



UNIE VAN SUID-AFRIKA
UNION OF SOUTH AFRICA

(As 'n Nuusblad by die Poskantoor Geregistreer)

BUITENGEWONE

EXTRAORDINARY

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*Alle Proklamasies, Goewermments- en Algemene Kennisgewings, wat vir die eerste maal gepubliseer word, is in die linker-bohoek met 'n * gemerk.*

*All Proclamations, Government and General Notices published for the first time, are indicated by a * in the left-hand upper corner.*

PROKLAMASIE

VAN SY EKSELLENSIE DIE EDELE ERNEST GEORGE JANSEN, DOKTOR IN DIE REGTE, GOEWERNEUR-GENERAAL VAN DIE UNIE VAN SUID-AFRIKA.

* No. 192, 1955.]

VEREISTES WAARAAN MIELIES WAT VIR
UITVOER BESTEM IS, MOET VOLDOEN.

Kragtens die bevoegdheid my verleen by artikel vyf van die Landbouvoortbrengselen Uitvoer Wet, 1917 (Wet No. 35 van 1917), soos gewysig, verklaar ek hierby dat mielies wat bestem is vir uitvoer uit die Unie van Suid-Afrika, moet voldoen aan die vereistes in die Bylae hiervan uiteengesit.

Proklamasie No. 159 van 1921 word hierby herroep vir sover dit op mielies betrekking het.

GOD BEHOEDE DIE KONINGIN.

Gegee onder my Hand en Grootseel te Pretoria, op hierdie Derde dag van September Eenduisend Nege-honderd Vyf-en-vyftig.

E. G. JANSEN,

Goewerneur-generaal.

Op las van Sy Eksellensie die
Goewerneur-generaal-in-rade.

S. P. LE ROUX.

BYLAE.

1. Mielies wat vir uitvoer bestem is, moet voldoen aan sodanige grade as wat omskryf word in regulasies uitgevaardig kragtens artikel ses van die Landbouvoortbrengselen Uitvoer Wet, 1917 (Wet No. 35 van 1917), soos gewysig.

2. Mielies wat vir uitvoer bestem is, mag geen chemiese stof bevat wat sodanige mielies vir menslike of dierlike verbruik ongeskik kan maak nie, uitgesonderd in gevalle waar sodanige mielies vir gebruik as saad bestem is en die sak of houer wat sodanige mielies bevat, duidelik gemerk is om aan te dui dat dit saadmielies bevat wat met 'n chemiese stof behandel is.

3. Mielies wat vir uitvoer bestem is mag nie meer as 14 persent by gewig vog bevat nie.

4. *Woordskrywing.*—Vir die toepassing van hierdie Proklamasie beteken—

„uitvoer”, die uitvoer van mielies na enige land of gebied buite die Unie van Suid-Afrika, uitgesonderd Suidwes-Afrika, die Sentraal-Afrikaanse Federasie, Mosambiek en die protektorate Basoetoland, Betsjoeanaland en Swaziland.

A—129175

PROCLAMATION

BY HIS EXCELLENCY THE HONOURABLE ERNEST GEORGE JANSEN, DOCTOR OF LAWS, GOVERNOR-GENERAL OF THE UNION OF SOUTH AFRICA.

* No. 192, 1955.]

REQUIREMENTS TO WHICH MEALIES
INTENDED FOR EXPORT SHALL CONFORM.

Under the powers vested in me by section five of the Agricultural Produce Export Act, 1917 (Act No. 35 of 1917), as amended, I hereby declare that mealies intended for export from the Union of South Africa shall conform to the requirements set out in the Schedule hereto.

Proclamation No. 159 of 1921 is hereby repealed in so far as it relates to mealies.

GOD SAVE THE QUEEN.

Given under my Hand and Great Seal at Pretoria on this Third day of September, One thousand Nine hundred and Fifty-five.

E. G. JANSEN,

Governor-General.

By Command of His Excellency the
Governor-General-in-Council.

S. P. LE ROUX.

SCHEDULE.

1. All mealies intended for export shall conform to such grades as are defined in regulations published in terms of section six of the Agricultural Produce Export Act, 1917 (Act No. 35 of 1917), as amended.

2. Mealies intended for export shall not contain any chemical substance rendering such mealies unfit for human or animal consumption except in cases where such mealies are intended for seed purposes and the bag or container containing such mealies is clearly marked to indicate that it contains seed mealies treated with a chemical substance.

3. Mealies intended for export shall not contain more than 14 per cent by weight of moisture.

4. *Definition.*—For the purpose of this Proclamation—
“export” shall mean the export of mealies to any country or territory outside the Union of South Africa except South West Africa, the Central African Federation, Moçambique and the Protectorates of Basutoland, Bechuanaland and Swaziland.

GOEWERMENSKENNISGEWINGS.

Onderstaande Goewermenskennisgewings word vir algemene inligting gepubliseer:—

DEPARTEMENT VAN LANDBOU.

* No. 1795.] [9 September 1955.
AANSTELLING VAN INSPEKTEURS OM MIELIES
WAT VIR UITVOER BESTEM IS, TE ONDER-
SOEK EN GRADEER.

Kragtens artikels *tien* en *twaalf* van die Landbouvoortbrengselen Uitvoer Wet, 1917 (Wet No. 35 van 1917), soos gewysig, maak ek, STEPHANUS PETRUS LE ROUX, Minister van Landbou, hierby bekend dat alle graaninspekteurs, graangradeerders en assistent graangradeerders wat in diens van die Suid-Afrikaanse Spoorweë en Hawens is, hiermee gemagtig word om met ingang vanaf 1 Oktober 1955 mielies wat vir uitvoer bestem is te ondersoek en gradeer.

S. P. LE ROUX,
Minister van Landbou.

* No. 1796.] [9 September 1955.
REGULASIES MET BETREKKING TOT DIE
GRADERING EN INSPEKSIE VAN MIELIES
WAT VIR UITVOER BESTEM IS.

Sy Eksellensie die Goewerneur-generaal het, kragtens die bevoegdheid hom verleen by artikel *ses* van die Landbouvoortbrengselen Uitvoer Wet, 1917 (Wet No. 35 van 1917), soos gewysig, die regulasies vervat in die Aanhangel hiervan, met betrekking tot die gradering en inspeksie van mielies wat vir uitvoer bestem is, met inwerkingtreding op 1 November 1955, gemaak en wel ter vervanging van die regulasies gepubliseer by Goewermenskennisgewing No. 827 van 29 April 1949, soos gewysig by Goewermenskennisgewing No. 972 van 28 April 1950.

