ongeveer 'n kwart-draai los te draai. In die geval van grondboontjies met 'n hoë voggehalte sal dit nodig wees om die stelskroef verder los te draai. Die meul moet egalig gedraai word teen so 'n spoed dat die hele monster in 'n tydperk van minstens 30 sekondes en hoogstens 60 sekondes gemaal sal word. Nadat die monster gemaal is, moet die meul deeglik skoon-gemaak word met onverdunde „Teepol”, of ander suiweringmiddel en met 'n skoon droë doek deeglik drooggevef word. Die gemaalde monster moet onmiddellik na 'n glasfles met 'n skroefdeksel en met 'n inhoudsmaat van tussen 300 en 400 kubieke sentimeters oorgeplaas word. Nadat die fles toegeskroef is, moet die inhoud deeglik vermeng word deur die fles vir minstens 30 sekondes te skud.

Onmiddellik daarna moet die toetssel van die Marconi-apparaat omtrent half-vol gemaak word met die gemaalde monster en die metaaldrukprop daarop in posisie geplaas word. Daar moet gesorg word dat die monster gelyk in die sel lê en dat die onderdele van die sel behoorlik in mekaar pas en die sel moet slegs aan die buitenste isoleermateriaal daarom gehanteer word. Onmiddellik daarna moet die sel (met die metaaldrukprop na bo) in die klamp wat deel van die Marconi-apparaat uitmaak geplaas en daarin vasgeskroef word totdat die twee dele van die silindervormige veeromhulsel wat met die skroef verbind is, bo gelyk is. Die klamp met die sel daarin vasgeskroef moet korrek met die hooftoestel elektries verbind wees. Die skakelaar moet na die „zero”-posisie gedraai word en daarna moet die galvanometernaald deur middel van die stelnoppie bokant die wyserskywe gestel word totdat die naald presies regoor die horisontale strepie te staan kom. Wanneer hierdie „zero”-instelling gemaak word, moet die linkerhandse wyserskywe op een van die posisies 1 tot 5 staan. Die skakelaar moet daarna na die „lees”-posisie gedraai word en die wyserskywe onmiddellik daarna gestel word totdat die galvanometernaald terugkeer na die posisie regoor die horisontale strepie. Die lesing op die wyserskywe moet nou geneem word en die temperatuur op die termometer wat aan die hooftoestel geheg is, tot die naaste graad afgelees word. Enige geleidelike verskuiwing van die naald nadat dit aanvanklik korrek ingestel is, moet buite rekening gelaat word. Van die oomblik af wanneer die monster in die sel geplaas word totdat die finale lesing op die wyserskywe geneem word, mag hoogstens een minuut verloop.

Die lesing op die wyserskywe moet herlei word tot persentasies volgens onderstaande tabel:—

For the purpose of this test any salad and cooking vegetable oil of good quality may be used.

- (b) *Marconi Electrical Resistance Method.*—The apparatus for moisture determination according to this method shall consist of the Marconi moisture meter model T.F. 933 or T.F. 933A by which moisture in groundnuts is determined through electrical resistance. The apparatus shall be placed away from draughts and the direct rays of the sun in a permanent position in a room or store where all moisture determination shall be carried out. A centigrade thermometer shall be attached to the outside of the instrument case of the apparatus so that the thermometer bulb is fully exposed to the free air in the room or store.

A quantity of not less than 40 and not more than 50 grammes of a representative sample of the groundnuts to be tested for moisture shall be ground in a hand grain mill which has been adjusted by setting the milling plates as tightly as possibly by means of the adjusting screw and then by loosening the latter about one-quarter turn.

In the case of groundnuts with a high moisture content further loosening of the adjusting screw will be found necessary.

The mill shall be operated at a uniform speed which allows for the entire sample being ground in a period of not less than 30 seconds and not more than 60 seconds. After grinding the mill shall be thoroughly cleaned with pure „Teepol” or other detergent and dried thoroughly by wiping with a clean dry cloth. The milled sample shall immediately be transferred to a screw cap glass jar of between 300 and 400 cubic centimeters capacity. After the jar has been properly closed by screwing the cap on tightly the contents shall be thoroughly mixed by shaking the jar for at least 30 seconds. Immediately thereafter the test cell of the Marconi apparatus shall be filled approximately half full with the milled sample and the metal plunger shall be placed into position on it. Care shall be taken to ensure that the surface of the sample is level in the cell and that the parts of the cell fit properly into one another. The cell shall be handled only by the outer insulating material surrounding it. Immediately thereafter the cell (with the metal plunger facing upwards) shall be fitted into the clamp which forms part of the Marconi apparatus and screwed tight until the two parts of the cylindrical spring housing mounted on the screw are flush. The clamp containing the cell shall have proper electric contact with the main apparatus. The switch shall now be turned to the „zero” position and the galvanometer pointer shall thereafter be adjusted by means of the „Set-zero” knob above the dials until the pointer is exactly opposite the horizontal line. When setting to zero, the left-hand dial shall be at any one of the positions 1 to 5. The switch shall then be turned to the „Read” position and the dials immediately adjusted until the galvanometer pointer returns to the position of the horizontal line. The dial reading shall now be taken and the temperature be read (to the nearest degree) from the thermometer attached to the main apparatus. Any gradual movement of the pointer, after having been correctly adjusted, shall be disregarded. Not more than one minute shall elapse between the placing of the samples into the cell and the taking of the final dial reading.

Dial readings shall be converted into percentage according to the following table:—

Tabel aantonende die voggehalte vir 'n gegewe instrumentlesing.

Lesing op wyserskyf.	Persentasie.	Lesing op wyserskyf.	Persentasie
0	5.06	28	7.34
1	5.10	29	7.46
2	5.15	30	7.58
3	5.20	31	7.71
4	5.25	32	7.84
5	5.30	33	7.97
6	5.36	34	8.11
7	5.42	35	8.25
8	5.49	36	8.39
9	5.55	37	8.53
10	5.62	38	8.68
11	5.69	39	8.83
12	5.77	40	8.98
13	5.85	41	9.13
14	5.93	42	9.29
15	6.01	43	9.45
16	6.09	44	9.61
17	6.18	45	9.78
18	6.27	46	9.95
19	6.37	47	10.12
20	6.46	48	10.29
21	6.56	49	10.47
22	6.67	50	10.65
23	6.77	51	10.83
24	6.88	52	11.02
25	6.99	53	11.21
26	7.10	54	11.40
27	7.22	55	11.59

Vir negatiewe instrumentlesings is die voggehalte:—

-1	5.01
-2	4.98
-3	4.94
-4	4.91
-5	4.88
-6	4.85

Tabel aantonende die aansuiwering vir temperatuur bo of onder 20° C.

Temperatuur.	Tel by regstelling.	Temperatuur.	Trek af regstelling.
19° C.	0.05% m.c.	21° C.	0.05% m.c.
18° C.	0.1% m.c.	22° C.	0.1% m.c.
17° C.	0.15% m.c.	23° C.	0.15% m.c.
16° C.	0.2% m.c.	24° C.	0.2% m.c.
15° C.	0.25% m.c.	25° C.	0.25% m.c.
14° C.	0.3% m.c.	26° C.	0.3% m.c.
13° C.	0.35% m.c.	27° C.	0.35% m.c.
12° C.	0.4% m.c.	28° C.	0.4% m.c.
11° C.	0.45% m.c.	29° C.	0.45% m.c.
10° C.	0.5% m.c.	30° C.	0.5% m.c.

LET WEL.—Die temperatuurregstelling by grondboontjies verskil van die regstellings wat gemaak moet word in geval van mielies, sorghums en sonneblomsaad.

Die toets moet sonder onderbreking gedupliseer word met afsonderlike hoeveelhede van die oorspronklike gemaalde monster en indien die twee resultate aldus verkry, nie met meer as 0.3 verskil nie, word die gemiddelde daarvan as die persentasie voggehalte van die grondboontjies waarvan die monster geneem is, uitgedruk. Indien die resultaat van die twee bepalinge met meer as 0.3 verskil, moet die bepaling herhaal word met verdere hoeveelhede van die oorspronklike gemaalde monster totdat twee resultate verkry word wat nie met meer as 0.3 verskil nie.

Daar moet gesorg word dat die meul waarmee die monster gemaal word, die fles waarin dit vermeng word en die sel van die apparaat behoorlik skoon en droog is voor elke bepaling.

LET WEL.—*Skoonmaak van toetssel.*—Dit is noodsaaklik dat die toetssel na elke voggehaltebepaling behoorlik soos volg skoongemaak moet word:—

(a) *Vir lesings onder 50.*—Vryf die toetssel deeglik skoon met 'n droë doek; en

Table Showing the Moisture Content for a Given Instrument Reading.

Dial Reading.	Percentage.	Dial Reading.	Percentage.
0	5.06	28	7.34
1	5.10	29	7.46
2	5.15	30	7.58
3	5.20	31	7.71
4	5.25	32	7.84
5	5.30	33	7.97
6	5.36	34	8.11
7	5.42	35	8.25
8	5.49	36	8.39
9	5.55	37	8.53
10	5.62	38	8.68
11	5.69	39	8.83
12	5.77	40	8.98
13	5.85	41	9.13
14	5.93	42	9.29
15	6.01	43	9.45
16	6.09	44	9.61
17	6.18	45	9.78
18	6.27	46	9.95
19	6.37	47	10.12
20	6.46	48	10.29
21	6.56	49	10.47
22	6.67	50	10.65
23	6.77	51	10.83
24	6.88	52	11.02
25	6.99	53	11.21
26	7.10	54	11.40
27	7.22	55	11.59

For negative instrument readings, the moisture content is:—

-1	5.01
-2	4.98
-3	4.94
-4	4.91
-5	4.88
-6	4.85

Table Showing Correction for Temperature Above or Below 20° C.

Temperature.	Add Correction.	Temperature.	Subtract Correction.
19° C.	0.05% m.c.	21° C.	0.05% m.c.
18° C.	0.1% m.c.	22° C.	0.1% m.c.
17° C.	0.15% m.c.	23° C.	0.15% m.c.
16° C.	0.2% m.c.	24° C.	0.2% m.c.
15° C.	0.25% m.c.	25° C.	0.25% m.c.
14° C.	0.3% m.c.	26° C.	0.3% m.c.
13° C.	0.35% m.c.	27° C.	0.35% m.c.
12° C.	0.4% m.c.	28° C.	0.4% m.c.
11° C.	0.45% m.c.	29° C.	0.45% m.c.
10° C.	0.5% m.c.	30° C.	0.5% m.c.

N.B.—The temperature correction for groundnuts differs from the corrections which have to be made in the case of maize, sorghums and sunflower seed.

The test shall be carried out in duplicate without interruption with separate quantities of the original milled sample and if the two results thus obtained do not differ by more than 0.3 the average of the two results shall be taken as the percentage moisture content of the groundnuts from which the sample was taken. If the results of the two determinations differ by more than 0.3 the determination shall be repeated with further quantities of the original milled sample until two results are obtained which do not differ by more than 0.3.

Care shall be taken that the mill used for the grinding of the sample, the jar used for mixing the sample and the pressure cell of the apparatus are clean and dry before each determination is commenced.

N.B.—*Cleaning of Pressure Cell.*—It is essential that the pressure cell shall after each moisture determination be thoroughly cleaned as follows:—

(a) *For Readings Below 50.*—Wipe the pressure cell thoroughly with a dry cloth, and

- (b) *Vir lesings bo 50.*—Maak die toetsel skoon met onverdunde „Teepol” of ander suiweringsmiddel. Nadat die toetsel skoon-gemaak is, moet dit vir minstens 2 minute gelaat word om seker te maak dat geen vog daaraan bly nie en om die temperatuur van die toetsel na normaal te laat terug-keer.

Die vogmeter moet in ewewig met die temperatuur van die omringende lug wees om die ontwikkeling van die termo-elektriese stroompies in die instrument waardeur foute in die wyserskyf-lesings veroorsaak sal word, te verhoed. Om hierdie rede is dit gebiedend noodsaaklik dat die vogmeter vir 'n geruime tyd op een plek sal bly staan voordat 'n vogtoets gemaak word. Indien die vogmeter om een of ander spesiale rede na 'n ander posisie of 'n ander lokaliteit vervoer moet word, moet dit vir minstens 'n uur in die nuwe posisie met rus gelaat word sodat die instrument kans kry om in hitte-ewewig met die omringende lug te kom voordat 'n vogtoets gemaak word. Indien dit nie moontlik is om die termometer aan die kas van die instrument te heg nie, moet dit in 'n gerieflike horisontale posisie bo-op die apparaat geplaas word, minstens 15 minute voordat 'n voegtoets begin. Ook in die gevalle waar die termometer aan die kas geheg kan word, maar dit nie permanent in daardie posisie gehou word nie, moet dit in daardie posisie geplaas word minstens 15 minute voordat 'n vogtoets begin.

Wanneer 'n vogbepaling deur middel van hierdie metode gedoen word, moet gesorg word dat die apparaat in goeie werkende toestand is deur met 'n kort stukkie draad 'n kortsluiting in die twee boonste steeksokke op die hooftoetsel te maak en daarna die skakelaar op „zero” en die galvanometer naald regoor die horisontale strepie in te stel. Nadat die skakelaar op die „lees”-posisie gestel is, moet die lesing op die wyserskywe, geneem op die wyse hierbo omskryf, ongeveer 60 wees. Die draad moet dan verwyder word. Hierna moet die klamp, soos hierbo omskryf, elektries volgens voorskrif met die hooftoetsel verbind word, die skakelaar op „zero” en die galvanometer naald regoor die horisontale strepie ingestel en die basis van die toetsel in sy normale posisie in die klamp gehou word. 'n Stukkie metaaldraad of silwerpapier (tinfolie) moet dwarsoor die blootgestelde elektrodes (die metaaldele) van die toetsel, vasgedruk word sodat 'n kortsluiting veroorsaak word. Nadat die skakelaar op die „lees”-posisie gestel is, moet die lesing op die wyserskywe, geneem op die wyse hierbo omskryf, ongeveer 60 wees. Daarna moet die basis en isoleer-ring van die toetsel sonder die metaaldrukprop in die klamp vasgeskroef word totdat dit net stewig in posisie bly en die skakelaar op „zero” en die galvanometer naald regoor die horisontale strepie ingestel word. Nadat die skakelaar nou op die „lees”-posisie gestel is, moet die lesing op die wyserskywe in hierdie geval nul of laer as nul wees, maar indien die lesing hoër as nul is, kan die basis van die toetsel vir 'n paar minute in die son of in redelike warm lug geplaas en die toets herhaal word.

DEEL V.

ALGEMEEN.

1. *Metode om persentasies te bepaal.*—Alle bepalings, tensy reeds uitdruklik gemeld, moet volgens duplikaat-monsters gedoen en volgens 'n persentasiebasis uitgedruk word. Die gemiddelde van die persentasies wat ten opsigte van elkeen van die duplikaatmonsters bepaal is, moet geneem word.

- (b) *For Readings Over 50.*—Clean the pressure cell thoroughly with “Teepol” used pure, or other detergent. After cleaning the cell shall be left for at least 2 minutes to ensure that no film of moisture remains and to allow the temperature of the cell to return to normal.

The moisture meter has to be in equilibrium with the temperature of the ambient air in order to obviate the generations of thermo-electric currents in the instrument which may cause errors in the dial reading. For this reason it is imperative that the moisture meter should remain in one position for an appreciable time before a moisture test is carried out. If for some special reason the moisture meter has to be moved to another position or some other locality it should be left undisturbed for at least one hour in the new position to allow the instrument to come into thermal equilibrium with the ambient air before a moisture test is carried out. If it is not possible to affix the thermometer to the case of the instrument it should be placed in a convenient horizontal position on top of the apparatus at least 15 minutes before a moisture test is started. In those cases too where the thermometer can be affixed to the apparatus but does not remain in that position permanently, it should be placed in that position at least 15 minutes before commencement of a moisture test.

When moisture determination is made by means of this method it should be seen to that the apparatus is in good working order by short circuiting the two topmost sockets on the main apparatus with a short piece of wire, and turning the switch to “zero” and adjusting the galvanometer pointer until it is opposite the horizontal line. After the switch has been turned to “Read”, the reading on the dials, taken in the manner described above, should be approximately 60. The wire shall then be removed. Thereafter the clamp shall be connected electrically with the main apparatus as described above, the switch turned to “zero”, the galvanometer pointer adjusted to the position opposite the horizontal line and the base of the test cell kept in its normal position in the clamp. A piece of metal wire or silver paper (tin foil) shall be placed across the exposed electrodes (the metal parts) of the test cell and pressed down so as to cause a short circuit. After the switch has been turned to “Read”, the dial reading, taken in the manner described above, should be approximately 60. Thereafter the base and the insulator ring of the test cell shall be placed in the clamp and screwed down without the plunger until they just fit tightly, the switch turned to “zero” and the galvanometer pointer adjusted to the position opposite the horizontal line. After the switch has been turned to “Read”, the reading on the dials in this instance would be nil or lower but if the reading is higher than nil, the base of the test cell may be exposed to sunlight or reasonably warm air for a few minutes after which the test shall be repeated.

PART V.

GENERAL.

1. *Method to Determine Percentages.*—In all cases, unless already specifically mentioned, the determinations shall be made from duplicate samples and be expressed on a percentage basis. The average of the percentages determined in respect of each of the duplicate samples shall be taken.