AANHANGSEL.

WOORDOMSKRYWING.

1. Vir die toepassing van hierdie regulasies en tensy dit instryd is met die samehang daarvan, beteken—

„wit duikpit”, mielies wat oorwegend bestaan uit die wit duikpit-tipe, botanies bekend as *zea mays indentata*, en wat hoogstens 5 persent mieliepitte van 'n ander kleur volgens gewig en hoogstens 7 persent verrooide mieliepitte volgens gewig bevat;

„wit rondepit”, mielies wat oorwegend bestaan uit die wit rondepit-tipe, botanies bekend as *zea mays indurata*, en wat hoogstens 5 persent mieliepitte van 'n ander kleur volgens gewig en hoogstens 7 persent verrooide mieliepitte volgens gewig bevat;

„wit duikpit of rondepit”, mielies van enigeen van die klasse wit duikpit of wit rondepit wat nie aan die vereistes vir enigeen van die grade wit duikpit 1, wit duikpit 2 of wit rondepit 1 soos in die tabel in regulasie 2 omskryf, voldoen nie;

„geel duikpit”, mielies wat oorwegend bestaan uit die geel duikpit-tipe, botanies bekend as *zea mays indentata*, en wat hoogstens 5 persent mieliepitte van 'n ander kleur volgens gewig en hoogstens 7 persent verrooide mieliepitte volgens gewig bevat;

„geel rondepit”, mielies wat oorwegend bestaan uit die geel rondepit-tipe, botanies bekend as *zea mays indurata*, en wat hoogstens 5 persent mieliepitte van 'n ander kleur volgens gewig en hoogstens 7 persent verrooide mieliepitte volgens gewig bevat;

„geel duikpit of rondepit”, mielies van enigeen van die klasse geel duikpit of geel rondepit wat nie aan die vereistes vir enigeen van die grade geel duikpit 1 of geel rondepit 1 soos in die tabel in regulasie 2 omskryf, voldoen nie;

GOVERNMENT NOTICES.

The following Government Notices are published for general information:—

DEPARTMENT OF AGRICULTURE.

* No. 1795.] [9 September 1955.
APPOINTMENT OF INSPECTORS TO EXAMINE
AND GRADE MEALIES INTENDED FOR EXPORT.

In terms of sections *ten* and *twelve* of the Agricultural Produce Export Act, 1917 (Act No. 35 of 1917), as amended, I, STEPHANUS PETRUS LE ROUX, Minister of Agriculture, hereby make known that all grain inspectors, grain graders and assistant grain graders in the employ of the South African Railways and Harbours are hereby authorised with effect as from the 1st October, 1955, to examine and grade mealies intended for export.

S. P. LE ROUX,
Minister of Agriculture.

* No. 1796.] [9 September 1955.
REGULATIONS RELATING TO THE GRADING
AND INSPECTION OF MEALIES INTENDED
FOR EXPORT.

His Excellency the Governor-General has, under the powers vested in him by section *six* of the Agricultural Produce Export Act, 1917 (Act No. 35 of 1917), as amended, made the regulations contained in the Annexure hereto relating to the grading and inspection of mealies intended for export in substitution for the regulations published by Government Notice No. 827 of 29th April, 1949, as amended by Government Notice No. 972 of the 28th April, 1950, with effect from the 1st of November, 1955.

ANNEXURE.

DEFINITIONS.

1. For the purpose of these regulations and unless inconsistent with the context thereof—

“White Dent” shall mean mealies that are predominantly of the white dent type botanically known as *zea mays indentata* and that contain not more than 5 per cent by weight of other coloured mealie kernels and not more than 7 per cent by weight of pinked mealie kernels;

“White Flint” shall mean mealies that are predominantly of the white flint type botanically known as *zea mays indurata* and that contain not more than 5 per cent by weight of other coloured mealie kernels and not more than 7 per cent by weight of pinked mealie kernels;

“White Dent or Flint” shall mean mealies of any of the classes White Dent or White Flint that do not conform to the requirements of either of the grades White Dent 1, White Dent 2 or White Flint 1 as defined in the table in regulation 2;

“Yellow Dent” shall mean mealies that are predominantly of the yellow dent type botanically known as *zea mays indentata* and that contain not more than 5 per cent by weight of other coloured mealie kernels and not more than 7 per cent by weight of pinked mealie kernels;

“Yellow Flint” shall mean mealies that are predominantly of the yellow flint type botanically known as *zea mays indurata* and that contain not more than 5 per cent by weight of other coloured mealie kernels and not more than 7 per cent by weight of pinked mealie kernels;

“Yellow Dent or Flint” shall mean mealies of any of the classes Yellow Dent or Yellow Flint that do not conform to the requirements of either of the grades Yellow Dent 1 or Yellow Flint 1 as defined in the table in regulation 2;

„gemeng”, duikpit- of rondepitmielies wat nie aan die vereistes vir enigeen van die klasse wit duikpit, wit rondepit, wit duikpit of rondepit, geel duikpit, geel rondepit of geel duikpit of rondepit soos hierbo omskryf, voldoen nie;

„mieliepitte van 'n ander kleur”, met betrekking tot witmielies, mieliepitte van 'n ander kleur as wit, uitgesonderd verrooide pitte en, met betrekking tot geelmielies, mieliepitte van 'n ander kleur as geel, uitgesonderd verrooide mieliepitte;

„verrooide mieliepitte”, mieliepitte waarvan die endosperm wit of geel is en waarvan die saadhuud of gedeelte daarvan 'n rooi of ligrooi kleur het;

„gebrekkige mieliepitte” —

(a) mieliepitte wat klaarblyklik vir kommersiële doeleindes van 'n minderwaardige gehalte is as gevolg van die feit dat hulle —

- (i) nie ryp is nie; of
- (ii) nie behoorlik ontwikkel is nie; of
- (iii) verkrip is; of
- (iv) uitgeloop is; of
- (v) deur insekte gevreet of geboor is; of
- (vi) deur ryp, hitte, vog, siekte of op enige ander wyse beskadig is; of

(b) mieliepitte van ander tipes mielies as *zea mays indentata* en *zea mays indurata* is, soos broodmielies, kiepielmielies of suikermielies;

„vreemde voorwerpe”, enige voorwerp wat nie mielies is nie soos ander dele van die mielieplant, saad van ander graansoorte of van onkruid, stukkie hout, ens.;

„kalanderbesmette mielies”, mielies wat besmet is met lewende kalenders of enige ander lewende insekte wat skadelik is vir opgebergde graan;

„uitvoer”, die uitvoer van mielies na enige land of gebied buite die Unie van Suid-Afrika, uitgesonderd Suidwes-Afrika, die Sentraal-Afrikaanse Federasie, Mosambiek en die protektorate Betsjoeanaland, Swaziland en Basoetoland;

„oesjaar”, met betrekking tot 'n hoeveelheid mielies, die kalenderjaar waarin soodanige mielies geoes is;

„vogtoetsolie”, 'n goeie gehalte plantaardige slaai- en kookolie.

2. Mielies wat vir uitvoer bestem is, moet gegradeer word ooreenkomstig die voorskrifte in onderstaande tabel uiteengesit: —

„mixed” shall mean any dent or flint mealies that do not conform to the requirements of any of the classes White Dent, White Flint, White Dent or Flint, Yellow Dent, Yellow Flint or Yellow Dent or Flint as described above;

„other coloured mealie kernels” in relation to white mealies, shall mean mealie kernels of a colour other than white, excluding pinked mealie kernels, and in relation to yellow mealies, shall mean mealie kernels of a colour other than yellow, excluding pinked mealie kernels;

„pinked mealie kernels” shall mean mealie kernels of which the endosperm is white or yellow and of which the pericarp or a part thereof, is of a red or pink colour;

„defective mealie kernels” shall mean —

(a) mealie kernels that are clearly of inferior quality for commercial purposes by reason of the fact that they are —

- (i) unripe, or
- (ii) undeveloped, or
- (iii) shrivelled, or
- (iv) sprouted, or
- (v) eaten or bored by insects, or
- (vi) damaged by frost, heat, moisture, disease, or any other agency; or

(b) mealie kernels of types other than *zea mays indentata* and *zea mays indurata*, such as bread mealies (flourcorn), popcorn or sweet-corn;

„foreign matter” shall mean any material that is not mealies such as other parts of the maize plant, seeds of other cereals or of weeds, bits of sticks, etc.;

„weevily mealies” shall mean mealies infested with live weevils or other live insects injurious to stored grain;

„export” shall mean the export of mealies to any country or territory outside the Union of South Africa except South West Africa, the Central African Federation, Mozambique and the protectorates of Bechuanaland, Swaziland and Basutoland;

„crop year” in relation to any quantity of mealies shall mean the calendar year during which such mealies were reaped;

„moisture testing oil” shall mean a good quality salad and cooking vegetable oil.

2. Mealies intended for export shall be graded in accordance with the directions set out in the following table: —

KOLOM I. Klas.	KOLOM II. Graad.	KOLOM III. Maksimum toelaatbare persentasie gebrekkige mieliepitte volgens gewig.	KOLOM IV. Maksimum toelaatbare persentasie mieliepitte van 'n ander kleur volgens gewig.	KOLOM V. Maksimum toelaatbare persentasie vreemde voorwerpe volgens gewig.	KOLOM VI. Total maksimum toelaatbare persentasie gebrekkige mieliepitte, mieliepitte van 'n ander kleur en vreemde voorwerpe volgens gewig.
Wit duikpit.....	1	7	2	0.5	7
Wit rondepit.....	2	13	3	1.0	13
Wit duikpit of rondepit.....	1	9	2	1.0	9
Geel duikpit.....	3	20	5	1.5	20
Geel rondepit.....	1	9	2	1.0	9
Geel duikpit of rondepit.....	1	9	2	1.0	9
Gemeng.....	3	20	5	1.5	20
	1	10	Nie van toepassing nie	1.0	10

COLUMN I.	COLUMN II.	COLUMN III.	COLUMN IV.	COLUMN V.	COLUMN VI.
Class.	Grade.	Maximum permissible percentage of defective mealie kernels by weight.	Maximum permissible percentage of other coloured mealie kernels by weight.	Maximum permissible percentage of foreign matter by weight.	Total maximum permissible percentage of defective mealie kernels, other coloured mealie kernels and foreign matter by weight.
White Dent.....	1	7	2	0.5	7
	2	13	3	1.0	13
White Flint.....	1	9	2	1.0	9
White Dent or Flint.....	3	20	5	1.5	20
Yellow Dent.....	1	9	2	1.0	9
Yellow Flint.....	1	9	2	1.0	9
Yellow Dent or Flint.....	3	20	5	1.5	20
Mixed.....	1	10	Not applicable	1.0	10

3. By die bepaling van die grade mielies moet onderstaande toetsmetodes toegepas word—

- monsters van mielies wat gegradeer moet word, moet op so 'n wyse geneem word dat dit verteenwoordigend is van sodanige mielies;
- die persentasie gebrekkige mieliepitte moet bepaal word deur 'n monster van eenhonderd gram [geneem op die wyse in subregulasie (a) voorgeskryf] deur 'n sif met ronde gate van 'n kwartduim deursnee te sif en die oorblywende gedeelte met die hand uit te soek en deur die gewig van die gebrekkige mieliepitte wat aldus met die hand uitgesoek is tesame met dié van die stukkies mieliepitte en gebrekkige mieliepitte wat deur die sif gegaan het, te bereken as 'n persentasie van die totale gewig van die monster;
- die persentasie mieliepitte van 'n ander kleur moet bepaal word deur uit 'n monster van tweehonderd gram [geneem op die wyse in subregulasie (a) voorgeskryf] die mieliepitte van 'n ander kleur met die hand uit te soek en die gewig van sodanige mieliepitte van 'n ander kleur te bereken as 'n persentasie van die totale gewig van die monster;
- die persentasie vreemde voorwerpe moet bepaal word deur uit 'n monster van tweehonderd gram [geneem op die wyse in subregulasie (a) voorgeskryf] die vreemde voorwerpe met die hand uit te soek en die gewig van sodanige vreemde voorwerpe te bereken as 'n persentasie van die totale gewig van die monster;
- die persentasie verrooide mieliepitte moet bepaal word deur uit 'n monster van eenhonderd gram [geneem op die wyse in subregulasie (a) voorgeskryf] die verrooide mieliepitte met die hand uit te soek en die gewig van sodanige verrooide mieliepitte te bereken as 'n persentasie van die totale gewig van die monster.