2. *Klassifikasie.*—(1) *Gedopte grondboontjies.*—Wanneer dit nodig is om die persentasies van die verskillende tipes grondboontjies te bepaal ten einde vas te stel tot watter klas grondboontjies hulle behoort, moet duplikaatmonsters van 100 gram elk met die hand uitgesoek word om die verskillende tipes te skei. Die persentasie van die mengsel word volgens gewig bepaal. Die gemiddelde van die persentasies wat ten opsigte van elk van die duplikaatmonsters bepaal is, moet geneem word. As die grondboontjies vreemde voorwerpe en/of heel en gesplete pitte waarvan die saadhuif af is en/of stukkie grondboontjies bevat, word 400 gram van die grondboontjies eers gesif en/of met die hand uitgesoek vir die verwydering van die vreemde voorwerpe en/of heel en gesplete pitte waarvan die saadhuif af is en/of stukkie grondboontjies.

Duplikaatmonsters van 100 gram elk, word dan van sodanige suiwer, gesifte en/of met die hand uitgesoekte grondboontjies geneem en die klas bepaal volgens die wyse in hierdie subregulasie voorgeskryf.

(2) *Ongedopte grondboontjies.*—Wanneer dit nodig is om die persentasies van die verskillende tipes grondboontjies te bepaal ten einde vas te stel tot watter klas grondboontjies hulle behoort, moet duplikaatmonsters van 200 gram elk met die hand uitgesoek word om die verskillende tipes te skei. Die persentasie van die mengsel word volgens gewig bepaal. Die gemiddelde van die persentasies wat ten opsigte van elk van die duplikaatmonsters bepaal is, moet geneem word. As die grondboontjies vreemde voorwerpe bevat, word 500 gram van die grondboontjies eers gesif en/of met die hand uitgesoek vir die verwydering van die vreemde voorwerpe.

Duplikaatmonsters van 200 gram elk word dan van sodanige suiwer, gesifte en/of met die hand uitgesoekte grondboontjies geneem en die klas bepaal volgens die wyse in hierdie subregulasie voorgeskryf.

2. *Classification.*—(1) *Shelled Groundnuts.*—When it is necessary to determine the percentage of groundnuts of the different types for the determination of the class thereof, duplicate samples of 100 grammes each shall be hand-picked for the separation of the various types. The percentage of the admixture shall be determined by weight. The average of the percentages determined in respect of each of the duplicate samples shall be taken. If the groundnuts contain foreign matter and/or whole and split kernels of which the testae have split off and/or chips, 400 grammes of the groundnuts shall first be screened and/or hand-picked for the removal of the foreign matter and/or whole and split kernels of which the testae have split off and/or chips.

Duplicate samples of 100 grammes each shall then be taken of such pure screened and/or hand-picked groundnuts, and the class determined in the manner prescribed in this sub-regulation.

(2) *Unshelled Groundnuts.*—When it is necessary to determine the percentages of groundnuts of the different types for the determination of the class thereof, duplicate samples of 200 grammes each shall be hand-picked for the separation of the various types. The percentage of the admixture shall be determined by weight. The average of the percentages determined in respect of each of the duplicate samples shall be taken. If the groundnuts contain foreign matter, 500 grammes of groundnuts shall first be screened and/or hand-picked for the removal of the foreign matter.

Duplicate samples of 200 grammes each shall then be taken of such pure screened and/or hand-picked groundnuts, and the class determined in the manner prescribed in this sub-regulation.

No. R. 2153.]

[31 Desember 1964.]

GRADE EN MANIER VAN GRADERING EN VERPAKKING VAN GRONDBOONTJIES WAT VIR EETDOELEINDES BESTEM IS EN MERK VAN DIE HOUERS DAARVAN.

Die Staatspresident het, kragtens die bevoegdheid hom verleen by artikel *drie-en-veertig* van die Bemarkingswet, 1937 (Wet No. 26 van 1937), soos gewysig, die regulasies, in die Bylae hiervan uiteengesit, uitgevaardig met betrekking tot die grade vir en die manier van gradering, verpakking en merk van grondboontjies, 'n beheerde produk onder genoemde Wet, en wat vir eetdoeleindes bestem is, ter vervanging van die regulasies gepubliseer by Goewermentkennisgewing No. R. 65 van 11 Januarie 1963.

BYLAE.

DEEL I.

WOORDOMSKRYWING.

Tensy dit in stryd is met die samehang, beteken in hierdie regulasies—

- (i) „beskadigde pitte”, grondboontjiepitte waarvan die saadhuif op een of meer plekke gesamentlik oor meer as die platkant van 'n grondboontjiepit afgekom het, genoem „tipe (a) beskadigde pitte” en grondboontjiepitte waarvan die saadhuif by een of meer plekke vir meer as 2 millimeter vierkant elk beskadig is, genoem „tipe (b) beskadigde pitte”; (vi)
- (ii) „gebreekte en oop grondboontjies”, grondboontjies waarvan die doppe gebreek of op enige wyse oop is; (iii)
- (iii) „gesplete pitte”, grondboontjiepitte waarvan die saadhuif sigbaar los of gekraak is en grondboontjiepitte waarvan gedeeltes afgebreek het en die afsonderlike helftes en gedeeltes van afsonderlike helftes van grondboontjiepitte wat nie deur die ½-duim-rondegatsif gaan nie; (xv)

No. R. 2153.]

[31 December 1964.]

GRADES AND MANNER OF GRADING AND PACKING OF GROUNDNUTS INTENDED FOR EDIBLE PURPOSES AND MARKING OF THE CONTAINERS THEREOF.

The State President has, under the powers vested in him by section *forty-three* of the Marketing Act, 1937 (Act No. 26 of 1937), as amended, made the regulations, set out in the Schedule hereto, relating to the grades and the manner of grading, packing and marking of groundnuts, a regulated product under the said Act, and intended for edible purposes, in substitution for the regulations published under Government Notice No. R. 65 of 11th January, 1963.

SCHEDULE.

PART I.

DEFINITIONS.

In these regulations, unless inconsistent with the context, the expression—

- (i) “blackened groundnuts” shall mean groundnuts, the shells of which are mouldy or blackened over more than half their surface; (xiv)
- (ii) “blemished kernels” shall mean whole groundnut kernels which show rusty, blackish, purplish and/or any streaks or blotches in or on the testae: Provided that where the discoloration is limited to the embryo and/or the veins, such groundnut kernels shall not be regarded as blemished; (iv)
- (iii) “broken and open groundnuts” shall mean groundnuts of which the shells have been broken or which are open in any way; (ii)

- (iv) „gevekte pitte”, heel grondboontjiepitte wat roesagtige, swarterige, persagtige en/of enige strepe of vlekke in of op die saadhuid het: Met dien verstande dat waar die verkleuring tot die kiempunt en/of are beperk is, sodanige grondboontjiepitte nie as gevekte pitte beskou sal word nie; (ii)
- (v) „grondbesmeerde grondboontjies”, grondboontjies met grond wat aan hul doppe vaskleef: Met dien verstande dat grondboontjies waarvan die doppe deur grond verkleur is, nie as grondbesmeerde grondboontjies beskou sal word nie; (xiii)
- (vi) „grondboontjies”, die vrugte van *Arachis hypogaea*; (viii)
- (vii) „insekte”, die graankalander (*Sitophilus granarius* Linn.), die ryskalander (*Sitophilus oryzae* Linn.), die Franse koringmot (*Sitotroga cerealella* Oliv.), die Mediterreense meelmot (*Ephistia kuehniella* Zell.), of die Indiese meelmot (*Plodia interpunctella*); (ix)
- (viii) „kasteroliesaad”, die saad van *Ricinus Spp.*; (iv)
- (ix) „ongedopte grondboontjies”, grondboontjies of gedeeltes van grondboontjies wat pitte bevat; (xvi)
- (x) „ongesond”, die toestand van grondboontjiepitte en gedeeltes van grondboontjiepitte wat galsterig, bederf, krytstig of deur hitte of insekte beskadig of uitgeloop is, of wat inwendig of wanneer die saadhuid verwyder word, geel, pers, bruin, rooi of enige verkleuring toon, en sluit in skimmelbesmette pitte; (xvii)
- (xi) „pitte”, die saad van grondboontjies; (x)
- (xii) „skimmelbesmette pitte”, grondboontjiepitte en gedeeltes van grondboontjiepitte waarop uitwendig en/of inwendig skimmelgroeï met die blote oog waarneembaar is, en grondboontjiepitte wat as gevolg van skimmelgroeï beskadig of verkleur is; (xi)
- (xiii) „stukkies”, die kleinere gedeeltes van grondboontjiepitte wat deur die $\frac{1}{4}$ -duim-rondegatsif gaan; (v)
- (xiv) „swartgevekte grondboontjies”, grondboontjies waarvan die doppe oor meer as die helfte van die oppervlakte daarvan skimmel of swart gevekte is; (i)
- (xv) „verkrimpde pitte”, heel grondboontjiepitte wat 'n verkrimpde en/of gegroefde voorkoms het: Met dien verstande dat heel grondboontjiepitte waarvan die are opgehewe en/of geriffel is, nie as verkrimpde pitte beskou sal word nie; (xii)
- (xvi) „vreemde voorwerpe”, stingels, wortels, doppe, grond en ook enige ander voorwerpe as grondboontjies; (vii)
- (xvii) „vuilgesmeerde pitte”, heel grondboontjiepitte wat in so 'n mate vuilgesmeer is dat dit hul voorkoms beïnvloed; (xiv)
- (xviii) „ $\frac{3}{4}$ -duim by $\frac{15}{64}$ -duim-gleufsif”, 'n handsif, 16 duim by 9 duim groot, met gleuwe van $\frac{3}{4}$ duim by $\frac{15}{64}$ duim; (xviii)
- (xix) „ $\frac{3}{4}$ -duim by $\frac{17}{64}$ -duim-gleufsif”, 'n handsif, 16 duim by 9 duim groot, met gleuwe van $\frac{3}{4}$ duim by $\frac{17}{64}$ duim; (xix)
- (xx) „ $\frac{3}{4}$ -duim by $\frac{19}{64}$ -duim-gleufsif”, 'n handsif, 16 duim by 9 duim groot, met gleuwe van $\frac{3}{4}$ duim by $\frac{19}{64}$ duim; (xx)
- (xxi) „ $\frac{3}{4}$ -duim by $\frac{21}{64}$ -duim-gleufsif”, 'n handsif, 16 duim by 9 duim groot, met gleuwe van $\frac{3}{4}$ duim by $\frac{21}{64}$ duim; (xxi)
- (xxii) „ $\frac{1}{4}$ -duim-rondegatsif”, 'n handsif, 16 duim by 9 duim groot, met ronde gate $\frac{1}{4}$ duim in deursnee; (xxii) en
- (xxiii) „4-, 3-, 2- en 1-pitgrondboontjies”, grondboontjies wat blykbaar volgens hul dopformasie 4, 3, 2 en enkele pitte bevat. (xxiii)
- (iv) “castor seed” shall mean the seed of *Ricinus Spp.* (viii)
- (v) “chips” shall mean the smaller parts of groundnut kernels which pass through the $\frac{1}{4}$ -inch round-hole screen; (xiii)
- (vi) “damaged kernels” shall mean groundnut kernels of which the testae have split off at one or more places jointly for more than the flat side of a groundnut kernel, referred to as “type (a) damaged kernels”; and groundnut kernels of which the testae have been damaged at one or more spots for more than 2 millimetres square each, referred to as “type (b) damaged kernels”; (i)
- (vii) “foreign matter” shall mean stems, roots, shells, soil and also any material other than groundnuts; (xvi)
- (viii) “groundnuts” shall mean the fruits of *Arachis hypogaea*; (vi)
- (ix) “insects” shall mean the rice weevil (*Sitophilus granarius* Linn.) the Angoumois grain moth (*Sitotroga cerealella* Oliv.), the Mediterranean meal moth (*Ephistia kuehniella* Zell.), or the Indian meal moth (*Plodia interpunctella*); (vii)
- (x) “kernels” shall mean the seeds of groundnuts; (xi)
- (xi) “mould-infested kernels” shall mean groundnut kernels and parts of groundnut kernels on which external and/or internal mould growth is visible to the naked eye, and groundnut kernels which are damaged or discoloured as the result of mould growth; (xii)
- (xii) “shrivelled kernels” shall mean whole groundnut kernels which have a shrivelled and/or grooved appearance: Provided that whole groundnut kernels of which the veins are raised and/or crinkled, shall not be regarded as shrivelled kernels; (xv)
- (xiii) “soiled groundnuts” shall mean groundnuts with soil adhering to their shells: Provided that groundnuts of which the shells have been tinted by soil, shall not be regarded as soiled; (v)
- (xiv) “soiled kernels” shall mean whole groundnut kernels which are soiled to the extent that their appearance is affected; (xvii)
- (xv) “split kernels” shall mean groundnut kernels of which the testae are visibly loose or cracked and groundnut kernels of which parts have broken off and the separated halves and parts of separated halves of groundnut kernels which do not pass through the $\frac{1}{4}$ -inch round-hole screen; (iii)
- (xvi) “unshelled groundnuts” shall mean groundnuts or parts of groundnuts containing kernels; (ix)
- (xvii) “unsound” shall mean the condition of groundnut kernels and parts of groundnut kernels which are rancid, decayed, chalky or damaged by heat or insects or sprouted or showing internally or when the testae are removed yellow, purple, brown, red or any discoloration, and includes mould-infested kernels; (x)
- (xviii) “ $\frac{3}{4}$ -inch by $\frac{15}{64}$ -inch screen” shall mean a hand-screen 16 inches by 9 inches having $\frac{3}{4}$ -inch by $\frac{15}{64}$ -inch slotted perforations; (xviii)
- (xix) “ $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch screen” shall mean a hand-screen 16 inches by 9 inches having $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch slotted perforations; (xix)
- (xx) “ $\frac{3}{4}$ -inch by $\frac{19}{64}$ -inch screen” shall mean a hand-screen 16 inches by 9 inches having $\frac{3}{4}$ -inch by $\frac{19}{64}$ -inch slotted perforations; (xx)
- (xxi) “ $\frac{3}{4}$ -inch by $\frac{21}{64}$ -inch screen” shall mean a hand-screen 16 inches by 9 inches having $\frac{3}{4}$ -inch by $\frac{21}{64}$ -inch slotted perforations; (xxi)
- (xxii) “ $\frac{1}{4}$ -inch round-hole screen” shall mean a hand-screen 16 inches by 9 inches with round perforations $\frac{1}{4}$ -inch in diameter; (xxii) and
- (xxiii) “4, 3, 2 and 1 kernelled groundnuts” shall mean groundnuts which according to the formation of their shells apparently contain 4, 3, 2 and single kernels. (xxiii)

DEEL II.

GRADE EN MANIER VAN GRADERING VAN ONGEDOPE GROND-BOONTJIES WAT VIR EETDOELEINDES BESTEM IS.

1. Ongedopte grondboontjies wat vir eetdoeleindestem is, word behoudens die bepalings van regulasie 2 hiervan gegradeer ooreenkomstig die vereistes vir die onderskeie grade, soos in paragrawe (a), (b) en (c) uiteengesit:—

(a) Ongedopte grondboontjies van die Virginia Bunch-tipe moet soos volg gegradeer word:—

Graad No.	Minimum persentasie per gewig van 3 en 4-pit-grondboontjies vereis.	Maksimum persentasie per gewig van 2-pit-grondboontjies toegelaat.	Maksimum persentasie per gewig van 1-pit-grondboontjies toegelaat.	Minimum persentasie per gewig van totale gesonde pitinhoud vereis.
V4.....	97	3	—	60
V2.....	—	—	5	60

(b) Ongedopte grondboontjies van die Natal Common-tipe moet soos volg gegradeer word:—

Graad No.	Minimum persentasie per gewig van 2-pit-grondboontjies vereis.	Maksimum persentasie per gewig van 1-pit-grondboontjies toegelaat.	Minimum persentasie per gewig van totale gesonde pitinhoud vereis.
NC2.....	95	5	65

(c) Ongedopte grondboontjies van die Egyptian Giant-tipe moet soos volg gegradeer word:—

Graad No.	Minimum persentasie per gewig van 2-pit-grondboontjies vereis.	Maksimum persentasie per gewig van 1-pit-grondboontjies toegelaat.	Minimum persentasie per gewig van totale gesonde pitinhoud vereis.
E.G. 2.....	90	10	60

2. Ongedopte grondboontjies wat nie voldoen aan die vereistes vir die een of ander van die grade in regulasie 1 hierbo genoem nie, of wat—

- meer as 0.5 persent per gewig grondboontjies en/of uitgedopte pitte van ander tipes as die betrokke tipe bevat; of
- meer as 1.0 persent per gewig uitgedopte pitte bevat; of
- meer as 1.5 persent per gewig swartgekleurde en/of grondbesmeerde grondboontjies bevat; of
- meer as 5.0 persent per gewig gebreekte en oop grondboontjies bevat; of
- meer as 10.0 persent per gewig verkrimpte pitte, wat nie deur die $\frac{1}{4}$ -duim-rondgatsif gaan nie, bevat in die geval van Virginia Bunch- en Natal Common-tipe grondbome; of
- meer as 0.25 persent per gewig vreemde voorwerpe bevat; of
- een of meer skimmelbesmette pit of pitte bevat; of
- meer as 7 persent vog bevat; of
- lewende insekte bevat; of
- 'n muwwe, suur of enige ander onaangename reuk het;

mag nie in enigeen van daardie grade geplaas word nie.