4. Kalanderbesmette mielies moet ooreenkomstig die voorskrifte in regulasie 2 uiteengesit, gegradeer word; met dien verstande dat die woord „kalanderbesmet” by die klasbeskrywing gevoeg en deel daarvan gemaak moet word.

5. Onreëlmatigheid in vorm of grootte van mieliepitte beïnvloed nie die gradering daarvan nie.

6. Mieliepitte waarvan stukkies afgebreek is, gebarste mieliepitte of stukkies mieliepitte wat gesond is en wat in 'n monster voorkom, moet nie as gebrekkige mieliepitte ingevolge hierdie regulasies beskou word nie, uitgesonderd in die geval van stukkies mieliepitte wat deur 'n sif met ronde gate van 'n kwartduim deursnee sal gaan.

7. Die skaal wat gebruik word om die gewig van 'n monster/mielies of van mieliepitte van 'n ander kleur of van verrooide mieliepitte of van gebrekkige mieliepitte of van vreemde voorwerpe in die monster te bepaal, moet sodanig wees dat die betrokke gewigte akkuraat tot binne 'n halfgram bepaal kan word.

8. Iedere besending mielies wat vir uitvoer bestem is, moet by die uitvoerhawe geïnspekteer en gegradeer word deur 'n inspekteur wat ingevolge artikel twaalf van die Landbouvoortbrengselen Uitvoer Wet, 1917, soos gewysig, aangewys is.

3. In the determination of the grades of mealies the following methods of testing shall be used:—

- Samples of mealies to be graded shall be taken in such manner so as to be representative of such mealies;
- the percentage of defective mealie kernels shall be determined by screening a sample of one hundred grammes [taken in the manner prescribed in sub-regulation (a)] through a screen with quarter-inch round holes and by hand-picking the remaining portion and by calculating the weight of the defective mealie kernels thus hand-picked together with that of the pieces of mealie kernels and defective mealie kernels which passed through the screen as a percentage of the total weight of the sample;
- the percentage of other coloured mealie kernels shall be determined by separating by hand from a sample of two hundred grammes [taken in the manner prescribed in sub-regulation (a)] the other coloured mealie kernels and by calculating the weight of such other coloured mealie kernels as a percentage of the total weight of the sample;
- the percentage of foreign matter shall be determined by separating by hand from a sample of two hundred grammes [taken in the manner prescribed in sub-regulation (a)] the foreign matter and by calculating the weight of such foreign matter as a percentage of the total weight of the sample;
- the percentage of pinked mealie kernels shall be determined by separating by hand from a sample of one hundred grammes [taken in the manner prescribed in sub-regulation (a)] the pinked mealie kernels and by calculating the weight of such pinked mealie kernels as a percentage of the total weight of the sample.

4. Weevily mealies shall be graded in accordance with the directions set out in regulation 2, provided that the word „weevily” shall be added to and made part of the class designation.

5. Irregularity in the shape or size of mealie kernels shall not affect the grading thereof.

6. Chipped, cracked or pieces of mealie kernels which are in sound condition and which appear in a sample of mealies, shall not be regarded as defective mealie kernels under these regulations except in the case of pieces of mealie kernels which will pass through a quarter-inch round-hole screen.

7. The scale used for the determination of the weight of a sample of mealies or of other coloured mealie kernels or of pinked mealie kernels or of defective mealie kernels or of foreign matter in the sample shall be such that the relevant weights can be accurately determined to within one-half of a gramme.

8. Every consignment of mealies intended for export shall be examined and graded at the port of export by an inspector designated in terms of section twelve of the Agricultural Produce Export Act, 1917, as amended.

9. Ten opsigte van mielies wat vir uitvoer bestem is en wat—

- (a) voldoen aan die grade in hierdie regulasies uiteengesit;
- (b) 'n voggehalte het wat nie meer is as die onderskeie persentasies in regulasie 10 genoem nie; en
- (c) wat nie in 'n oond gedroog is nie;

moet die inspekteur in regulasie 8 genoem, behoudens die bepalinge van regulasie 10, graadsertifikate uitreik wat by vertoning van die ladingsbrief aan die verskeper oorhandig moet word.

10. Die graadsertifikate genoem in regulasie 9, moet in een van ondergenoemde vorms uitgereik word:—

- (a) ten opsigte van mielies wat nie kalenderbesmet is nie, wat deur middel van die graansuierstelsel uitgevoer word en 'n voggehalte van hoogstens 12½ persent het, in die vorm in Bylae A hiervan uiteengesit;
- (b) ten opsigte van mielies wat nie kalenderbesmet is nie, wat op 'n ander wyse as deur middel van die graansuierstelsel uitgevoer word en 'n voggehalte van hoogstens 12½ persent het, in die vorm in Bylae B hiervan uiteengesit;
- (c) ten opsigte van mielies wat nie kalenderbesmet is nie en wat 'n voggehalte van meer as 12½ persent maar hoogstens 14 persent het, in die vorm in Bylae C hiervan uiteengesit; en
- (d) ten opsigte van kalenderbesmette mielies wat 'n voggehalte van hoogstens 12½ persent het, in die vorm in Bylae D hiervan uiteengesit.

11. Kalenderbesmette mielies wat vir uitvoer bestem is, moet by die uitvoerhawe afsonderlik van skoon mielies opgeberg word, en mielies wat bestem is vir uitvoer as gesonde mielies, maar ten opsigte waarvan die inspekteur in regulasie 8 genoem, bevind dat dit by aankoms by die hawe met kalenders besmet is, moet op koste van die geadresseerde verwyder word.

12. Ingeval mielies kalenders ontwikkel nadat dit gegradeer is, moet die eienaar daarvan, of sy verteenwoordiger, nadat hy deur die inspekteur in regulasie 8 genoem daartoe gelas is, die besmette mielies dadelik op eie koste verwyder.

13. Alle mielies wat deur die inspekteur in regulasie 8 genoem, afgekeur word op grond daarvan dat dit nie aan hierdie regulasies voldoen nie, moet nie later nie as die sewende dag na sodanige afkeuring, deur die geadresseerde van die kaaiskure verwyder word; met dien verstande dat sodanige mielies op eie koste deur die geadresseerde behandel mag word op 'n perseel wat deur homself verskaf moet word en na sodanige behandeling weer vir inspeksie teruggebring mag word.

14. Ten opsigte van mielies wat vir uitvoer bestem is en wat geïnspekteer en gegradeer is, moet die gelde vir inspeksie en vir gradering wat van tyd tot tyd in die *Offisiële Spoorwegtariefboek* van die Administrasie van die Suid-Afrikaanse Spoorweë en Hawens gepubliseer word deur die geadresseerde betaal word.

BEPALING VAN VOGGEHALTE.

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

(a) Brown-Duvel-metode.

Die apparaat vir die bepaling van voggehalte volgens hierdie metode moet bestaan uit die Brown-Duvel-vogtoetsapparaat. Die verhitingskompartement, die staander, die verkoelertenk en al die toebehore van hierdie apparaat uitgesonderd die verhitingsapparaat, moet voldoen aan die spesifikasies soos uiteengesit in die „United States Department of Agriculture Bulletin, No. 1375 of 1926”. Die apparaat moet op so 'n plek opgestel word dat dit nie in 'n trek staan nie. Eenhonderd gram van die monster geneem uit die mielies waarvan die voggehalte bepaal moet word, tesame met 150 kubieke sentimeters vogtoetsolie, moet in die distilleerfles van die apparaat geplaas word. Nadat die inhoud deeglik gemeng is deur dit te skud, moet die fles toegemaak word met 'n rubberprop met die Celsius-thermometer daardeur. Die thermometer moet so gestel word dat pressies viervyftes van die kwikbol

- 9. In respect of all mealies intended for export which—
 - (a) conform to the grades specified in these regulations;
 - (b) have a moisture content not exceeding the percentages respectively specified in regulation 10; and
 - (c) are not kiln dried;

the inspector referred to in regulation 8 shall, subject to the provisions of regulation 10, issue grade certificates which shall be delivered to the shipper on production of the bill of lading.

10. The grade certificates referred to in regulation 9 shall be issued in one of the following forms:—

- (a) in respect of mealies that are not weevily, are exported through the Grain Elevator System and have a moisture content not exceeding 12½ per cent, in the form set out in Schedule A hereto;
- (b) in respect of mealies that are not weevily, are exported otherwise than through the Grain Elevator System and have a moisture content not exceeding 12½ per cent, in the form set out in Schedule B hereto;
- (c) in respect of mealies that are not weevily and have a moisture content of more than 12½ per cent but not exceeding 14 per cent, in the form set out in Schedule C hereto; and
- (d) in respect of weevily mealies that have a moisture content not exceeding 12½ per cent, in the form set out in Schedule D hereto.

11. Weevily mealies intended for export shall, at the port of export, be stored separately from clean mealies, and any mealies intended for export as sound mealies but found by the inspector referred to in regulation 8 to be weevily on arrival at the port, shall be removed at the expense of the consignee.

12. In the event of mealies developing weevil after it has been graded, the owner thereof or his representative shall, upon being instructed to do so by the inspector referred to in regulation 8, remove the infested mealies forthwith and at his own cost.

13. All mealies rejected by the inspector referred to in regulation 8 as not complying with these regulations shall be removed from wharf sheds by the consignee not later than the seventh day after such rejection, provided that such mealies may be conditioned by the consignee at his own expense on premises to be provided by himself, and may be returned for inspection after such conditioning.

14. In respect of all mealies intended for export which have been examined and graded, the fees for inspection and for grading as published in the Official Railway Tariff Book of the South African Railways and Harbours Administration from time to time, shall be payable by the consignee.

DETERMINATION OF MOISTURE CONTENT.

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

(a) Brown-Duvel Method.

The apparatus for the determination of moisture content according to this method, shall consist of the Brown-Duvel moisture testing apparatus. The heating compartment, the stand, the cooling tank and all the accessories of this apparatus, excluding the heating apparatus, shall comply with the specifications set out in the “United States Department of Agriculture Bulletin No. 1375 of 1926”. The apparatus shall be installed in such a position that it will not be subject to draughts. One hundred grammes of the sample of the mealies of which the moisture content is to be determined, together with 150 cubic centimetres of moisture testing oil, shall be placed in the distilling flask of the apparatus. After the contents have been thoroughly mixed by shaking, the flask shall be closed with a rubber stopper through which passes the centigrade thermometer. The thermometer shall be so adjusted that exactly four-fifths of the mercury bulb is

onder die oppervlakte van die olie is. Die fles word dan in die apparaat geplaas en die afleibuis met die kondenseerbuis verbind sodat dit dig sluit. Die gaasdraad met asbesmiddelstuk moet in 'n goeie toestand wees. 'n Stroom koue water moet gedurig deur die kondenseertenk loop, of die tenk moet voor elke toets met koue water gevul word. Die maatsilinder, wat skoon en droog moet wees, word onder die kondenseerbuis geplaas om die water wat afgedryf word op te vang. Die deksel word dan oor die fleshouer geplaas en met die verhitting begin. Die verhitting moet geskied deur middel van elektrisiteit, blaaslampte, alkoholbranders (spirituslampe) of gasbranders. Indien 'n vlam gebruik word, moet dit so gestel word dat dit reg onder die middel van die asbesmiddelstuk is. Die verhitting moet egalig geskied en so gereël word dat 'n temperatuur van 190°C . in minstens 19 minute en hoogstens 21 minute bereik word. Die verhitting moet dadelik gestaak word sodra die temperatuur van 190°C . bereik word. (Gewoonlik duur dit 10 minute voordat die temperatuur styg tot omtrent 110°C ., en nog 10 minute voordat 190°C . bereik word.)

Nadat die verhitting ophou, sal 'n geringe geleidelike styging in temperatuur plaasvind. 'n Skielike styging of daling van etlike grade in die temperatuur is 'n aanduiding dat die verhitting gedurende die laaste deel van die proses te skerp was en die toets moet dan herhaal word. As die water wat deur die afleibuis gedistilleer word, verkleur is, dui dit aan dat die graan gebrand het en dan moet die toets herhaal word.

Die deksel en termometer moet nie afgehaal word voordat die temperatuur tot 160°C . gedaal het nie. Wanneer die temperatuur 160°C . is, word die deksel afgehaal, die termometer uitgehaal en die afleibuis daarna van die kondenseerbuis losgemaak, en alle druppels water wat aan die binnekant van die maatglas kleef, afgeskud. Die hoeveelheid water onder die olielaag in die maatglas moet afgelees word in kubieke sentimeters tot een-tiende van een kubieke sentimeter.