3. Ondanks andersluidende bepalings in hierdie regulasies vervat mag grondboontjies van enige van die grade in hierdie Deel genoem geen kasteroliesaad en/of enige ander giftige sade bevat nie.

PART II.

GRADES AND MANNER OF GRADING OF UNSHELLED GROUNDNUTS INTENDED FOR EDIBLE PURPOSES.

1. Unshelled groundnuts intended for edible purposes shall, subject to the provisions of regulation 2 hereof, be graded in accordance with the requirements specified for the respective grades in paragraphs (a), (b) and (c):—

(a) Unshelled Virginia Bunch type of groundnuts shall be graded as follows:—

Grade No.	Minimum Percentage by Weight of 3 and 4-Kernelled Groundnuts Required.	Maximum Percentage by Weight of 2-Kernelled Groundnuts Allowed.	Maximum Percentage by Weight of 1-Kernelled Groundnuts Allowed.	Minimum Percentage by Weight of Total Sound Kernel Content Required.
V4.....	97	3	—	60
V2.....	—	—	5	60

(b) Unshelled Natal Common type of groundnuts shall be graded as follows:—

Grade No.	Minimum Percentage by Weight of 2-Kernelled Groundnuts Required.	Maximum Percentage by Weight of 1-Kernelled Groundnuts Allowed.	Minimum Percentage by Weight of Total Sound Kernel Content Required.
NC2.....	95	5	65

(c) Unshelled Egyptian Giant type of groundnuts shall be graded as follows:—

Grade No.	Minimum Percentage by Weight of 2-Kernelled Groundnuts Required.	Maximum Percentage by Weight of 1-Kernelled Groundnuts Allowed.	Minimum Percentage by Weight of Total Sound Kernel Content Required.
E.G. 2.....	90	10	60

2. Unshelled groundnuts which do not conform to the requirements for one or other of the grades set out in regulation 1 above, or which—

- contain more than 0.5 per cent by weight of groundnuts and/or shelled kernels of types other than the type concerned; or
- contain more than 1.0 per cent by weight of shelled kernels; or
- contain more than 1.5 per cent by weight of blackened and/or soiled groundnuts; or
- contain more than 5.0 per cent by weight of broken and open groundnuts; or
- contain more than 10 per cent by weight of shrivelled kernels which do not pass through the $\frac{1}{4}$ -inch round-hole screen in the case of Virginia Bunch and Natal Common types of groundnuts; or
- contain more than 0.25 per cent by weight of foreign matter; or
- contain one or more mould-infested kernels; or
- contain more than 7 per cent moisture; or
- contain live insects; or
- have a musty, sour or any other objectionable odour;

shall not be placed in any of such grades.

3. Notwithstanding anything to the contrary contained in these regulations groundnuts of any of the grades mentioned in this Part, shall not contain any castor seed and/or any other poisonous seeds.

4. By die bepaling van die grade van ongedopte grondboontjies soos in regulasie 1 hierbo genoem en vir die doel van regulasie 2, moet die volgende metodes gevolg word:—

- (a) *Neem van monsters.*—Monsters van minstens 10 lb. word verkry deur min of meer gelyke hoeveelhede grondboontjies uit minstens 5 persent van die totale aantal houters in 'n besending uit te haal en al die hoeveelhede aldus verkry uit houters met grondboontjies wat oor die algemeen van dieselfde kwaliteit is, deeglik te meng. Enige houters waarvan die grondboontjies in enige opsig van die res van die besending verskil, moet opsy gesit en afsonderlik gegradeer word.
- (b) *Bepaling van persentasie 4-, 3-, 2- en 1-pitgrondboontjies.*—Die persentasie 4-, 3-, 2- en 1-pitgrondboontjies word bepaal deur 200 gram van die monster ongedopte grondboontjies verkry op die wyse in paragraaf (a) voorgeskryf, na verwydering van vreemde voorwerpe en uitgedopte pitte, met die hand uit te soek.
- (c) *Bepaling van die totale gesonde pitinhoud.*—Die totale gesonde pitinhoud word bepaal deur 100 gram van die monster ongedopte grondboontjies verkry op die wyse in paragraaf (a) voorgeskryf, na verwydering van vreemde voorwerpe en uitgedopte pitte, uit te dop en die ongesonde pitte met die hand uit te soek.
- (d) *Bepaling van die persentasie grondboontjies van ander tipes.*—Die persentasie grondboontjies van ander tipes word bepaal deur 200 gram van die monster ongedopte grondboontjies verkry op die wyse in paragraaf (a) voorgeskryf, na verwydering van vreemde voorwerpe en uitgedopte pitte, met die hand uit te soek.
- (e) *Bepaling van die persentasie uitgedopte pitte.*—Die persentasie uitgedopte pitte word bepaal deur 'n monster van minstens 10 lb. ongedopte grondboontjies en uitgedopte pitte, verkry op die wyse in paragraaf (a) voorgeskryf, te sif en/of met die hand uit te soek.
- (f) *Bepaling van die persentasie swartgeklepte en/of grondbesmeerde grondboontjies.*—Die persentasie swartgeklepte en/of grondbesmeerde grondboontjies word bepaal deur 200 gram van die monster ongedopte grondboontjies, verkry op die wyse in paragraaf (a) voorgeskryf, na verwydering van vreemde voorwerpe en uitgedopte pitte, met die hand uit te soek.
- (g) *Bepaling van die persentasie gebreke en oop grondboontjies.*—Die persentasie gebreke en oop grondboontjies word bepaal deur 200 gram van die monster ongedopte grondboontjies, verkry op die wyse in paragraaf (a) voorgeskryf, na verwydering van vreemde voorwerpe en uitgedopte pitte, met die hand uit te soek.
- (h) *Bepaling van die persentasie verkrimpte pitte.*—Die persentasie verkrimpte pitte wat nie deur die $\frac{1}{4}$ -duim-rondegatsif gaan nie word bepaal deur voldoende grondboontjies te dop en met die hand uit te soek vir die verwydering van vreemde voorwerpe; 100 gram van die gesuiwerde pitte word oor die $\frac{1}{4}$ -duim-rondegatsif gesif en die pitte wat nie deur die sif gaan nie met die hand uitgesoek.
- (i) *Bepaling van die persentasie vreemde voorwerpe.*—Die persentasie vreemde voorwerpe word bepaal deur 'n monster van minstens 10 lb. ongedopte grondbone, verkry op die wyse in paragraaf (a) voorgeskryf, te sif en/of met die hand uit te soek.
- (j) *Bepaling van die aantal skimmelbesmette pitte.*—Die aantal skimmelbesmette pitte word bepaal deur minstens 10 lb. ongedopte grondboontjies verkry op die wyse in paragraaf (a) voorgeskryf, te dop. Die pitte word dan met behulp van 'n monsterverdelers deeglik gemeng en verdeel. Vyf pond pitte, vry van vreemde voorwerpe, word afgeweg en met die hand uitgesoek; enige verdagte pitte word in helftes oopgebreek of oopgesny om inwendige skimmelgroeie te bepaal.

4. To determine the grades of unshelled groundnuts as specified in regulation 1 above and for the purposes of regulation 2, the following methods shall be followed:—

- (a) *Taking of Samples.*—Samples of not less than 10 lb. shall be obtained by taking more or less equal quantities of groundnuts from at least 5 per cent of the total number of containers in a consignment, and by mixing together all the quantities so taken from containers containing groundnuts, which are generally of the same quality. Any containers of which the groundnuts differ in any respect from the rest of the consignment shall be placed aside and graded separately.
- (b) *Determining the Percentage of 4, 3, 2 and 1 Kernelled Groundnuts.*—The percentage of 4, 3, 2 and 1 kernelled groundnuts shall be determined by hand-picking 200 grammes of the sample of unshelled groundnuts obtained in the manner prescribed in paragraph (a), after removal of foreign matter and shelled kernels.
- (c) *Determining the Total Sound Kernel Content.*—The total sound kernel content shall be determined by shelling 100 grammes of the sample of unshelled groundnuts obtained in the manner prescribed in paragraph (a), after removal of foreign matter and shelled kernels, and by hand-picking the unsound kernels.
- (d) *Determining the Percentage of Groundnuts of Other Types.*—The percentage of groundnuts of other types shall be determined by hand-picking 200 grammes of the sample of unshelled groundnuts obtained in the manner prescribed in paragraph (a), after removal of foreign matter and shelled kernels.
- (e) *Determining the Percentage of Shelled Kernels.*—The percentage of shelled kernels shall be determined by screening and/or hand-picking a sample of at least 10 lb. of unshelled groundnuts and shelled kernels obtained in the manner prescribed in paragraph (a).
- (f) *Determining the Percentage of Blackened and/or Soiled Groundnuts.*—The percentage of blackened and/or soiled groundnuts shall be determined by hand-picking 200 grammes of the sample of unshelled groundnuts obtained in the manner prescribed in paragraph (a), after removal of foreign matter and shelled kernels.
- (g) *Determining the Percentage of Broken and Open Groundnuts.*—The percentage of broken and open groundnuts shall be determined by hand-picking 200 grammes of the sample of unshelled groundnuts obtained in the manner prescribed in paragraph (a), after removal of foreign matter and shelled kernels.
- (h) *Determining the Percentage of Shrivelled Kernels.*—The percentage of shrivelled kernels which do not pass through the $\frac{1}{4}$ -inch round-hole screen shall be determined by shelling sufficient groundnuts and hand-picking the kernels for the removal of all foreign matter; 100 grammes of the cleaned kernels shall be screened over the $\frac{1}{4}$ -inch round-hole screen and the kernels which do not pass through the screen shall be hand-picked.
- (i) *Determining the Percentage of Foreign Matter.*—The percentage of foreign matter shall be determined by screening and/or hand-picking a sample of at least 10 lb. of unshelled groundnuts obtained in the manner prescribed in paragraph (a).
- (j) *Determining the Number of Mould-infested Kernels.*—The number of mould-infested kernels shall be determined by shelling at least 10 pounds of unshelled groundnuts obtained in the manner prescribed in paragraph (a). The kernels shall then be properly mixed and divided by means of a sample divider. Five pounds of kernels, free from foreign matter, shall be weighed off and hand-picked; any suspect kernels shall be cut or broken into halves to determine internal mould growth.

(k) *Bepaling van voggehalte.*—Die persentasie vog in ongedopte grondboontjies word bepaal deur grondboontjies van 'n monster, verkry op die wyse in paragraaf (a) voorgeskryf, uit te dop en die voggehalte van die pitte te bepaal deur middel van die Brown-Duvel-metode of die Marconi elektriese weerstandsmetode soos in Deel IV voorgeskryf.

DEEL III.

GRADE EN MANIER VAN GRADERING VIR GEDOPTTE GROND-BOONTJIES WAT VIR EETDOELEINDES BESTEM IS.

1. Gedopte grondboontjies van die Virginia Bunch-, Natal Common- en Egyptian Giant-tipe wat vir eetdoeleindeg bestem is, word behoudens die bepalings van regulasie 2 hiervan gegradeer ooreenkomstig die vereistes vir die onderskeie grade in onderstaande tabel genoem:

Graad.			Maksimum persentasie per gewig pitte toegelaat bo of onder 'n bepaalde sif.							
Virginia Bunch Tipe.	Natal Common Tipe.	Egyptian Giant Tipe.	$\frac{3}{4}$ " by $\frac{31}{64}$ " gleufsif.		$\frac{3}{4}$ " by $\frac{19}{64}$ " gleufsif.		$\frac{3}{4}$ " by $\frac{17}{64}$ " gleufsif.		$\frac{3}{4}$ " by $\frac{15}{64}$ " gleufsif.	
			Bo.	Onder.	Bo.	Onder.	Bo.	Onder.	Bo.	Onder.
V.45.....	NC.56.....	EG. 30.....	—	21	—	6	—	1	—	—
V.56.....	NC.67.....	EG. 35.....	7	—	—	17	—	2	—	—
V.67.....	NC.78.....	EG. 40.....	3	—	23	—	—	4	—	—
V.UE.....	NC.UE.....	EG.UE.....	—	—	—	80	—	—	—	4

Grade.			Maximum Percentage by Weight of Kernels Allowed Above or Below a Specific Screen.							
Virginia Bunch Type.	Natal Common Type.	Egyptian Giant Type.	$\frac{3}{4}$ " by $\frac{31}{64}$ " Screen.		$\frac{3}{4}$ " by $\frac{19}{64}$ " Screen.		$\frac{3}{4}$ " by $\frac{17}{64}$ " Screen.		$\frac{3}{4}$ " by $\frac{15}{64}$ " Screen.	
			Above.	Below.	Above.	Below.	Above.	Below.	Above.	Below.
V.45.....	NC.56.....	EG. 30.....	—	21	—	6	—	1	—	—
V.56.....	NC.67.....	EG. 35.....	7	—	—	17	—	2	—	—
V.67.....	NC.78.....	EG. 40.....	3	—	23	—	—	4	—	—
V.UE.....	NC.UE.....	EG.UE.....	—	—	—	80	—	—	—	4

Met dien verstande dat in die geval van grondboontjies van die Virginia Bunch- en Natal Common-tipe die maksimum persentasie per gewig pitte toegelaat bo of onder 'n bepaalde sif, uitgesonderd die persentasies onder die $\frac{3}{4}$ -duim by $\frac{17}{64}$ -duim- en $\frac{3}{4}$ -duim by $\frac{15}{64}$ -duimgleufsiwwe, met hoogstens 5 persent per gewig oorskry mag word, mits die grondboontjies 'n telling per ons het van minstens die minimum en hoogstens die maksimum telling per ons vir 'n bepaalde graad-soos in onderstaande tabel aangedui:—

Provided that in the case of groundnuts of the Virginia Bunch and Natal Common types the maximum percentage by weight of kernels allowed above or below a specific screen, excluding the percentages below the $\frac{3}{4}$ -inch by $\frac{17}{64}$ -inch and $\frac{3}{4}$ -inch by $\frac{15}{64}$ -inch screens, may be exceeded by not more than 5 per cent by weight, provided that the groundnuts shall have a count per ounce of not less than the minimum count per ounce and not more than the maximum count per ounce for a specific grade as indicated in the following table:—

Graad.	Minimum telling per ons.	Maksimum telling per ons.
V.45.....	45	55
V.56.....	55	65
V.67.....	65	75
NC.56.....	50	60
NC.67.....	60	70
NC. 78.....	70	80

Grade.	Minimum Count per Ounce.	Maximum Count per Ounce.
V.45.....	45	55
V.56.....	55	65
V.67.....	65	75
NC.56.....	50	60
NC.67.....	60	70
NC. 78.....	70	80

2. Gedopte grondboontjies wat nie voldoen aan die vereistes vir die een of ander van die klasse en grade in regulasie 1 hierbo genoem nie of wat—

2. Shelled groundnuts which do not conform to the requirements for one or other of the grades set out in regulation 1 above, or which—

(i) 'n muwwe, suur of enige ander onaangename reuk het; of

(i) have a musty, sour or any other objectionable odour; or

- (ii) met 'n chemiese stof behandel en sodoende of op 'n ander wyse ongeskik gemaak is sodat dit nie tot gesonde voedsel vir menslike gebruik verwerk kan word nie; of
- (iii) meer as 4 persent per gewig gesplete pitte bevat; of
- (iv) meer as 0.25 persent per gewig ongesonde, gevekte en vuilgesmeerde heel en gesplete pitte bevat; of
- (v) meer as 3 persent per gewig verkrimpte pitte in die geval van die grade V.45, V.56, NC.56 en NC.67 en meer as 6 persent per gewig verkrimpte pitte in die geval van die grade V.67 en NC.78, en meer as 10 persent per gewig verkrimpte pitte in die geval van die grade V.UE en NC.UE bevat; of
- (vi) meer as 5 persent per gewig tipe (a), en meer as 15 persent per gewig tipes (a) en (b), beskadigde pitte bevat; of
- (vii) meer as 0.5 persent per gewig pitte van 'n ander tipe as die betrokke tipe grondboontjie bevat; of
- (viii) meer as 0.25 persent per gewig ongedopte grondboontjies bevat; of
- (ix) meer as 0.25 persent per gewig vreemde voorwerpe bevat; of
- (x) een of meer skimmelbesmette pit of pitte bevat; of
- (xi) meer as 7 persent vog bevat; of
- (xii) lewende insekte bevat;

mag nie in enigeen van daardie grade geplaas word nie.

3. Ondanks anders luidende bepalings in hierdie regulasies vervat mag grondboontjies van enige van die grade in hierdie Deel genoem geen kasteroliesaad en/of enige ander giftige sade bevat nie.

4. By die bepaling van die grade van grondboontjies soos in regulasie 1 hierbo genoem, moet die volgende metodes gevolg word:—

- (a) *Neem van monsters.*—Monsters vir die toets van gedopte grondboontjies wat vir eetdoeleindes bestem is, word verkry deur min of meer gelyke hoeveelhede met die hand en/of 'n steker uit te haal uit die houters wat gegradeer moet word. Wanneer die monster met die hand geneem word, moet die gradeerder minstens vyf persent van die houters na willekeur uit al die houters in 'n besending geneem, oopmaak. Indien gevind word dat die pitte uit al die houters in 'n besending oor die algemeen van dieselfde tipe en kwaliteit is, moet die monsters uit al die houters saam in 'n pan gegooi word. Die graad en tipe word bepaal uit die saamgevoegde monster wat verkry word nadat die pitte deeglik gemeng is. Enige houters waarvan die grondboontjies in enige opsig van die res van die besending verskil, moet opsy gesit en afsonderlik gegradeer word.
- (b) *Bepaling van die persentasies pitte bo of onder die onderskeie siwwe.*—Die persentasies pitte bo of onder die onderskeie siwwe word bepaal van duplikaatmonsters verkry op die wyse in paragraaf (a) voorgeskryf: Met dien verstande dat sodanige monsters met die hand uitgesoek moet word vir die verwydering van die gesplete pitte, ongedopte grondboontjies en vreemde voorwerpe. Duplikaatmonsters van 200 gram elk van sodanige suiwer handuitgesoekte grondboontjies word dan deeglik met die voorgeskrewe siwwe gesif. Die gewig van die pitte bo of onder die onderskeie siwwe, uitgedruk in 'n persentasie van die totale gewig van die besondere monster gee die persentasie pitte bo of onder die onderskeie siwwe. Die gemiddelde van die persentasies verkry van die duplikaatmonsters, moet geneem word.
- (c) *Bepaling van die aantal pitte per ons.*—Die aantal pitte per ons word bepaal deur drie afsonderlike monsters van een ons elk af te weeg uit pitte verkry op die wyse in paragraaf (a) voorgeskryf, en die aantal pitte te tel waaruit elke monster van een ons bestaan. Die gemiddelde van die drie tellings is die aantal pitte per ons.

- (ii) have been treated with a chemical and thereby or otherwise rendered unsuitable for processing therefrom of sound food for human consumption; or
- (iii) contain more than 4 per cent by weight of split kernels; or
- (iv) contain more than 0.25 per cent by weight of unsound, blemished and soiled whole and split kernels; or
- (v) contain more than 3 per cent by weight of shrivelled kernels in the case of the V.45, V.56, NC.56 and NC.67 grades, and more than 6 per cent by weight of shrivelled kernels in the case of the V.67 and NC.78 grades, and more than 10 per cent by weight of shrivelled kernels in the case of the V.UE and NC.UE grades; or
- (vi) contain more than 5 per cent by weight of type (a) and more than 15 per cent by weight of types (a) and (b) damaged kernels; or
- (vii) contain more than 0.5 per cent by weight of kernels of types other than the type of groundnuts concerned; or
- (viii) contain more than 0.25 per cent by weight of unshelled groundnuts; or
- (ix) contain more than 0.25 per cent by weight of foreign matter; or
- (x) contain one or more mould-infested kernels; or
- (xi) contain more than 7 per cent moisture; or
- (xii) contain live insects;

shall not be placed in any of such grades.

3. Notwithstanding anything to the contrary contained in these regulations, groundnuts of any of the grades set out in this Part shall not contain any castor seed and/or any other poisonous seeds.

4. To determine the grades of groundnuts, as specified in regulation 1 above, the following methods shall be followed:—

- (a) *Taking of Samples.*—Samples for the testing of shelled groundnuts intended for edible purposes shall be obtained by taking more or less equal quantities by hand and/or by means of a grain probe, from the containers to be graded. When the sample is taken by hand the grader shall open not less than five per cent of the containers taken at random from all the containers in a consignment. If the kernels from all the containers in a consignment are found to be generally of the same type and quality, the samples from all the containers shall be thrown together into a pan. The grade and type shall be determined from the composite sample obtained after the kernels have been thoroughly mixed. Any containers of which the groundnuts differ in any respect from the rest of the consignment shall be placed aside and graded separately.
- (b) *Determining the Percentages of Kernels Above or Below the Various Screens.*—The percentage of kernels above or below the various screens shall be determined from duplicate samples obtained in the manner prescribed in paragraph (a): Provided that such samples shall first be hand-picked for the removal of split kernels, unshelled groundnuts and foreign matter. Duplicate samples of 200 grammes each of such pure hand-picked groundnuts shall then be thoroughly screened over the prescribed screens. The weights of the kernels above or below the various screens, expressed as a percentage of the total weight of that sample shall be the percentages of kernels above or below the various screens. The average of the percentages obtained in respect of the duplicate samples shall be taken.
- (c) *Determining the Number of Kernels per Ounce.*—The number of kernels per ounce shall be determined by weighing off three separate one-ounce samples of kernels obtained in the manner prescribed in paragraph (a) and counting the kernels making up each one-ounce sample. The average of the three counts shall be the number of kernels per ounce.

- (d) *Bepaling van die persentasie gesplete pitte.*—Die persentasie gesplete pitte word bepaal deur duplikaatmonsters van 100 gram elk, verkry op die wyse in paragraaf (a) voorgeskryf, met die hand uit te soek. Die gewig van die gesplete pitte aldus verkry uit elke monster, uitgedruk in 'n persentasie van die totale gewig van daardie monster, gee die persentasie gesplete pitte in die monster. Die gemiddelde van die twee persentasies aldus verkry, moet geneem word.
- (e) *Bepaling van die persentasie ongesonde, gevlekte en vuilgesmeerde heel en gesplete pitte.*—Die persentasie ongesonde, gevlekte en vuilgesmeerde heel en gesplete pitte word bepaal deur duplikaatmonsters van 100 gram elk verkry op die wyse in paragraaf (a) voorgeskryf, met die hand uit te soek: Met dien verstande dat die graderder, indien hy dit nodig ag, die inhoud van 'n houer of houers met die hand kan uitsoek om die hoeveelheid ongesonde, gevlekte en vuilgesmeerde heel en gesplete pitte te bepaal. Die gewig van die ongesonde, gevlekte en vuilgesmeerde heel en gesplete pitte aldus verkry uit elke monster of houer, na gelang van die geval, uitgedruk in 'n persentasie van die totale gewig van daardie monster of houer, gee die persentasie ongesonde, gevlekte en vuilgesmeerde heel en gesplete pitte in die monster of houer. Die gemiddelde van die persentasies aldus verkry moet geneem word.
- (f) *Bepaling van die persentasie verkrimpte pitte.*—Die persentasie verkrimpte pitte word bepaal deur duplikaatmonsters van 100 gram elk, verkry op die wyse in paragraaf (a) voorgeskryf, met die hand uit te soek. Die gewig van die verkrimpte pitte aldus verkry uit elke monster, uitgedruk in 'n persentasie van die totale gewig van daardie monster, gee die persentasie verkrimpte pitte in die monster. Die gemiddelde van die twee persentasies aldus verkry, moet geneem word.
- (g) *Bepaling van die persentasie beskadigde pitte.*—Die persentasie beskadigde pitte word bepaal deur duplikaatmonsters van 100 gram elk, verkry op die wyse in paragraaf (a) voorgeskryf, met die hand uit te soek. Die gewig van die beskadigde pitte aldus verkry uit elke monster, uitgedruk in 'n persentasie van die totale gewig van daardie monster, gee die persentasie beskadigde pitte in die monster. Die gemiddelde van die twee persentasies aldus verkry, moet geneem word.
- (h) *Bepaling van die persentasie pitte van ander tipes grondboontjies.*—Die persentasie pitte van ander tipes grondboontjies word bepaal deur duplikaatmonsters van 100 gram elk, verkry op die wyse in paragraaf (a) voorgeskryf, met die hand uit te soek. Die gewig van die pitte van ander tipes grondboontjies aldus verkry uit elke monster, uitgedruk in 'n persentasie van die totale gewig van daardie monster, gee die persentasie pitte van ander tipes grondboontjies in die monster. Die gemiddelde van die twee persentasies aldus verkry, moet geneem word.
- (i) *Bepaling van die persentasie ongedopte grondboontjies.*—Die persentasie ongedopte grondboontjies word bepaal deur duplikaatmonsters van 100 gram elk, verkry op die wyse in paragraaf (a) voorgeskryf, met die hand uit te soek. Die gewig van die ongedopte grondboontjies aldus verkry uit elke monster uitgedruk in 'n persentasie van die totale gewig van daardie monster, gee die persentasie ongedopte grondboontjies in die monster. Die gemiddelde van die twee persentasies aldus verkry, moet geneem word.
- (j) *Bepaling van die persentasie vreemde voorwerpe.*—Die persentasie vreemde voorwerpe word bepaal deur duplikaatmonsters van 100 gram elk, verkry op die wyse in paragraaf (a) voorgeskryf, met die hand uit te soek. Die gewig van die vreemde voorwerpe aldus verkry uit elke monster, uitgedruk in 'n persentasie van die totale gewig van daardie monster, gee die persentasie vreemde voorwerpe in die monster. Die gemiddelde van die twee persentasies aldus verkry, moet geneem word.
- (d) *Determining the Percentage of Split Kernels.*—The percentage of split kernels shall be determined by hand-picking duplicate samples of 100 grammes each obtained in the manner prescribed in paragraph (a). The weight of the split kernels so obtained in each sample expressed as a percentage of the total weight of that sample shall be the percentage of split kernels in the sample. The average of the two percentages so obtained shall be taken.
- (e) *Determining the Percentage of Unsound, Blemished and Soiled Whole and Split Kernels.*—The percentage of unsound, blemished and soiled whole and split kernels shall be determined by hand-picking duplicate samples of 100 grammes each obtained in the manner prescribed in paragraph (a): Provided that the grader, if he considers it necessary, may pick by hand the contents of a container or containers to determine the quantity of unsound, blemished and soiled whole and split kernels. The weight of the unsound, blemished and soiled whole and split kernels so obtained in each sample or container, as the case may be, expressed as a percentage of the total weight of that sample or container, shall be the percentage of unsound, blemished and soiled whole and split kernels in the sample or container. The average of the percentages so obtained shall be taken.
- (f) *Determining the Percentage of Shrivelled Kernels.*—The percentage of shrivelled kernels shall be determined by hand-picking duplicate samples of 100 grammes each obtained in the manner prescribed in paragraph (a). The weight of shrivelled whole and split kernels so obtained in each sample, expressed as a percentage of the total weight of that sample, shall be the percentage of shrivelled kernels in the sample. The average of the two percentages so obtained shall be taken.
- (g) *Determining the Percentage of Damaged Kernels.*—The percentage of damaged kernels shall be determined by hand-picking duplicate samples of 100 grammes each obtained in the manner prescribed in paragraph (a). The weight of damaged kernels so obtained in each sample expressed as a percentage of the total weight of that sample, shall be the percentage of damaged kernels in the sample. The average of the two percentages so obtained shall be taken.
- (h) *Determining the Percentage of Kernels of Other Types of Groundnuts.*—The percentage of kernels of other types of groundnuts shall be determined by hand-picking duplicate samples of 100 grammes each obtained in the manner prescribed in paragraph (a). The weight of the kernels of other types of groundnuts so obtained in each sample expressed as a percentage of the total weight of that sample, shall be the percentage of kernels of other types of groundnuts in the sample. The average of the two percentages so obtained shall be taken.
- (i) *Determining the Percentage of Unshelled Groundnuts.*—The percentage of unshelled groundnuts shall be determined by hand-picking duplicate samples of 100 grammes each obtained in the manner prescribed in paragraph (a). The weight of the unshelled groundnuts so obtained in each sample, expressed as a percentage of the total weight of that sample, shall be the percentage of unshelled groundnuts in the sample. The average of the two percentages so obtained shall be taken.
- (j) *Determining the Percentages of Foreign Matter.*—The percentage of foreign matter shall be determined by hand-picking duplicate samples of 100 grammes each obtained in the manner prescribed in paragraph (a). The weight of the foreign matter so obtained in each sample, expressed as a percentage of the total weight of that sample, shall be the percentage of foreign matter in the sample. The average of the two percentages so obtained shall be taken.

(k) *Bepaling van die aantal skimmelbesmette pitte.*—Die aantal skimmelbesmette pitte word bepaal deur minstens 1 lb. grondbontjiespitte verkry op die wyse in paragraaf (a) voorgeskryf, met die hand uit te soek en enige verdagte pitte word in helftes oopgebreek of oopgesny om inwendige skimmelgroei te bepaal: Met dien verstande dat die grader, indien hy dit nodig ag, die inhoud van 'n houer of houers met die hand kan uitsoek om die skimmelbesmette pitte te bepaal.

(l) *Bepaling van die persentasie vog.*—Die persentasie vog in gedopte grondbontjies word bepaal op 'n monster grondbontjies verkry volgens die metode in paragraaf (a) voorgeskryf deur middel van die Brown-Duvel-metode of die Marconi-elektriese weerstandsmetodes soos in Deel IV voorgeskryf.

DEEL IV.

METODES OM VOGGEHALTE VAN GRONDBONTJIES TE BEPAAL.

Die voggehalte van grondbontjies word bepaal volgens die Brown-Duvel-metode of die Marconi-elektriese weerstandsmetode soos hieronder uiteengesit.

(a) *Die Brown-Duvel-vogtoets.*—Die apparaat vir hierdie toets bestaan uit die Brown-Duvel-vogtoets-apparaat waarin vog afgedryf word deur warm olie waarin die grondbontjies gedompel is en welke vog dan gedistilleer word in maatsilinders wat so gekalibreer is dat die voggehalte direk daarop afgelees kan word.

Toetsmetode.—Die apparaat word in 'n plek waar daar geen trek is nie, opgestel. Honderd gram grondbontjies word in die fles gegooi en dan 150 cc. vogtoetsolie daarby gevoeg. Die grondbontjies en olie word gemeng deur dit goed te skud. Die bek van die fles word gesluit deur middel van 'n gomlastiekprop met 'n termometer daardeur, so gestel dat vier-vyftes van die kwikbol onder die oppervlakte van die olie en grondbontjies is. Slegs 'n korrek gegradueerde Celsius-termometer wat spesiaal vir hierdie apparaat vervaardig is, mag gebruik word. Die fles word dan in die Brown-Duvel-apparaat geplaas en die arm van die fles met die kondenseerbuis verbind sodat dit dig sluit. Die gaasdraad met 'n asbesmiddelstuk wat onder die fles kom moet in 'n goeie toestand wees en so gestel word dat wanneer die fles verhit word, die vlam reg in die middel van die asbes brand. Die staander waarop die fles rus, moet so hoog wees dat die bodem van die fles omtrent $\frac{3}{4}$ duim bokant die asbes is. 'n Korrek gekalibreerde maatsilinder word onder die kondenseerbuis geplaas om die water op te vang wat afgedryf word. 'n Stroom koue water moet gedurig deur die kondenseertenk loop, of, as 'n klein Brown-Duvel-apparaat met enkelvak gebruik word met geen voorsiening vir 'n stroom water nie, moet die water in die tenk na elke toets vervang word.

Daarna word 'n deksel oor die fleshouer geplaas en met verhitting begin. Verhitting kan deur middel van elektrisiteit, paraffienblaaslampe of alkoholbranders (spirituslampe) geskied wat vir die apparaat verskaf word. Die hitte moet egter altyd so gereguleer word dat 'n temperatuur van 175° C nie gouer as na 19 minute nie, maar binne 21 minute, bereik word. As die verhittingstyd langer duur, gee dit te lae resultate en duur dit korter, is die resultate weer te hoog. Die verhitting moet afgesluit word sodra die vereiste temperatuur bereik is. As die voggehalte van die monster besonder hoog is, sal die mengsel skuim en oorkook met die normale metode van verhitting. Onder sulke omstandighede kan die juiste voggehalte die beste bepaal word deur die mengsel vinnig te verhit totdat die olie borrel en dan weer baie min totdat 'n paar kubieke sentimeter water afgedryf is. Daarna kan die normale verhitting weer toegepas

(k) *Determining the Number of Mould-infested Kernels.*—The number of mould-infested kernels shall be determined by hand-picking at least one pound of groundnut kernels obtained in the manner prescribed in paragraph (a) and any suspect kernels shall be cut or broken into halves to determine internal mould growth: Provided that the grader, if he considers it necessary, may pick by hand the contents of a container or containers to determine the mould-infested kernels.

(l) *Determining the Percentage of Moisture.*—The percentage of moisture in shelled groundnuts shall be determined on a sample of groundnuts obtained in the manner prescribed in paragraph (a) by either the Brown-Duvel method or the Marconi electrical resistance method as prescribed in Part IV.

PART IV.

METHODS OF DETERMINING THE MOISTURE CONTENT OF GROUNDNUTS.

The moisture content of groundnuts shall be determined by either the Brown-Duvel method or the Marconi electrical resistance method set out below.

(a) *The Brown-Duvel Moisture Test.*—The apparatus for this test shall consist of a Brown-Duvel moisture testing apparatus in which moisture is driven off by hot oil in which groundnuts have been immersed, and which moisture is distilled into measuring cylinders so calibrated that the moisture content may be read directly.