Alle bepalinge moet twee keer gedoen word en indien die resultate van die twee bepalinge nie meer as 0.3 kubieke sentimeter verskil nie, moet die gemiddelde van die twee resultate as die persentasie voggehalte geneem word. Indien die verskil tussen die twee resultate groter as 0.3 kubieke sentimeter is, moet die bepaling herhaal word totdat twee resultate verkry word wat nie met meer as 0.3 kubieke sentimeter verskil nie.

By die gebruik van die Brown-Duvel-apparaat moet gesorg word dat voors rubberproppe nie gebruik word nie, dat geen olie onmiddellik na 'n vorige toets weer gebruik word nie, en dat die kwikkolom in die termometer ongebroke is voordat daar met 'n toets begin word. Vir iedere toets moet 'n vars olie of olie wat vir geruime tyd nie gebruik is nie, gebruik word. In alle gevalle moet die olie tot 'n temperatuur van ongeveer 200°C . verhit word en eers afgekoel word voordat dit gebruik word. Indien 'n nuwe fles gebruik word, of indien die apparaat nie gedurende die voorafgaande 24 uur in gebruik was nie, moet 'n voorlopige vogbepaling eers met 'n monster mielies uitgevoer word.

Wanneer die apparaat nie gebruik word nie, moet die termometers in die flesses gehou word, en die flesses met die afleibuis verbind wees op dieselfde wyse as vir 'n vogtoets.

(b) *Marconi-elektriese Weerstandsmetode.*

Die apparaat vir die bepaling van voggehalte volgens hierdie metode moet bestaan uit die Marconivogmeter Model T.F. 933 of T.F. 933A, waardeur vog in die mielies deur middel van elektriese weerstand bepaal word. Die apparaat moet nie in 'n trek en direkte sonlig geplaas word nie. 'n Hoeveelheid van minstens 70 en hoogstens 80 gram van 'n verteenwoordigende monster van die mielies waarvan die voggehalte getoets moet word, moet in 'n handgraanmeul of koffiemeul gemaal

immersed in the oil. The flask shall be placed in the apparatus and the delivery tube shall be connected with the condenser tube so that it fits properly. The wire gauze with asbestos centre shall be in good condition. A continuous stream of cold water shall pass through the condenser tank, or the tank shall be filled with cold water before each test. The measuring cylinder, which shall be clean and dry, shall be placed under the condenser tube to collect the water driven off. The cover shall be placed over the flask compartment of the apparatus and the heating commenced. Heat shall be applied either by means of electricity, blow lamps, spirit lamps or gas burners. If a flame is used it shall be placed in such a position that it will be beneath the centre of the asbestos-centre. Heat shall be applied evenly and be so regulated that a temperature of 190°C . is reached in not less than 19 and not more than 21 minutes. When the temperature of 190°C . is reached, the heating shall be discontinued immediately. (It usually takes 10 minutes before the temperature rises to approximately 110°C . and another 10 minutes before a temperature of 190°C . is reached.)

After the heat is turned off, a slight gradual rise in temperature will occur. A sudden increase or sudden decrease in temperature of several degrees, however, indicates that the heating was too intense during the latter part of the process and the test shall be repeated. If the water which is distilled through the delivery tube is discoloured, it is an indication that the grain was burnt in which case the test shall be repeated.

The cover and thermometer shall not be removed until the temperature has dropped to 160°C . When the temperature of 160°C . is reached, the cover shall be removed, the thermometer taken out and the delivery tube disconnected from the condenser tube and all drops of water clinging to the inside of the measuring cylinder shaken down. The quantity of water beneath the layer of oil in the measuring flask shall be read in cubic centimetres to one-tenth of one cubic centimetre.

All determinations shall be made twice and should the results of the two determinations not differ by more than 0.3 cubic centimetres, the average of the two results shall be taken as the percentage of moisture content. If the results of the two determinations differ by more than 0.3 cubic centimetres, the determination shall be repeated until two results are obtained that do not differ by more than 0.3 cubic centimetres.

In using the Brown-Duvel apparatus care shall be taken to avoid the use of mushy rubber stoppers, not to use oil directly from a previous test and to see that the column of mercury in the thermometer is continuous before commencing any test. Each test shall be done either with fresh oil or oil that has not been used for some time. In all cases the oil shall first be heated to a temperature of approximately 200°C . and cooled before it is used. If a new flask is used, or if the apparatus was not used at any time during the previous 24 hours, a preliminary moisture determination shall first be carried out with a sample of mealies.

When the apparatus is not in use, the thermometers shall be kept in the flasks and the flasks and delivery tubes shall be connected in the same manner as when a test is made.

(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 mealies is determined through electrical resistance. The apparatus shall be placed away from draughts and direct rays of the sun. A quantity of not less than 70 and not more than 80 grammes of a representative sample of the mealies to be tested for moisture shall be ground in a hand grain mill or coffee mill which has been so adjusted

word wat so gestel is dat minstens 90 persent van die gemaalde produk volgens gewig, deur 'n 10-draad-maashandsif en hoogstens 75 persent daarvan volgens gewig deur 'n 20-draad-maashandsif, soos omskryf in Goewermentskennisgewing No. 797 van 26 April 1954, soos gewysig, sal gaan. (Hierdie resultaat kan gewoonlik verkry word deur die meulplate so styf moontlik deur middel van die stel-skroef vas te draai en die stel-skroef dan ongeveer 'n kwartdraai 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 90 sekondes gemaal sal word. Die gemaalde monster moet onmiddellik in 'n glasfles met 'n skroefdeksel en met 'n inhoudsmaat van tussen 300 en 400 kubieke sentimeters geplaas word. Nadat die fles behoorlik 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 halfvol 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 inmekaar pas, en die sel moet slegs aan die buite-ste 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 silinder-vormige 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 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 wyserskyf op een van die posies 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, 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. Waar moontlik moet lesings slegs op die swart of positiewe waardes op die wyserskywe geneem word. Die lesings op die wyserskywe moet herlei word tot persentasies volgens onderstaande tabel:—

Lesing op wyserskywe.	Persentasie.	Lesing op wyserskywe.	Persentasie.
0	8.6	26	13.1
1	8.8	27	13.4
2	8.9	28	13.6
3	9.0	29	13.8
4	9.2	30	14.0
5	9.3	31	14.2
6	9.5	32	14.5
7	9.6	33	14.7
8	9.8	34	14.9
9	10.0	35	15.1
10	10.1	36	15.4
11	10.3	37	15.7
12	10.5	38	16.0
13	10.6	39	16.3
14	10.8	40	16.6
15	11.0	41	16.8
16	11.2	42	17.1
17	11.3	43	17.4
18	11.5	44	17.7
19	11.7	45	18.0
20	12.0	46	18.3
21	12.2	47	18.6
22	12.3	48	19.0
23	12.5	49	19.4
24	12.7	50	19.9
25	12.9	51	20.3

that at least 90 per cent by weight of the milled product will pass through a 10 wiremesh hand sieve and not more than 75 per cent by weight thereof will pass through a 20 wiremesh hand sieve as defined in Government Notice No. 797 of the 26th April, 1954, as amended. (This result can generally be obtained by adjusting the milling plates as tightly as possible by means of the adjusting screw and then by loosening the latter about one-quarter turn.) 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 90 seconds. The milled sample shall immediately be placed in a screw cap glass jar of between 300 and 400 cubic centimetres 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 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. Whenever possible, readings shall only be taken on the black or positive values on the dials. Dial readings shall be converted into percentages according to the following table:—

Dial Reading.	Percentage.	Dial Reading.	Percentage.
0	8.6	26	13.1
1	8.8	27	13.4
2	8.9	28	13.6
3	9.0	29	13.8
4	9.2	30	14.0
5	9.3	31	14.2
6	9.5	32	14.5
7	9.6	33	14.7
8	9.8	34	14.9
9	10.0	35	15.1
10	10.1	36	15.4
11	10.3	37	15.7
12	10.5	38	16.0
13	10.6	39	16.3
14	10.8	40	16.6
15	11.0	41	16.8
16	11.2	42	17.1
17	11.3	43	17.4
18	11.5	44	17.7
19	11.7	45	18.0
20	12.0	46	18.3
21	12.2	47	18.6
22	12.3	48	19.0
23	12.5	49	19.4
24	12.7	50	19.9
25	12.9	51	20.3

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° Celsius is en met 0.1 te verminder vir elke een graad Celsius wat die termometerlesing bo 20° Celsius is.

Die toets moet sonder onderbreking gerepliseer 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 mielies 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.

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 galvanometer-naald regoor die horisontale strepie in die 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 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 (tin-foelie) 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 isoleerring 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 'n redelik warm lug geplaas en die toets herhaal word.

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 reading 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 mealies 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.

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 of 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.

BYLAE A.

MAIZE 214.

No. _____

UNIE VAN SUID-AFRIKA.

SUID-AFRIKAANSE SPOORWEE EN HAWENS—
GRAANSUIERS.

HAWEGRAANSUIER

19

UITVOERGEWIG- EN -GRAADSERTIFIKAAT (FINAAL).

Hiermee word gesertifiseer dat die mielies hierin beskryf 'n produk van die Unie van Suid-Afrika is en behoorlik geïnspekteer en geweeg is en dat gevind is dat die mielies gesond is, 'n voggehalte van hoogstens 12½ persent het en dat die gewig, klas en graad daarvan soos volg is:—

Gewig _____ lb.
Klas _____
Graad _____

Die mielies is in * massa
sakke _____
verskep per S.S. _____
vir rekening van _____
na die hawe _____

Verskepingsrekordvorm No. _____

SCHEDULE A.

MAIZE 214.

No. _____

UNION OF SOUTH AFRICA.

SOUTH AFRICAN RAILWAYS AND HARBOURS—
GRAIN ELEVATORS.

PORT ELEVATOR.

19

EXPORT WEIGHT AND GRADE CERTIFICATE (FINAL).

This is to certify that the maize herein described is a product of the Union of South Africa and has been duly examined and weighed and found to be in sound condition with a moisture content not exceeding 12½ per cent and that the weight, class and grade is as follows:—

Weight _____ lb.
Class _____
Grade _____

The maize was shipped in * bulk
bags _____
Per S.S. _____
for account of _____
to the Port of _____

Shipping Record Form No. _____

Hierdie sertifikaat wat namens die Regering van die Unie van Suid-Afrika uitgereik word, dui aan die gewig, graad en toestand van die mielies waarvan hierin melding gemaak word ten tye van verskeping daarvan en moet nie geag word enige aanspreeklikheid op genoemde Regering te plaas ten opsigte van verskille tussen gewig, graad en toestand ten tye van verskeping en gewig, graad en toestand ten tye van ontlading nie.

Inspekteur.

Hawe-goederesuperintendent.

Mede-onderteken:

Hawe-graansuieropsigter,

1s.
INKOMSTE-
SEËL.

* Skrap woord wat nie van toepassing is nie.

BYLAE B.

MAIZE 215.

No. _____

UNIE VAN SUID-AFRIKA.

SUID-AFRIKAANSE SPOORWEE EN HAWENS.

KANTOOR VAN DIE STAATSGRAANGRADEERDER,

19 _____

UITVOER-GRAADSERIFIKAAT.

Hiermee word gesertifiseer dat die mielies hierin beskryf 'n produk van die Unie van Suid-Afrika is en behoorlik geïnspekteer is, dat gevind is dat die mielies gesond is, 'n voggehalte van hoogstens 12½ persent het en bestaan uit die klas en graad hieronder uiteengesit en dat die mielies in sakke/massa * verskeep is.

Afsender _____
Verskeep per S.S. _____
Verskeep na die hawe _____
Klas _____
Graad _____
Graadmerk op sakke, as daar is _____
Aantal sakke _____
Toestand van sakke _____
Oesjaar _____
Opmerkings: _____

Hierdie sertifikaat wat namens die Regering van die Unie van Suid-Afrika uitgereik word, dui aan die graad en toestand van die mielies waarvan hierin melding gemaak word ten tye van verskeping daarvan en moet nie geag word enige aanspreeklikheid op genoemde Regering te plaas ten opsigte van verskille tussen graad en toestand ten tye van verskeping en graad en toestand ten tye van ontlading nie.

Inspekteur.

Hawe-goederesuperintendent.

1s.
INKOMSTE-
SEËL.

* Skrap woord wat nie van toepassing is nie.

BYLAE C.

MAIZE 216.

No. _____

UNIE VAN SUID-AFRIKA.

SUID-AFRIKAANSE SPOORWEE EN HAWENS.

KANTOOR VAN DIE STAATSGRAANGRADEERDER,

19 _____

UITVOER-GRAADSERIFIKAAT.