Method of Testing.—The apparatus shall be installed in a place free from draughts. One hundred grammes of groundnuts shall be introduced into the flask, and 150 c.c. of moisture testing oil then added. The groundnuts and oil shall be well mixed by shaking. The mouth of the flask shall be closed by means of a rubber stopper through which passes a thermometer so adjusted that four-fifths of the mercury bulb is submerged in the groundnuts and oil. Only a correctly graduated Celsius thermometer specially made for this apparatus shall be used. The flask shall then be placed in the Brown-Duvel apparatus, and the arm of the flask connected with the condenser tube so that it fits properly. The wire gauze with asbestos centre which is placed below the flask shall be in good condition and so adjusted that when the flask is heated, the flame plays directly in the centre of the asbestos. The stand upon which the flask rests, shall be of such a height that the bottom of the flask is about $\frac{3}{4}$ th inch above the asbestos. A correctly calibrated measuring cylinder shall be placed under the condenser tube to collect the water driven off. A continuous stream of cold water shall pass through the condenser tank, or if a small single compartment Brown-Duvel outfit with no provision for a stream of water is used, the water in the tank shall be changed after each test.

The cover shall then be placed over the flask compartment and heating started. The heating may be effected by electric elements, paraffin blow-lamps or alcohol burners (spirit lamps) as supplied for the apparatus. In all cases, however, the heat shall be so regulated that a temperature of 175° C. is reached in not less than 19 minutes and in not longer than 21 minutes. A longer heating time gives results too low and a shorter heating time results too high. The heat shall be cut off immediately the desired temperature is reached. If the moisture content of the sample is very high, foaming and bubbling over may result with the normal method of heating. Under such conditions the best way of getting the true moisture content is to heat rapidly until the oil bubbles, and then to

en die oorblywende vog afgedryf word binne die voorgeskrewe verhittingstyd sonder skuimvorming. Nadat die verhitting afgesluit is, kan 'n geringe geleidelike styging in temperatuur verwag word. 'n Skielike styging of daling van etlike grade in die temperatuur dui aan dat die vlam gedurende die laaste deel van verhitting te skerp was en die toets moet dan herhaal word. As die water wat oordistilleer is, gekleur is, het die grondboontjies waarskynlik aangebrand en moet die toets herhaal word. Die deksel of die termometer mag nie afgehaal word nie voordat die temperatuur tot 160°C . of laer gedaal het nie. Die deksel word dan afgehaal, die kondenseerbuis en die prop losgemaak en dan word die termometer uitgehaal.

Alle druppels aan die kante van die maatsilinder word afgeskud en die persentasie vog daarop afgelees. Die lesings word geneem onderkant die laag olie bo-op die water. Die resultate word tot een-tiende van een persent gelees. Alle toetse moet tweekeer gedoen word en as die verskil tussen die twee lesings nie groter as 0.2 is nie, moet die gemiddelde van die twee lesings as die voggehalte geneem word. As die verskil groter as 0.2 is, moet die toets herhaal word.

By die gebruik van hierdie apparaat moet gesorg word dat geen voos gomlastiekproppe gebruik word nie, dat die maatsilinder voor 'n toets droog- en skoongemaak word; dat olie nie onmiddellik na 'n vorige toets gebruik word nie en dat die kwik-kolom in die termometer ongebroke is voordat daar met 'n toets begin word.

Vars olie of olie wat vir geruime tyd nie gebruik is nie, moet vir elke toets gebruik word en die olie in iedere geval verhit word tot 'n temperatuur van 200°C . en dan gelaat word om af te koel voordat dit gebruik word.

Vir die doeleindes van hierdie toets kan enige plantaardige slaai- en kookolie van goeie gehalte gebruik word.

- (b) *Marconi-elektriese weerstandsmetode.*—Die apparaat vir die bepaling van voggehalte volgens hierdie metode moet bestaan uit die Marconi-vogmeter Model T.F. 933 of T.F. 933A, waardeur vog in die grondboontjies deur middel van elektriese weerstand bepaal word. Die apparaat moet weg van 'n trek en direkte sonlig geplaas word, in 'n vaste posisie in 'n kamer of skuur waar alle vogbepalings uitgevoer moet word. 'n Celsjustrmometer moet aan die buitekant van die instrumentekas van die apparaat aangeheg word sodat die termometerbol ten volle blootgestel is aan die vry lug in die kamer of skuur.

'n Hoeveelheid van minstens 40 en hoogstens 50 gram van 'n verteenwoordigende monster van die grondboontjies waarvan die voggehalte getoets moet word, moet in 'n handgraanmeul gemaal word wat gestel is deur die meulplate so styf moontlik deur middel van die stelskroef vas te draai en die stelskroef dan ongeveer 'n kwart draai los te draai. In die geval van grondboontjies met 'n hoë voggehalte sal dit nodig wees om die stelskroef verder los te draai. Die meul moet egalig gedraai word teen so 'n spoed dat die hele monster in 'n tydperk van minstens 30 sekondes en hoogstens 60 sekondes gemaal sal word. Nadat die monster gemaal is moet die meul deeglik skoongemaak word met onverdunde „Teepol” of ander suiweringsmiddel en met 'n skoon droë doek deeglik droog gevryf word. Die gemaalde monster moet onmiddellik na 'n glasfles met 'n skroefdeksel met 'n inhoudsmaat van tussen 300 en 400 kubieke sentimeters oorgeplaas word. Nadat die fles toegeskroef is, moet die inhoud deeglik vermeng word deur die fles vir minstens 30 sekondes te skud. Onmiddellik daarna moet die toetssel van die Marconi-apparaat omtrent half-vol gemaak word met die gemaalde monster en die metaaldrukprop daarop in posisie

apply little heat until a few cubic centimetres of water have been driven off. Then the heat may be turned on to normal again and the remaining moisture driven off, within the prescribed period of heating, without foaming taking place.

After the heat is cut off, a slight gradual rise in temperature is to be expected. A sudden increase or decrease in temperature of several degrees indicates that the flame was too intense during the latter part of the heating and the test shall be repeated. If the water which distills over is discoloured, the groundnuts may have been burnt and the test shall be repeated. The cover or the thermometer shall not be removed before the temperature has dropped to 160°C . or lower. Then the cover shall be removed and the thermometer, the stopper and then the delivery tube disconnected.

All drops clinging to the sides of the measuring cylinder shall be shaken down and the percentage of moisture read off. The reading shall be taken beneath the layer of oil on top of the water. Results to one-tenth of 1 per cent shall be read. All tests shall be made in duplicate and if the difference between the two readings does not exceed 0.2, the average of the two readings shall be taken as the moisture content. If the difference exceeds 0.2, the test shall be repeated.

In using this apparatus care shall be taken to avoid the use of mushy rubber stoppers, to clean and dry the measuring flasks before using them for a test, not to use oil directly from a previous test and to see that the column of mercury in the thermometer is unbroken before commencing any test.

Either fresh oil, or oil which has not been used for some time, shall be used for every test, and the oil should in any case be heated to a temperature of about 200°C . and allowed to cool before use.

For the purpose of this test any salad and cooking vegetable oil of good quality may be used.

The Marconi Electrical Resistance Method.—The apparatus for moisture determination according to this method shall consist of the Marconi moisture meter model T.F. 933 or T.F. 933A by which moisture in groundnuts is determined through electrical resistance. The apparatus shall be placed away from draughts and the direct rays of the sun in a permanent position in a room or store where all moisture determination shall be carried out. A centigrade thermometer shall be attached to the outside of the instrument case of the apparatus so that the thermometer bulb is fully exposed to the free air in the room or store.

A quantity of not less than 40 and not more than 50 grammes of a representative sample of the groundnuts to be tested for moisture shall be ground in a hand grain mill which has been adjusted by setting the milling plates as tightly as possible by means of the adjusting screw and then by loosening the latter about one-quarter turn.

In the case of groundnuts with a high moisture content further loosening of the adjusting screw will be found necessary.

The mill shall be operated at a uniform speed which allows of the entire sample being ground in a period of not less than 30 seconds and not more than 60 seconds. After grinding the mill shall be thoroughly cleaned with pure „Teepol” or other detergent and dried thoroughly by wiping with a clean dry cloth. The milled sample shall immediately be transferred to a screw cap glass jar of between 300 and 400 cubic centimeters capacity.

geplaas word. Daar moet gesorg word dat die monster gelyk in die sel lê en dat die onderdele van die sel behoorlik in mekaar pas, en die sel moet slegs aan die buitenste isoleermateriaal daarom gehanteer word. Onmiddellik daarna moet die sel (met die metaaldrukprop na bo) in die klamp wat deel van die Marconi-apparaat uitmaak, geplaas en daarin vasgeskroef word totdat die twee dele van die silindervormige veeromhuysel wat met die skroef verbind is, bo gelyk is. Die klamp met die sel daarin vasgeskroef, moet korrek met die hoof-toestel elektries verbind wees. Die skakelaar moet na die „zero“-posisie gedraai word, en daarna moet die galvanometer naald deur middel van die stelknoppie bokant die wyserskywe gestel word totdat die naald presies regoor die horisontale strepie te staan kom. Wanneer hierdie „zero“-instelling gemaak word, moet die linkerhandse wyserskywe op een van die posisies 1 tot 5 staan. Die skakelaar moet daarna na die „lees“-posisie gedraai word en die wyserskywe onmiddellik daarna gestel word totdat die galvanometer naald terugkeer na die posisie regoor die horisontale strepie. Die lesing op die wyserskywe moet nou geneem en die temperatuur op die termometer wat aan die hooftoestel geheg is, tot die naaste graad afgelees word. Enige geleidelike verskuiwing van die naald nadat dit aanvanklik korrek ingestel is, moet buite rekening gelaat word. Van die oomblik af wanneer die monster in die sel geplaas word totdat die finale lesing op die wyserskywe geneem word, mag hoogstens een minuut verloop. Die lesing op die wyserskywe moet herlei word tot persentasies volgens onderstaande tabel:—

Tabel aantonende die voggehalte vir 'n gegewe instrumentlesing.

Lesing op wyserskyf.	Persentasie.	Lesing op wyserskyf.	Persentasie.
0	5.06	28	7.34
1	5.10	29	7.46
2	5.15	30	7.58
3	5.20	31	7.71
4	5.25	32	7.84
5	5.30	33	7.97
6	5.36	34	8.11
7	5.42	35	8.25
8	5.49	36	8.39
9	5.55	37	8.53
10	5.62	38	8.68
11	5.69	39	8.83
12	5.77	40	8.98
13	5.85	41	9.13
14	5.93	42	9.29
15	6.01	43	9.45
16	6.09	44	9.61
17	6.18	45	9.78
18	6.27	46	9.95
19	6.37	47	10.12
20	6.46	48	10.29
21	6.56	49	10.47
22	6.67	50	10.65
23	6.77	51	10.83
24	6.88	52	11.02
25	6.99	53	11.21
26	7.10	54	11.40
27	7.22	55	11.59

Vir negatiewe instrumentlesings is die voggehalte:—

-1	5.01
-2	4.98
-3	4.94
-4	4.91
-5	4.88
-6	4.85

After the jar has been properly closed by screwing the cap on tightly the contents shall be thoroughly mixed by shaking the jar for at least 30 seconds. Immediately thereafter the test cell of the Marconi apparatus shall be filled approximately half full with the milled sample and the metal plunger shall be placed into position on it. Care shall be taken to ensure that the surface of the sample is level in the cell and that the parts of the cell fit properly into one another. The cell shall be handled only by the outer insulating material surrounding it. Immediately thereafter the cell (with the metal plunger facing upwards) shall be fitted into the clamp which forms part of the Marconi apparatus and screwed tight until the two parts of the cylindrical spring housing mounted on the screw are flush. The clamp containing the cell shall have proper electric contact with the main apparatus. The switch shall now be turned to the „zero“ position and the galvanometer pointer shall thereafter be adjusted by means of the „Set-zero“ knob above the dials until the pointer is exactly opposite the horizontal line. When setting to zero, the left-hand dial shall be at any one of the positions 1 to 5. The switch shall then be turned to the „Read“ position and the dials immediately adjusted until the galvanometer pointer returns to the position of the horizontal line. The dial reading shall now be taken and the temperature be read (to the nearest degree) from the thermometer attached to the main apparatus. Any gradual movement of the pointer, after having been correctly adjusted, shall be disregarded. Not more than one minute shall elapse between the placing of the samples into the cell and the taking of the final dial reading. Dial readings shall be converted into percentages according to the following table:—

Table Showing the Moisture Content for a Given Instrument Reading.

Dial Reading.	Percentage.	Dial Reading.	Percentage.
0	5.06	28	7.34
1	5.10	29	7.46
2	5.15	30	7.58
3	5.20	31	7.71
4	5.25	32	7.84
5	5.30	33	7.97
6	5.36	34	8.11
7	5.42	35	8.25
8	5.49	36	8.39
9	5.55	37	8.53
10	5.62	38	8.68
11	5.69	39	8.83
12	5.77	40	8.98
13	5.85	41	9.13
14	5.93	42	9.29
15	6.01	43	9.45
16	6.09	44	9.61
17	6.18	45	9.78
18	6.27	46	9.95
19	6.37	47	10.12
20	6.46	48	10.29
21	6.56	49	10.47
22	6.67	50	10.65
23	6.77	51	10.83
24	6.88	52	11.02
25	6.99	53	11.21
26	7.10	54	11.40
27	7.22	55	11.59

For negative instrument readings, the moisture content is:—

-1	5.01
-2	4.98
-3	4.94
-4	4.91
-5	4.88
-6	4.85

Tabel aantonende die aansuiwering vir Temperature bo of onder 20° C.

Temperatuur.	Tel by regstelling.	Temperatuur.	Trek af regstelling.
19° C.	0.05% m.c.	21° C.	0.05% m.c.
18° C.	0.1% m.c.	22° C.	0.1% m.c.
17° C.	0.15% m.c.	23° C.	0.15% m.c.
16° C.	0.2% m.c.	24° C.	0.2% m.c.
15° C.	0.25% m.c.	25° C.	0.25% m.c.
14° C.	0.3% m.c.	26° C.	0.3% m.c.
13° C.	0.35% m.c.	27° C.	0.35% m.c.
12° C.	0.4% m.c.	28° C.	0.4% m.c.
11° C.	0.45% m.c.	29° C.	0.45% m.c.
10° C.	0.5% m.c.	30° C.	0.5% m.c.

LET WEL.—Die temperatuurregstelling by grond-boontjies verskil van die regstellings wat gemaak moet word in geval van mielies, sorghums en sonneblomsaad.

Die toets moet sonder onderbreking gedupliseer word met afsonderlike hoeveelhede van die oorspronklike gemaalde monster, en indien die twee resultate aldus verkry nie met meer as 0.3 verskil nie, word die gemiddelde daarvan as die persentasie voggehalte van die grondboontjies waarvan die monster geneem is, uitgedruk. Indien die resultaat van die twee bepalinge met meer as 0.3 verskil, moet die bepaling herhaal word met verdere hoeveelhede van die oorspronklike gemaalde monster totdat twee resultate verkry word wat nie met meer as 0.3 verskil nie.

Daar moet gesorg word dat die meul waarmee die monster gemaal word, die fles waarin dit vermeng word en die sel van die apparaat behoorlik skoon en droog is voor elke bepaling.

LET WEL.—Skoonmaak van toetssel.—Dit is noodsaaklik dat die toetssel na elke voggehalte-bepaling deeglik soos volg skoongemaak moet word:—

- Vir lesings onder 50.*—Vryf die toetssel deeglik skoon met 'n droë doek, en
- Vir lesings bo 50.*—Maak die toetssel deeglik skoon met onverdunde „Teepol” of ander suiweringsmiddel. Nadat die toetssel skoongemaak is moet dit vir minstens 2 minute gelaat word om seker te maak dat geen vog daaraan bly nie en om die temperatuur van die toetssel na normaal te laat terugkeer.

Die vogmeter moet in ewewig met die temperatuur van die omringende lug wees om die ontwikkeling van die termo-elektriese stroompies in die instrument waardeur foute in die wyserskyflesings veroorsaak sal word, te verhoed. Om hierdie rede is dit gebiedend noodsaaklik dat die vogmeter vir 'n geruime tyd op een plek sal bly staan voordat 'n vogtoets gemaak word. Indien die vogmeter om een of ander spesiale rede na 'n ander posisie of 'n ander lokaliteit vervoer moet word, moet dit vir minstens 'n uur in die nuwe posisie met rus gelaat word sodat die instrument kans kry om in hitte-ewewig met die omringende lug te kom voordat 'n vogtoets gemaak word. Indien dit nie moontlik is om die termometer aan die kas van die instrument te heg nie, moet dit in 'n gerieflike horisontale posisie bo-op die apparaat geplaas word, minstens 15 minute voordat 'n vogtoets begin. Ook in die gevalle waar die termometer aan die kas geheg kan word maar dit nie permanent in daardie posisie gehou word nie moet dit in daardie posisie geplaas word minstens 15 minute voordat 'n vogtoets begin.

Wanneer 'n vogbepaling deur middel van hierdie metode gedoen word, moet gesorg word dat die apparaat in goeie werkende toestand is deur met 'n kort stukkie draad 'n kortsluiting in die twee boonste steeksokke op die hooftoestel te maak en daarna die skakelaar op „zero” en die galvano-

Table Showing Correction for Temperatures Above or Below 20° C.

Temperature.	Add Correction.	Temperature.	Subtract Correction.
19° C.	0.05% m.c.	21° C.	0.05% m.c.
18° C.	0.1% m.c.	22° C.	0.1% m.c.
17° C.	0.15% m.c.	23° C.	0.15% m.c.
16° C.	0.2% m.c.	24° C.	0.2% m.c.
15° C.	0.25% m.c.	25° C.	0.25% m.c.
14° C.	0.3% m.c.	26° C.	0.3% m.c.
13° C.	0.35% m.c.	27° C.	0.35% m.c.
12° C.	0.4% m.c.	28° C.	0.4% m.c.
11° C.	0.45% m.c.	29° C.	0.45% m.c.
10° C.	0.5% m.c.	30° C.	0.5% m.c.

N.B.—The temperature correction for groundnuts differs from the corrections which have to be made in the case of maize, sorghums and sunflower seed.

The test shall be carried out in duplicate without interruption with separate quantities of the original milled sample and if the two results thus obtained do not differ by more than 0.3 the average of the two results shall be taken as the percentage moisture content of the groundnuts from which the sample was taken. If the results of the two determinations differ by more than 0.3, the determination shall be repeated with further quantities of the original milled sample until two results are obtained which do not differ by more than 0.3.

Care shall be taken that the mill used for the grinding of the sample, the jar used for mixing the sample and the pressure cell of the apparatus are clean and dry before each determination is commenced.

N.B.—Cleaning of Pressure Cell.—It is essential that the pressure cell shall after each moisture determination be thoroughly cleaned as follows:—

- For readings below 50.*—Wipe the pressure cell thoroughly with a dry cloth; and
- for readings over 50.*—Clean the pressure cell thoroughly with „Teepol” used pure, or other detergent. After cleaning, the cell shall be left for at least 2 minutes to ensure that no film of moisture remains and to allow the temperature of the cell to return to normal.

The moisture meter has to be in equilibrium with the temperature of the ambient air in order to obviate the generation of thermo-electric currents in the instrument which may cause errors in the dial reading. For this reason it is imperative that the moisture meter should remain in one position for an appreciable time before a moisture test is carried out. If for some special reason the moisture meter has to be moved to another position or some other locality, it should be left undisturbed for at least one hour in the new position to allow the instrument to come into thermal equilibrium with the ambient air before a moisture test is carried out. If it is not possible to affix the thermometer to the case of the instrument, it should be placed in a convenient horizontal position on top of the apparatus at least 15 minutes before a moisture test is started. In those cases too where the thermometer can be affixed to the apparatus but does not remain in that position permanently, it should be placed in that position at least 15 minutes before commencement of a moisture test.

When a moisture determination is made by means of this method, it should be seen to that the apparatus is in good working order by short circuiting the two top-most sockets on the main apparatus with a short piece of wire, and turning the switch to „zero” and adjusting the galvanometer pointer until it is opposite the horizontal line.

meternaald regoor die horisontale strepie in te stel. Nadat die skakelaar op die „lees“-posisie gestel is, moet die lesing op die wyserskywe, geneem op die wyse hierbo omskryf, ongeveer 60 wees. Die draad moet dan verwyder word. Hierna moet die klamp, soos hierbo omskryf, elektries volgens voorskrif met die hooftoestel verbind word, die skakelaar op „zero“ en die galvanometernaald regoor die horisontale strepie ingestel en die basis van die toetssel in sy normale posisie in die klamp gehou word. 'n Stukkie metaaldraad of silwerpapier (tinfolie) moet dwarsoor die blootgestelde elektrodes (die metaaldele) van die toetssel, vasgedruk word sodat 'n kortsluiting veroorsaak word. Nadat die skakelaar op die „lees“-posisie gestel is, moet die lesing op die wyserskywe, geneem op die wyse hierbo omskryf, ongeveer 60 wees. Daarna moet die basis en isoleer-ring van die toetssel sonder die metaaldrukprop in die klamp vasgeskroef word totdat dit net stewig in posisie bly, en die skakelaar op „zero“ en die galvanometernaald regoor die horisontale strepie ingestel word. Nadat die skakelaar nou op die „lees“-posisie gestel is, moet die lesing op die wyserskywe in hierdie geval nul of laer as nul wees, maar indien die lesing hoër as nul is, kan die basis van die toetssel vir 'n paar minute in die son of in redelike warm lug geplaas en die toets herhaal word.

DEEL V.

ALGEMEEN.

Metode om persentasies te bepaal.—Alle bepalinge, tensy reeds uitdruklik gemeld, moet volgens duplikaatmonsters gedoen en volgens 'n persentasiebasis uitgedruk word. Die gemiddelde van die persentasies wat ten opsigte van elkeen van die duplikaatmonsters bepaal is, moet geneem word.

DEEL VI.

VERPAKKING.

Ongedopte en gedopte grondboontjies wat vir eet-doeleindes bestem is moet in een of ander van die volgende tipes houers verpak word:

- (1) *Ongedopte grondboontjies.*—Nuwe juut- en/of nuwe goingsakke.
- (2) *Gedopte grondbontjies.*—Nuwe juut- en/of nuwe goingsakke en/of nuwe meerlaagpapiersakke (minimum drie lae).

DEEL VII.

MERK EN AANBRING VAN ETIKETTE.

1. Alle houers waarin grondboontjies verpak is, moet duidelik gemerk wees met die naam en adres van die firma of persoon wat die grondboontjies geselekteer het, die netto-gewig en graad van die grondboontjies daarin verpak.

2. Alle houers wat grondboontjies bevat moet behalwe die merke gespesifiseer in regulasie 1 'n etiket aanhê met 'n grootte van minstens een duim by twee duim, waarop die besonderhede by regulasie 1 vereis aangegee word.

No. R. 2154.]

[31 Desember 1964.]

GRADE EN MANIER VAN GRADERING VAN SONNEBLOMSAAD.

Die Staatspresident het, kragtens die bevoegdheid hom verleen by artikel drie-en-veertig van die Bemarkingswet, 1937 (Wet No. 26 van 1937), soos gewysig, die regulasies gemaak, wat in die Bylae hiervan uiteengesit word en waarin grade en die manier van gradering vir die beheerde produk, sonneblomsaad, voorgeskryf word, ter vervanging van die regulasies gepubliseer by Goewermentskennisgewing No. R. 688 van 4 Mei 1962.

After the switch has been turned to "Read", the reading on the dials, taken in the manner described above, should be approximately 60. The wire shall then be removed. Thereafter the clamp shall be connected electrically with the main apparatus as described above, the switch turned to "zero", the galvanometer pointer adjusted to the position opposite the horizontal line and the base of the test cell kept in its normal position in the clamp. A piece of metal wire or silver paper (tin foil) shall be placed across the exposed electrodes (the metal parts) of the test cell and pressed down so as to cause a short circuit. After the switch has been turned to "Read", the dial reading, taken in the manner described above, should be approximately 60. Thereafter the base and the insular ring of the test cell shall be placed in the clamp and screwed down without the plunger until they just fit tightly, the switch turned to "zero" and the galvanometer pointer adjusted to the position opposite the horizontal line. After the switch has been turned to "Read", the reading on the dials in this instance would be nil or lower but if the reading is higher than nil, the base of the test cell may be exposed to sunlight or reasonably warm air for a few minutes after which the test shall be repeated.

PART V.

GENERAL.

Method to Determine Percentages.—In all cases, unless already mentioned, the determinations shall be made from duplicate samples and be expressed on a percentage basis. The average of the percentages determined in respect of each of the duplicate samples shall be taken.

PART VI.

PACKING.

Unshelled and shelled groundnuts intended for edible purposes shall be packed in one or other of the following types of containers:—

- (1) *Unshelled Groundnuts.*—New jute bags and/or new hessian bags.
- (2) *Shelled Groundnuts.*—New jute bags and/or new hessian bags, and/or new multiwall paper sacks (minimum three-ply).

PART VII.

MARKING AND LABELLING.

1. All containers containing groundnuts shall be clearly marked with the name and address of the firm or person who selected the groundnuts, the net weight and grade of groundnuts contained therein.

2. All containers containing groundnuts shall in addition to the marking specified in regulation 1, bear a label of a size of not less than one inch by two inches on which the particulars required by regulation 1 shall be given.

No. R. 2154.]

[31 December 1964.]

GRADES AND THE MANNER OF GRADING OF SUNFLOWER SEED.

The State President has under the powers vested in him by section forty-three of the Marketing Act, 1937 (Act No. 26 of 1937), as amended, made the regulations set out in the Schedule hereto, prescribing the grades and the manner of grading for sunflower seed, a regulated product, in substitution for the regulations published under Government Notice No. R. 688 of the 4th May, 1962.

BYLAE.

1. Sonneblomsaad word, behoudens die bepalings van regulasie 2 hiervan, gegradeer ooreenkomstig die vereistes vir die onderskeie grade in onderstaande tabel genoem:—

Graad No.	Minimum gewig in lb. vereis per Imperiale skepelmaat.	Maksimum persentasie per gewig toegelaat van—		
		Beskadigde sonneblomsaad.	Gedopte sonneblomsaad.	Vreemde voorwerpe.
F1.....	34	5	5	2
F2.....	32	7	7	3
F3.....	29	10	10	4
F4.....	25	13	—	5

2. Sonneblomsaad wat nie voldoen aan die vereistes vir die een of ander van die grade in regulasie 1 hierbo genoem nie, of wat—

- (i) meer as 10 persent vog bevat; of
 - (ii) 'n muwwe, kakiebos of ander onaangename reuk het; of
 - (iii) met 'n chemiese stof behandel is en as gevolg daarvan nie vir handelsdoeleindes geskik is nie; of
 - (iv) lewende insekte bevat,
- is ondergraad.

3. Ondanks andersluidende bepalings in hierdie regulasies vervat, mag sonneblomsaad van enige van die grade in hierdie Bylae genoem geen kastroliesaad en/of enige ander giftige sade bevat nie.

4. By die bepaling van die grade in regulasie 1 hierbo genoem, moet onderstaande metodes gevolg word:—

- (a) *Neem van monsters.*—Monsters vir die toets van sonneblomsaad word verkry deur min of meer gelyke hoeveelhede met die hand en/of 'n buissteker en/of 'n graansteker uit te haal uit die sakke wat gegradeer moet word. Wanneer die monster met die hand geneem word, moet die gradeerder minstens vyf persent van die sakke, na willekeur uit die besending geneem, oopmaak. Wanneer die monster met 'n buissteker geneem word, moet die gradeerder minstens 5 persent van die sakke, na willekeur uit al die sakke in 'n besending geneem, monster deur die buissteker op een of meer plekke by die bek van die sak, vir die volle lengte van die sak in te steek. Wanneer die monster met die graansteker geneem word, moet die steker op verskillende hoogtes in elke sak gestek word en dit moet in elke geval na die middel van die sak ingestek word. Indien gevind word dat die sonneblomsaad in 'n lot oor die algemeen van dieselfde kwaliteit is, word die monsters uit al die sakke in 'n pan bymekaar gegooi en deeglik gemeng. Sakke waarvan die sonneblomsaad in enige opsig van die inhoud van die ander sakke verskil, moet opsy gesit en afsonderlik gegradeer word.

- (b) *Bepaling van persentasie beskadigde sonneblomsaad.*—Die persentasie beskadigde sonneblomsaad word bepaal deur duplikaatmonsters van 50 gram elk, verkry op die wyse in paragraaf (a) beskryf, met die hand uit te soek. Die gewig van die beskadigde sonneblomsaad aldus verkry, uitgedruk in 'n persentasie van die totale gewig van die monster, is die persentasie beskadigde sonneblomsaad. As die verskil tussen die persentasies aldus bepaal ten opsigte van die twee monsters nie groter as 0.5 is nie, word die gemiddelde van die twee persentasies aldus bepaal, geneem. As die verskil groter as 0.5 is, moet die toets herhaal word.

- (c) *Bepaling van persentasie vreemde voorwerpe.*—Die persentasie vreemde voorwerpe in sonneblomsaad word bepaal deur duplikaatmonsters van 50 gram elk, verkry op die wyse in paragraaf (a) hierbo

SCHEDULE.

1. Sunflower seed shall, subject to the provisions of regulation 2 hereof, be graded in accordance with the requirements specified for the respective grades in the following table:—

Grade No.	Minimum Weight in lb. required per Imperial Bushel.	Maximum Percentage by Weight allowed of—		
		Damaged Sunflower Seed.	Decorticated Sunflower Seed.	Foreign Matter.
F1.....	34	5	5	2
F2.....	32	7	7	3
F3.....	29	10	10	4
F4.....	25	13	—	5

2. Sunflower seed which does not conform to the requirements for one or other of the grades set out in regulation 1 above, or which—

- (i) contains more than 10 per cent moisture; or
 - (ii) has a musty, khaki bush or other objectionable odour; or
 - (iii) has been treated with some chemical and thereby rendered commercially objectionable; or
 - (iv) contains live insects,
- shall be undergrade.

3. Notwithstanding anything to the contrary contained in these regulations sunflower seed of any of the grades set out in this Schedule shall not contain any castor seed and/or any other poisonous seeds.

4. In determining the grades specified in regulation 1 above, the following methods should be followed:—

- (a) *Taking of Samples.*—Samples for the testing of sunflower seed shall be obtained by taking more or less equal quantities by hand and/or by means of a tubular probe and/or by means of a grain probe from the bags to be graded. When the sample is taken by hand, the grader shall open not less than five per cent of the bags taken at random from all the bags in a consignment. When the sample is taken by means of a tubular probe, the grader shall sample at least 5 per cent of the bags, taken at random from all the bags in a consignment, by inserting the tubular probe at one or more places at the mouth of the bag for the full length of the bag. When the sample is taken by means of a grain probe each bag shall be probed at different levels and probing shall in all cases be done towards the centre of the bag. If the sunflower seed from all the bags in a lot is found to be generally of the same quality, the samples from all the bags shall be thrown into a pan and thoroughly mixed. Bags of which the sunflower seed differs in any respect from the contents of the other bags shall be placed aside and graded separately.

- (b) *Determination of Percentage of Damaged Sunflower Seed.*—The percentage of damaged sunflower seed shall be determined by handpicking duplicate 50 gramme samples of sunflower seed obtained in the manner indicated in paragraph (a) above. The weight of the damaged sunflower seed so obtained expressed as a percentage of the total weight of the sample, shall be the percentage of damaged sunflower seed. If the difference between the percentages so determined in respect of the two samples does not exceed 0.5, the average of the two percentages so determined shall be taken. If the difference exceeds 0.5 the test must be repeated.

- (c) *Determination of Percentage of Foreign Matter.*—The percentage of foreign matter in sunflower seed shall be determined by screening with appropriate hand screens and/or by handpicking duplicate 50

beskryf, met geskikte handsiwwe uit te sif en/of met die hand uit te soek. Die gewig van die vreemde voorwerpe aldus verkry, uitgedruk in 'n persentasie van die totale gewig van die monster, gee die vreemde voorwerpe-inhoud van die monster. As die verskil tussen die persentasies aldus bepaal ten opsigte van die twee monsters nie groter as 0.5 is nie, word die gemiddelde van die twee persentasies aldus bepaal, geneem. As die verskil groter as 0.5 is, moet die toets herhaal word.

(d) *Bepaling van persentasie gedopte sonneblomsaad.*—

Die persentasie gedopte sonneblomsaad word bepaal deur duplikaatmonsters van 50 gram elk, verkry op die wyse in paragraaf (a) beskryf, met die hand uit te soek. Die gewig van die gedopte sonneblomsaad aldus verkry, uitgedruk in 'n persentasie van die totale gewig van die monster, is die persentasie gedopte sonneblomsaad. As die verskil tussen die persentasies aldus bepaal ten opsigte van die twee monsters nie groter as 0.5 is nie, word die gemiddelde van die twee persentasies aldus bepaal, geneem. As die verskil groter as 0.5 is, moet die toets herhaal word.

(e) *Bepaling van gewig per skepelmaat.*—Die skepel-gewig van sonneblomsaad word volgens die een of ander van die volgende metodes bepaal ten opsigte van 'n monster verkry volgens die metode in paragraaf (a) hierbo beskryf:—

(i) *Chondrometer-metode.*—Die apparaat vir hierdie metode bestaan uit 'n chondrometer met die volgende afmetings, naamlik:—

'n *Tregter.*—Hoogte: 8.9 duim; bo-deursnee van tregter: 3.6 duim; deursnee van klepgat: 1.125 duim.

'n *Emmer.*—Binnehoogte: 4.9 duim; deursnee: 3 duim; inhoud: 34.675 kubieke duim, d.w.s. een imperiale pint; val van sonneblomsaad van klepgat na bek van emmer: 1.2 duim.

'n *Houtskraaper.*— $\frac{1}{2}$ duim dik, 1.4 duim breed en minstens 4 duim lank. Die kante van die skraaper moet goed gerond maar nie afgeslyt wees nie. As die skraaper sowel 'n ronde as 'n skerp kant het, mag slegs die ronde kant gebruik word om mee te skraap.

Hoe die apparaat gebruik word.—Die hele apparaat word geplaas op 'n harde, gladde, waterpas oppervlakte wat nie sal ruk of skud nie. Die tregter word met sonneblomsaad gevul en bo afgeskraap sodat dit gelykvol is. Daarna word die emmer reg onder die middel van die tregterklep geplaas sodat dit vas op sy boom staan. Die tregterklep word dan met 'n vinnige swaai wyd oopgestoot sodat die sonneblomsaad die emmer vol maak en na alle kante oorstroom. Daarna word die chondrometerkas 6 duim agteruitgeskuif, sonder om die emmer te skud of te stamp, en die tregter weggeswaai. Die oortollige sonneblomsaad word dan van die emmer afgeskraap met die skraaper wat regop gehou word. By die afskraap word die skraaper liggies maar stewig geplaas op die rand van die emmer wat liggies maar styf met die een hand vasgehou word, en die oortollige sonneblomsaad word dan met een flinke beweging oor die rand van die emmer afgeskraap. Nadat dit geskraap is, behoort die emmer gelykvol sonneblomsaad te wees. Die emmer met saad word dan op die teenwigarm van die chondrometer geweeg. Hier moet gesorg word dat die teenwig presies waterpas rus voordat die gewig afgelees word.

Die skepelgewig moet tweekeer met elke monster bepaal word. As die twee lesings nie ooreenstem nie, moet die toets met 'n nuwe monster herhaal word.

gramme samples of sunflower seed obtained in the manner prescribed in paragraph (a) above. The weight of the foreign matter so obtained, expressed as a percentage of the total weight of the sample gives the foreign matter content of the sample. If the difference between the percentages so determined in respect of the two samples does not exceed 0.5, the average of the two percentages so determined shall be taken. If the difference exceeds 0.5 the test must be repeated.

(d) *Determination of Percentage of Decorticated Sunflower Seed.*—

The percentage of decorticated sunflower seed shall be determined by handpicking duplicate 50 gramme samples of sunflower seed obtained in the manner indicated in paragraph (a) above. The weight of the decorticated sunflower seed so obtained, expressed as a percentage of the total weight of the sample, shall be the percentage of decorticated sunflower seed. If the difference between the percentages so determined in respect of the two samples does not exceed 0.5 the average of the two percentages so determined shall be taken. If the difference exceeds 0.5, the test must be repeated.

(e) *Determination of Weight per Bushel.*—

The bushel weight of sunflower seed shall be determined by one or other of the following methods on a sample obtained by the method described in paragraph (a) above:—

(i) *Chondrometer Method.*—The apparatus used in this method consists of a chondrometer of the following dimensions, viz.—

Hopper.—Height: 8.9 inches; top diameter of hopper: 3.6 inches; diameter of shutter hole: 1.125 inches.

Bucket.—Internal height: 4.9 inches; diameter: 3 inches; capacity: 34.675 cubic inches, i.e. 1 pint (Imperial); drop of sunflower seed from shutter hole to top of bucket: 1.2 inches.

A Wooden Scraper.— $\frac{1}{2}$ inch thick, 1.4 inches wide and at least 4 inches long. The edges of the scraper must be well rounded, but not worn. If the scraper has both a round and a sharp edge, only the round edge may be used for scraping.

Method of Using Apparatus.—The entire apparatus should be placed on a hard, smooth, level surface not subject to jarring or shaking. The hopper is filled with sunflower seed and scraped off level full. The bucket is then placed directly below the centre of the shutter of the hopper so that it rests firmly on its base. Thereupon the hopper shutter is opened wide with a quick swing allowing the sunflower seed to fill the bucket and to overflow on all sides, after which the chondrometer box is moved back 6 inches without jarring or shaking the bucket, and the hopper swung away. The surplus sunflower seed is then scraped from the bucket with the scraper, which is held vertically. In scraping, the scraper is placed lightly but firmly on the edge of the bucket, which is grasped gently but firmly with one hand, and the surplus sunflower seed scraped off with one firm scrape straight across the rim of the bucket. The scraping should leave the bucket just level full of sunflower seed. The bucket with sunflower seed is weighed on the counterpoise beam of the chondrometer. The counterpoise shall be exactly horizontal before reading the weight.

The bushel weight must be determined twice on each sample. If the two readings do not agree the test must be repeated with a new sample.

- (ii) *Die vier-in-een-skaalmetode met tweevlak-tregter.*—Die apparaat vir hierdie metode bestaan uit die volgende:—

'n Vier-in-een-skaal.

'n Emmer.—Binnehoogte: 4.9 duim; deursnee: 3 duim; inhoud: 34.675 kubieke duim, d.w.s. een imperiale pint.

'n Tweevlaktregter.—Bo-deursnee van tregter: 3.6 duim; hoogte van tregter: 8.9 duim en deursnee van klepgat: 1.125 duim.

Die tregter is vasgesit aan 'n ronde metaalpaaltjie wat op 'n metaalvoetstuk staan. Die hoogste vlak word in die geval van sonneblomsaad gebruik.

'n Houtskrapeer.— $\frac{1}{2}$ Duim dik, 1.4 duim breed en minstens 4 duim lank. Die kante van die skrapeer moet goed gerond wees, maar nie afgeslyt nie.

Hoe die apparaat gebruik word.—Die hele apparaat word geplaas of vasgemaak op 'n harde, gladde, waterpas oppervlakte wat nie sal ruk of skud nie. Die tregter word met sonneblomsaad gevul en gelykvol afgeskraap. Die emmer word dan op die hoogste vlak van die voetstuk neergesit. Die klepgat van die tregter word met 'n vinnige swaai wyd oopgestoot sodat die sonneblomsaad die emmer vol maak en na alle kante oorstroom. Die oortollige sonneblomsaad word dan van die emmer afgeskraap met die skrapeer wat regop gehou word. As die skrapeer sowel 'n ronde as 'n skerp kant het, mag slegs die ronde kant vir afskraping gebruik word. By die afskraap word die skrapeer liggies maar stewig geplaas op die rand van die emmer wat liggies maar styf met die een hand vasgehou word, en die oortollige sonneblomsaad word dan met een ferm beweging oor die rand van die emmer afgeskraap. Nadat geskraap is, behoort die emmer net gelykvol sonneblomsaad te wees. Die vier-in-een-skaal word op 'n stewige oppervlakte geplaas en gebalanseer; die sonneblomsaad in die emmer word dan in die pan van die vier-in-een-skaal gegooi en geweeg ten einde die skepelgewig te bepaal.

Die skepelgewig moet tweekeer met elke monster bepaal word en as die twee lesings nie ooreenstem nie, moet die toets herhaal word.

- (f) *Bepaling van die persentasie voggehalte.*—Die voggehalte van sonneblomsaad word bepaal deur middel van die Brown-Duvel-metode of die Marconi-elektriese weerstandsmetode, soos hieronder beskryf, ten opsigte van 'n monster verkry volgens die metode in paragraaf (a) beskryf.

- (a) *Die Brown-Duvel-metode.*—Die apparaat vir hierdie toets bestaan uit die Brown-Duvel-vogtoetsapparaat waarin vog afgedryf word deur warm olie waarin die sonneblomsaad gedompel is en die vog dan te distilleer in maatsilinders wat so gekalibreer is dat die voggehalte direk daarop afgelees kan word.

Toetsmetode.—Stel apparaat op in 'n plek waar daar geen trek is nie. Gooi 50 gram sonneblomsaad in die fles en voeg dan 150 c.c. vogtoetsolie daarby. Meng die sonneblomsaad en olie goed deur dit te skud. Sluit die bek van die fles deur middel van 'n gomlastiekprop met 'n termometer daardeur, so gestel dat vier-vyftes van die kwikbol onder die oppervlakte van die olie en sonneblomsaad is. Slegs 'n korrek gegradeerde Celsiustermometer wat spesiaal vir hierdie apparaat vervaardig is, mag gebruik word. Die fles word

- (ii) *The Two-level Funnel Four-in-one Scale Method.*—The apparatus used in this method is the following:—

A "Four-in-one Scale".

A Bucket.—Internal height: 4.9 inches; diameter: 3 inches; capacity: 34.675 cubic inches, i.e. 1 pint (Imperial).

A Two-level Funnel.—Top diameter of funnel: 3.6 inches; height of funnel: 8.9 inches and diameter of shutter hole: 1.125 inches. The funnel is attached to a metal base by means of a cylindrical metal upright. The highest level is used in the case of sunflower seed.

A Wooden Scraper.— $\frac{1}{2}$ inch thick, 1.4 inches wide and at least 4 inches long. The edges of the scraper must be well rounded but not worn.

Method of Using Apparatus.—The entire apparatus is placed or fastened onto a hard, smooth, level surface not subject to jarring or shaking. The funnel is filled with sunflower seed and scraped off level full. The bucket is then placed on the highest level of the base of the stand. The funnel shutter is opened wide with a quick swing; the sunflower seed being allowed to fill the bucket and to overflow on all the sides. The surplus sunflower seed is then scraped from the bucket with the scraper which is held vertically. If the scraper has both a round and sharp edge, only the round edge may be used for scraping. In scraping, the scraper is placed lightly, but firmly on the rim of the bucket which is grasped gently but firmly with one hand, and the surplus sunflower seed scraped off with one firm scrape straight across the rim of the bucket. The scraping should leave the bucket just level full of sunflower seed. The four-in-one scale is placed on a firm base and balanced; the sunflower seed in the bucket poured into the pan of the four-in-one scale and weighed to determine the weight per bushel.

The bushel weight must be determined twice on each sample and if the two readings do not agree the test must be repeated.

- (f) *Determination of the Percentage Moisture Content.*—The moisture content of sunflower seed shall be determined by the Brown-Duvel method or the Marconi electrical resistance method set out below on a sample of sunflower seed obtained in the manner indicated in paragraph (a) above.

- (a) *The Brown-Duvel Moisture Test.*—The apparatus for this test consists of a Brown-Duvel moisture testing apparatus in which moisture is driven off by hot oil in which sunflower seed has been immersed, and the moisture is distilled into measuring cylinders so calibrated that the moisture content may be read directly.

Method of Testing.—Install the apparatus in a place free from draughts. Introduce 50 grammes of sunflower seed into the flask, then add 150 c.c. of moisture testing oil. The sunflower seed and oil must be well mixed by shaking. Close the mouth of the flask by means of a rubber stopper through which passes a thermometer so adjusted that four-fifths of the mercury bulb is submerged in the sunflower seed and oil. Only a correctly graduated centigrade thermometer specially made for this apparatus may be used. The

dan in die Brown-Duvel-apparaat geplaas en die arm van die fles met die kondenseerbuis verbind sodat dit dig sluit. Die gaasdraad met 'n asbesmiddelstuk wat onder die fles kom, moet in 'n goeie toestand wees en so gestel word dat wanneer die fles verhit word, die vlam reg in die middel van die asbes brand. Die stander waarop die fles rus, moet so hoog wees dat die bodem van die fles omtrent $\frac{3}{4}$ ste duim bokant die asbes is. 'n Korrek gekalibreerde maatsilinder word onder die kondenseerbuis geplaas om die water op te vang wat afgedryf word. 'n Stroom koue water moet gedurig deur die kondenseertenk loop, of, as 'n klein Brown-Duvel-apparaat met enkelvak gebruik word met geen voorsiening vir 'n stroom water nie, moet die water in die tenk na elke toets vervang word.

Daarna word 'n deksel oor die fleshouer geplaas en met verhitting begin. Verhitting kan deur middel van elektrisiteit, paraffien-blaaslampe of alkoholbranders (spirituslampe) geskied wat vir die apparaat verskaf word. Die hitte moet egter altyd so gereguleer word dat 'n temperatuur van 180°C . binne minstens 19 minute en hoogstens 21 minute bereik word. As die verhittingstyd langer duur, gee dit te lae resultate en duur dit korter, is die resultate weer te hoog. Die verhitting moet afgesluit word sodra die vereiste temperatuur bereik is. As die voggehalte van die monster besonder hoog is, sal die mengsel skuim en oorkook met die normale metode van verhitting. Onder sulke omstandighede kan die juiste voggehalte die beste bepaal word deur die mengsel vinnig te verhit totdat die olie borrel en dan weer baie min totdat 'n paar kubieke sentimeter water afgedryf is. Daarna kan die normale verhitting weer toegepas en die oorblywende vog afgedryf word binne die voorgeskrewe verhittingstyd sonder skuimvorming.

Nadat die verhitting afgesluit is, kan 'n geringe geleidelike styging in temperatuur verwag word. 'n Skielike styging of daling van etlike grade in die temperatuur dui aan dat die vlam gedurende die laaste deel van verhitting te skerp was en die toets moet herhaal word. As die water wat oordistilleer, gekleur is, het die sonneblomsaad waarskynlik aanbrand en moet die toets herhaal word. Moenie die deksel of die termometer afhaal voordat die temperatuur tot 160°C . gedaal het nie. Wag totdat die temperatuur tot 160°C . of laer gedaal het, haal dan die deksel af, maak die kondenseerbuis en die prop los en haal die termometer uit.

Skud alle druppels aan die kante van die maatsilinder af en lees die persentasie vog daarop af. Die lesings word geneem onderkant die laag olie bo-op die water. Lees die resultate tot een-tiende van een persent. Alle toetse moet tweekeer gedoen word en as die verskil tussen die twee lesings nie groter as 0.2 is nie, kan die gemiddelde van die twee lesings as die voggehalte geneem word. As die verskil groter as 0.2 is, moet die toets herhaal word. Die persentasie vog word verkry deur die lesing met twee te vermenigvuldig.

By die gebruik van hierdie apparaat moet gesorg word dat geen voos gomlastiekproppe gebruik word nie, dat die maatsilinder voor 'n toets droog- en skoongemaak word; dat olie nie onmiddellik na 'n vorige toets gebruik word nie, en dat die kwikkolom in die termometer ongebroke is voordat daar met 'n toets begin word.

flask is then placed in the Brown-Duvel apparatus, and the arm of the flask is connected with the condenser tube so that it fits properly. The wire gauze with asbestos centre which is placed below the flask, must be in good condition and so adjusted that when the flask is heated, the flame plays directly in the centre of the asbestos. The stand upon which the flask rests, should be of such a height that the bottom of the flask is about $\frac{3}{4}$ th inch above the asbestos. A correctly calibrated measuring cylinder is placed under the condenser tube to collect the water driven off. A continuous stream of cold water should pass through the condenser tank, or if a small single compartment Brown-Duvel outfit with no provision for a stream of water is used, the water in the tank should be changed after each test.

The cover is then placed over the flask compartment and heating started. The heating may be effected by means of electrical elements, paraffin blowlamps or alcohol burners (spirit lamps) as supplied for the apparatus. In all cases, however, the heat must be so regulated that a temperature of 180°C . is reached in not less than 19 minutes and in not longer than 21 minutes. A longer heating time gives results too low and a shorter time results too high. The heat must be cut off immediately the desired temperature is reached. If the moisture content of the sample is very high, foaming and bubbling over may result with the normal method of heating. Under such conditions the best way of getting the true moisture content is to heat rapidly until the oil bubbles, and then to apply little heat until a few cubic centimeters of water have been driven off. Then the heat may be turned on to normal again and the remaining moisture driven off, within the prescribed period of heating, without foaming taking place.

After the heat is cut off a slight gradual rise in temperature is to be expected. A sudden increase or decrease in temperature of several degrees indicates that the flame was too intense during the latter part of the heating and the test should be repeated. If the water which distills over is discoloured the sunflower seed may have been burnt and the test should be repeated. Do not remove the cover nor the thermometer until the temperature has dropped to 160°C . After the temperature has fallen to 160°C . or lower, remove the cover, disconnect the delivery tube and the stopper and remove the thermometer.

Shake down all drops clinging to the sides of the measuring cylinder and read off the percentage of moisture. The reading is taken beneath the layer of oil on top of the water. Read results to one-tenth of 1 per cent. All tests must be made in duplicate and if the difference between the two readings does not exceed 0.2, the average of the two readings should be taken as the moisture content. If the difference exceed 0.2, the test must be repeated. The percentage of moisture is obtained by multiplying the reading by two.

In using this apparatus, care must be taken to avoid the use of mushy rubber stoppers, to clean and dry the measuring flasks before using them for a test, not to use oil directly from a previous test, and to see that the column of mercury in the thermometer is unbroken before commencing any test.

Vars olie of olie wat vir geruime tyd nie gebruik is nie, moet vir elke toets gebruik word en die olie moet in iedere geval verhit word tot 'n temperatuur van 200°C., en dan gelaat word om af te koel voordat dit gebruik word.

- (b) *Marconi-elektriese weerstandsmetode.*—Die apparaat vir die bepaling van voggehalte volgens hierdie metode moet bestaan uit die Marconi-vogmeter Model T.F.933 of T.F.933A, waardeur vog in die sonneblomsaad deur middel van elektriese weerstand bepaal word. Die apparaat moet weg van 'n trek en direkte sonlig geplaas word, in 'n vaste posisie in 'n kamer of skuur waar alle vogbepalings uitgevoer moet word. 'n Celsiustermometer moet aan die buitekant van die instrumentekas van die apparaat aangeheg word sodat die termometerbol ten volle blootgestel is aan die vry lug in die kamer of skuur.

'n Hoeveelheid van minstens 30 en hoogstens 40 gram van 'n verteenwoordigende monster van die sonneblomsaad waarvan die voggehalte getoets moet word, moet met 'n Philips elektriese meul (Type H.A.2760) of ander soortgelyke apparaat, gemaal word. Maal 1 minuut lank met 10 sekondes onderbreking na elke 15 sekondes. Nadat monsters nat sonneblomsaad gemaal is, moet die meul deeglik met onverdunde „Teepol” of ander suiweringsmiddel skoongemaak en met 'n skoon, droë doek droog gevryf word. Die gemaalde monster moet onmiddellik na 'n glasfles met 'n skroefdeksel en met 'n inhoudsmaat van tussen 300 en 400 kubieke sentimeters oorgeplaas word. Nadat die fles toegeskoef is, moet die inhoud deeglik vermeng word deur die fles vir minstens 30 sekondes te skud. Onmiddellik daarna moet die toetsel van die Marconi-apparaat omtrent half-vol gemaak word met die gemaalde monster en die metaaldrukprop daarop in posisie geplaas word. Daar moet gesorg word dat die monster gelyk in die sel lê en dat die onderdele van die sel behoorlik in mekaar pas, en die sel moet slegs aan die buitenste isoleermateriaal daarom gehanteer word. Onmiddellik daarna moet die sel (met die metaaldrukprop na bo) in die klamp wat deel van die Marconi-apparaat uitmaak, geplaas en daarin vasgeskoef word totdat die twee dele van die silindervormige veeromhulsel wat met die skroef verbind is, bo gelyk is. Die klamp met die sel daarin vasgeskoef, moet korrek met die hooftoestel elektries verbind wees. Die skakelaar moet nou na die „zero”-posisie gedraai word, en daarna moet die galvanometernaald deur middel van die stelknoppie bokant die wyserskywe gestel word totdat die naald presies regoor die horisontale strepie te staan kom. Wanneer hierdie „zero”-instelling gemaak word, moet die linkerhandse wyserskywe op een van die posisies 1 tot 5 staan. Die skakelaar moet daarna na die „lees”-posisie gedraai word en die wyserskywe onmiddellik daarna gestel word totdat die galvanometernaald terugkeer na die posisie regoor die horisontale strepie. Die lesing op die wyserskywe moet nou geneem en die temperatuur op die termometer wat aan die hooftoestel geheg is, tot die naaste graad afgelees word. Enige geleidelike verskuiwing van die naald nadat dit aanvanklik korrek ingestel is, moet buite rekening gelaat word. Van die oomblik af wanneer die monster in die sel geplaas word totdat die finale lesing op die wyserskywe geneem word, mag hoogstens een minuut verloop. Die lesings op die wyserskywe moet herlei word tot persentasies volgens onderstaande tabel:—

Either fresh oil, or oil which has not been used for some time, should be used for every test, and the oil should in any case be heated to a temperature of about 200° C. and allowed to cool before use.

- (b) *Marconi Electrical Resistance Method.*—The apparatus for moisture determination according to this method shall consist of the Marconi moisture meter model T.F. 933 or T.F. 933A by which moisture in sunflower seed is determined through electrical resistance. The apparatus shall be placed away from draughts and the direct rays of the sun in a permanent position in a room or store where all moisture determinations shall be carried out. A centigrade thermometer shall be attached to the outside of the instrument case of the apparatus so that the thermometer bulb is fully exposed to the free air in the room or store.

A quantity of not less than 30 grammes and not more than 40 grammes of a representative sample of sunflower seed to be tested for moisture shall be ground in a Philips electrical coffee grinder (Type H.A. 2760) or similar apparatus for 1 minute with a 10 second break after each 15 seconds of milling. The grinder shall, after grinding wet samples of sunflower seed, be thoroughly cleaned with pure „Teepol” or other detergent and dried thoroughly by wiping with a clean dry cloth. The milled sample shall immediately be transferred to a screw cap glass jar of between 300 and 400 cubic centimeters capacity. After the jar has been properly closed by screwing the cap on tightly the contents shall be thoroughly mixed by shaking the jar for at least 30 seconds. Immediately thereafter the test cell of the Marconi apparatus shall be filled approximately half full with the milled sample and the metal plunger shall be placed into position on it. Care shall be taken to ensure that the surface of the sample is level in the cell and that the parts of the cell fit properly into one another. The cell shall be handled only by the outer insulating material surrounding it. Immediately thereafter the cell (with the metal plunger facing upwards) shall be fitted into the clamp which forms part of the Marconi apparatus and screwed tight until the two parts of the cylindrical spring housing mounted on the screw are flush. The clamp containing the cell shall have proper electric contact with the main apparatus. The switch shall now be turned to the „zero” position and the galvanometer pointer shall thereafter be adjusted by means of the „Set-zero” knob above the dials until the pointer is exactly opposite the horizontal line. When setting to zero, the left-hand dial shall be at any one of the positions 1 to 5. The switch shall then be turned to the „Read” position and the dials immediately adjusted until the galvanometer pointer returns to the position of the horizontal line. The dial reading shall now be taken and the temperature be read (to the nearest degree) from the thermometer attached to the main apparatus. Any gradual movement of the pointer, after having been correctly adjusted, shall be disregarded. Not more than one minute shall elapse between the placing of the samples into the cell and the taking of the final dial reading. Dial readings shall be converted into percentages according to the following table:—

Tabel aantonende die voggehalte vir 'n gegewe instrumentlesing.

Lesing op wyserskyf.	Persentasie.	Lesing op wyserskyf.	Persentasie.
0	4.46	28	8.33
1	4.56	29	8.52
2	4.67	30	8.71
3	4.77	31	8.91
4	4.88	32	9.11
5	4.98	33	9.32
6	5.10	34	9.53
7	5.21	35	9.74
8	5.33	36	9.96
9	5.45	37	10.19
10	5.57	38	10.42
11	5.70	39	10.65
12	5.83	40	10.89
13	5.96	41	11.14
14	6.10	42	11.40
15	6.23	43	11.65
16	6.37	44	11.91
17	6.52	45	12.18
18	6.66	46	12.46
19	6.82	47	12.74
20	6.97	48	13.02
21	7.12	49	13.32
22	7.29	50	13.62
23	7.45	51	13.93
24	7.62	52	14.24
25	7.79	53	14.56
26	7.97	54	14.89
27	8.15	55	15.23

Vir negatiewe instrumenlesings is die voggehalte—

Lesing op wyserskyf.	Persentasie.
-1	4.36
-2	4.26
-3	4.17
-4	4.08
-5	3.99
-6	3.90

Die resultaat aldus verkry, moet vir temperatuur aangesuiwer word deur dit met 0.1 te vermeerder vir elke een graad Celsius wat die termometerlesing onder 20 grade Celsius is en met 0.1 te verminder vir elke een graad Celsius wat die termometerlesing bo 20 grade Celsius is.

Die toets moet sonder onderbreking gedupliseer word met afsonderlike hoeveelhede van die oorspronklike gemaalde monster, en indien die twee resultate aldus verkry nie met meer as 0.3 verskil nie, word die gemiddelde daarvan as die persentasie voggehalte van die sonneblomsaad waarvan die monster geneem is, uitgedruk. Indien die resultaat van die twee bepalinge met meer as 0.3 verskil, moet die bepaling herhaal word met verdere hoeveelhede van die oorspronklike gemaalde monster totdat twee resultate verkry word wat nie met meer as 0.3 verskil nie.

Daar moet gesorg word dat die meul waarmee die monster gemaal word, die fles waarin dit vermeng word en die sel van die apparaat behoorlik skoon en droog is voor elke bepaling.

L.W.—Skoonmaak van toetssel.—Dit is noodsaaklik dat die toetssel na elke voggehaltebepaling behoorlik soos volg skoongemaak moet word:—

- (a) *Vir lesings onder 40.*—Vryf die toetssel deeglik skoon met 'n skoon, droë doek; en

Table showing the Moisture Content for a given Instrument Reading.

Dial Reading.	Percentage.	Dial Reading.	Percentage.
0	4.46	28	8.33
1	4.56	29	8.52
2	4.67	30	8.71
3	4.77	31	8.91
4	4.88	32	9.11
5	4.98	33	9.32
6	5.10	34	9.53
7	5.21	35	9.74
8	5.33	36	9.96
9	5.45	37	10.19
10	5.57	38	10.42
11	5.70	39	10.65
12	5.83	40	10.89
13	5.96	41	11.14
14	6.10	42	11.40
15	6.23	43	11.65
16	6.37	44	11.91
17	6.52	45	12.18
18	6.66	46	12.46
19	6.82	47	12.74
20	6.97	48	13.02
21	7.12	49	13.32
22	7.29	50	13.62
23	7.45	51	13.93
24	7.62	52	14.24
25	7.79	53	14.56
26	7.97	54	14.89
27	8.15	55	15.23

For Negative Instrument Readings, the Moisture Content is—

Dial Reading.	Percentage.
-1	4.36
-2	4.26
-3	4.17
-4	4.08
-5	3.99
-6	3.90

The result thus obtained shall be corrected for temperature by increasing it by 0.1 for each degree centigrade the temperature reading is below 20° C. and by decreasing it by 0.1 for each degree centigrade the temperature is above 20° C.

The test shall be carried out in duplicate without interruption with separate quantities of the original milled sample and if the two results thus obtained do not differ by more than 0.3 the average of the two results shall be taken as the percentage moisture content of the sunflower seed from which the sample was taken. If the results of the two determinations differ by more than 0.3 the determination shall be repeated with further quantities of the original milled sample until two results are obtained which do not differ by more than 0.3.

Care shall be taken that the mill used for the grinding of the sample, the jar used for mixing the sample and the pressure cell of the apparatus are clean and dry before each determination is commenced.

N.B.—Cleaning of Pressure Cell.—It is essential that the pressure cell shall after each moisture determination be thoroughly cleaned as follows:—

- (a) *For readings below 40.*—Wipe the pressure cell thoroughly with a clean dry cloth; and

- (b) *Vir lesings bo 40.*—Maak die toetsel deeglik skoon met onverdunde „Teepol” of ander suiweringsmiddel en vryf dit droog met ’n skoon, droë doek. Nadat die toetsel skoongemaak is, moet dit vir minstens 2 minute gelaat word om seker te maak dat geen vog daaraan bly nie en om die temperatuur van die toetsel na normaal te laat terugkeer.

Die vogmeter moet in ewewig met die temperatuur van omringende lug wees om die ontwikkeling van termo-elektriese stroompies in die instrument waardeur foute in die wyserskyflesings veroorsaak sal word, te verhoed. Om hierdie rede is dit gebiedend noodsaaklik dat die vogmeter vir ’n geruime tyd op een plek sal bly staan voordat ’n vogtoets gemaak word. Indien die vogmeter om een of ander spesiale rede na ’n ander posisie of ’n ander lokaliteit vervoer moet word, moet dit vir minstens ’n uur in die nuwe posisie met rus gelaat word sodat die instrument kans kry om in hitte-ewewig met die omringende lug te kom voordat ’n vogtoets gemaak word. Indien dit nie moontlik is om die termometer aan die kas van die instrument te heg nie moet dit in ’n gerieflike horisontale posisie bo-op die apparaat geplaas word, minstens 15 minute voordat ’n vogtoets begin. Ook in die gevalle waar die termometer aan die kas geheg kan word maar dit nie permanent in daardie posisie gehou word nie moet dit in daardie posisie geplaas word minstens 15 minute voordat ’n vogtoets begin.

Wanneer ’n vogbepaling deur middel van hierdie metode gedoen word, moet gesorg word dat die apparaat in goeie werkende toestand is deur met ’n kort stukkie draad ’n kortsluiting in die twee boonste steeksokke op die hooftoestel te maak en daarna die skakelaar op „zero” en die galvanometernaald regoor die horisontale strepie in te stel. Nadat die skakelaar op die „lees”-posisie gestel is, moet die lesing op die wyserskywe, geneem op die wyse hierbo omskryf, ongeveer 60 wees. Die draad moet dan verwyder word. Hierna moet die klamp, soos hierbo omskryf, elektries volgens voorskrif met die hooftoestel verbind word, die skakelaar op „zero” en die galvanometernaald regoor die horisontale strepie ingestel en die basis van die toestel in sy normale posisie in die klamp gehou word. ’n Stukkie metaaldraad of silwerpapier (tinfolie) moet dwarsoor die blootgestelde elektrodes (die metaaldele) van die toetsel, vasgedruk word sodat ’n kortsluiting veroorsaak word. Nadat die skakelaar op die „lees”-posisie gestel is, moet die lesing op die wyserskywe, geneem op die wyse hierbo omskryf, ongeveer 60 wees. Daarna moet die basis en isoleëring van die toetsel sonder die metaaldrukprop in die klamp vasgeskroef word totdat dit net stewig in posisie bly, en die skakelaar op „zero” en die galvanometernaald regoor die horisontale strepie ingestel word. Nadat die skakelaar nou op die „lees”-posisie gestel is, moet die lesing op die wyserskywe in hierdie geval nul of laer as nul wees, maar indien die lesing hoër as nul is, kan die basis van die toestel vir ’n paar minute in die son of in redelike warm lug geplaas en die toets herhaal word.

4. Vir die toepassing van hierdie regulasies beteken—
„beskadigde sonneblomsaad” —

- (a) sonneblomsaad wat deur insekte beskadig is; of
(b) sonneblomsaad wat sigbaar deur skimmel-organismes of ander swamme besmet is; of

- (b) *for readings above 40.*—Clean the pressure cell thoroughly with “Teepol” used pure or other detergent and dry it thoroughly by wiping with a clean dry cloth. After cleaning the cell shall be left for at least 2 minutes to ensure that no film of moisture remains and to allow the temperature of the cell to return to normal.

The moisture meter has to be in equilibrium with the temperature of the ambient air in order to obviate the generation of thermoelectric currents in the instrument which may cause errors in the dial reading. For this reason it is imperative that the moisture meter should remain in one position for an appreciable time before a moisture test is carried out. If for some special reason the moisture meter has to be moved to another position or some other locality it should be left undisturbed for at least one hour in the new position to allow the instrument to come into thermal equilibrium with the ambient air before a moisture test is carried out. If it is not possible to affix the thermometer to the case of the instrument it should be placed in a convenient horizontal position on top of the apparatus at least 15 minutes before a moisture test is started. In those cases too where the thermometer can be affixed to the apparatus but does not remain in that position permanently, it should be placed in that position at least 15 minutes before commencement of a moisture test.

When a moisture determination is made by means of this method it should be seen to that the apparatus is in good working order by short circuiting the two topmost sockets on the main apparatus with a short piece of wire, and turning the switch to “zero” and adjusting the galvanometer pointer until it is opposite the horizontal line. After the switch has been turned to “Read”, the reading on the dials, taken in the manner described above, should be approximately 60. The wire shall then be removed. Thereafter the clamp shall be connected electrically with the main apparatus as described above, the switch turned to “zero”, the galvanometer pointer adjusted to the position opposite the horizontal line and the base of the test cell kept in its normal position in the clamp. A piece of metal wire or silver paper (tin foil) shall be placed across the exposed electrodes (the metal parts) of the test cell and pressed down so as to cause a short circuit. After the switch has been turned to “Read”, the dial reading, taken in the manner described above, should be approximately 60. Thereafter the base and the insulator ring of the test cell shall be placed in the clamp and screwed down without the plunger until they just fit tightly, the switch turned to “zero” and the galvanometer pointer adjusted to the position opposite the horizontal line. After the switch has been turned to “Read”, the reading on the dials in this instance would be nil or lower but if the reading is higher than nil the base of the test cell may be exposed to sunlight or reasonably warm air for a few minutes after which the test shall be repeated.

4. For the purposes of these regulations—
“damaged sunflower seed” shall mean—

- (a) sunflower seed which has been damaged by insects; or
(b) sunflower seed which is visibly infected with mould organisms or other fungi; or

(c) sonneblomsaad of stukkie sonneblomsaad wat sigbaar verkleur is (swart geword het) weens hitte van buite of verhitting as gevolg van inwendige gisting van saad met 'n hoë voggehalte; of

(d) sonneblomsaad wat sover ontkiem of uitloop het dat die dop van die sonneblomsaad gebreek het weens die kiemontwikkeling; of

(e) sonneblomsaad waarvan die dop op enige wyse gebreek of oop is, of gedeeltelik af is;

„gedopte sonneblomsaad”, sonneblomsaad waarvan die dop heeltemal af is;

„insekte”, die graankalander (*Sitophilus granarius* Linn.) die ryskalander (*Sitophilus oryzae* Linn.) of die Franse meelmot (*Sitotroga cerealella* Oliv.);

„kasteröliesaad”, die saad van *Ricinus Spp.*;

„sonneblomsaad”, die dopvrug (*Cypsel*) van *Helianthus annuus*;

„vogtoetsolie”, enige plantaardige slaai- en kookolie van goeie gehalte; en

„vreemde voorwerpe”, alle ander voorwerpe as sonneblomsaad, asook los doppe van gedopte sonneblomsaad.

(c) sunflower seed or pieces of sunflower seed which have been distinctly discoloured (blackened) by external heat or as the result of heating caused by internal fermentation in seed with a high moisture content; or

(d) sunflower seed in which germination or sprouting has proceeded so far that the hull of the sunflower seed is broken as a result of the development of the embryo; or

(e) sunflower seed of which the hulls have been broken or of which the hulls are open in any way or which are partly decorticated;

“castor seed” shall mean the seed of *Ricinus Spp.*;

“decorticated sunflower seed” shall mean sunflower seed of which the hulls have been completely removed;

“foreign matter” shall mean all material other than sunflower seed and shall include loose hulls of decorticated sunflower seeds;

“insects” shall mean the grain weevil (*Sitophilus granarius* Linn.); the rice weevil (*Sitophilus oryzae* Linn.) or the Angoumois grain moth (*Sitotroga cerealella* Oliv.);

“moisture testing oil” shall mean any salad and cooking vegetable oil of good quality; and

“sunflower seed” shall mean the fruits (*Cypsel*) of *Helianthus annuus*.

INHOUD.

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