Hiermee word gesertifiseer dat die mielies hierin beskryf 'n produk van die Unie van Suid-Afrika is en behoorlik geïnspekteer is, dat gevind is dat die mielies gesond is, 'n voggehalte van hoogstens 14 persent het en bestaan uit die klas en graad hieronder uiteengesit en dat die mielies in sakke/massa * verskeep is.

This certificate which is issued on behalf of the Government of the Union of South Africa reflects the weight, grade and condition of the maize herein referred to at the time of shipment and shall not be deemed to involve any responsibility on the part of the said Government in respect of discrepancies between weight, grade and condition as at the time of shipment and at the time of discharge.

Inspector.

Port Goods Superintendent.

Countersigned:

Port Elevator Supervisor.

1s.
REVENUE
STAMP.

* Delete word not required.

MAIZE 215.

SCHEDULE B.

No. _____

UNION OF SOUTH AFRICA.

SOUTH AFRICAN RAILWAYS AND HARBOURS.

OFFICE OF THE GOVERNMENT GRAIN GRADER,

19 _____

EXPORT GRADE CERTIFICATE.

This is to certify that the mealies described hereunder is a product of the Union of South Africa and has been duly examined and found to be in sound condition with a moisture content not exceeding 12½ per cent, is of the class and grade set forth below and has been shipped in bags/bulk.*

Consignor _____
Shipment per S.S. _____
Consigned to Port of _____
Class _____
Grade _____
Grade mark shown on bags, if any, _____
Number of bags _____
Condition of bags _____
Crop year _____
Remarks: _____

This certificate which is issued on behalf of the Government of the Union of South Africa, reflects the grade and condition of the mealies herein referred to at the time of shipment and shall not be deemed to involve any responsibility on the part of the said Government in respect of discrepancies between grade and condition as at the time of shipment and at the time of discharge.

Inspector.

Port Goods Superintendent.

1s.
REVENUE
STAMP.

* Delete word not required.

MAIZE 216.

SCHEDULE C.

No. _____

UNION OF SOUTH AFRICA.

SOUTH AFRICAN RAILWAYS AND HARBOURS.

OFFICE OF THE GOVERNMENT GRAIN GRADER,

19 _____

EXPORT GRADE CERTIFICATE.

This is to certify that the mealies described hereunder is a product of the Union of South Africa and has been duly examined and found to be in sound condition with a moisture content not exceeding 14 per cent, is of the class and grade set forth below and has been shipped in bags/bulk.*

BYLAE.

1. (1) Alle koring word vir graderingsdoeleindes in vier klasse ingedeel, nl.—

(a) klas A-koring, wat beteken broodkoring bestaande uit minstens 80 persent volgens gewig van een of meer van die variëteite Burbank, Duiker, Farrartrou, Florence, Hope, Impala, Kleintrou, Kruger, Marquis, Penkop, Punjab, Regent, Renown, Reward, Rooi Egipties, Rooi Kleinkoring, Sonop, Sterling en Thatcher, maar sluit nie sodanige koring in nie wat van 'n laer standaard is as dié wat in onderstaande tabel vir koring van graad 3 voorgeskryf word, of wat meer as 10 persent durumkoring volgens gewig bevat;

(b) klas B-koring, wat beteken broodkoring bestaande uit een of meer koringvariëteite wat nie onder klas A-, klas C- of klas D-koring val nie, of uit mengsels van variëteite wat minder as 80 persent van variëteite van klas A volgens gewig bevat, of uit variëteite van klas A wat van 'n laer standaard is as dié wat in onderstaande tabel vir koring van graad 3 voorgeskryf word; met dien verstande egter dat klas B-koring—

(i) hoogstens 10 persent volgens gewig durumkoring en hoogstens 20 persent volgens gewig variëteite van klas C kan bevat; en

(ii) nie koring van 'n laer standaard as dié wat in onderstaande tabel vir koring van graad 4 voorgeskryf word, insluit nie;

(c) klas C-koring, wat beteken broodkoring bestaande uit meer as 20 persent volgens gewig van een of meer van die variëteite Hoopvol, Pelgrim, Queen Fan en Vondeling, of broodkoring van 'n laer standaard as dié wat in onderstaande tabel vir koring van graad 4 voorgeskryf word, maar sluit nie koring in wat meer as 10 persent durumkoring volgens gewig bevat nie; en

(d) klas D-koring, wat beteken koring wat meer as 10 persent durumkoring volgens gewig bevat;

en word, behoudens die bepalinge van subregulasies (2) en (3), ooreenkomstig die vereistes vir die onderskeie grade in onderstaande tabel uiteengeset, gegradeer:—

SCHEDULE.

1. (1) All wheat shall for grading purposes be divided into four classes, viz—

(a) class A wheat, which shall mean bread wheat consisting of at least 80 per cent by weight of one or more of the varieties Burbank, Duiker, Farrartrou, Florence, Hope, Impala, Kleintrou, Kruger, Marquis, Penkop, Punjab, Regent, Renown, Reward, Red Egyptian, Rooi Kleinkoring, Sonop, Sterling and Thatcher, but shall not include any such wheat which is of a standard below that prescribed in the following table for grade 3 wheat or which contains more than 10 per cent by weight of durum wheat;

(b) class B wheat, which shall mean bread wheat consisting of one or more varieties not falling under class A, class C or class D wheat, or of mixtures of varieties containing less than 80 per cent by weight of varieties of class A, or of varieties of class A of a standard below that prescribed in the following table for grade 3 wheat; provided, however, that class B wheat—

(i) may contain not more than 10 per cent by weight of durum wheat and not more than 20 per cent by weight of varieties of class C; and

(ii) shall not include wheat of a standard below that prescribed in the following table for grade 4 wheat;

(c) class C wheat, which shall mean bread wheat consisting of more than 20 per cent by weight of one or more of the varieties Hoopvol, Pelgrim, Queen Fan and Vondeling, or bread wheat of a standard below that prescribed in the following table for grade 4 wheat, but shall not include wheat containing more than 10 per cent by weight of durum wheat; and

(d) class D wheat, which shall mean wheat containing more than 10 per cent by weight of durum wheat;

and shall, subject to the provisions of sub-regulations (2) and (3), be graded in accordance with the requirements specified for the respective grades in the following table—

KORINGGRADE.

Graad.	Minimum skepelgewig.	Maksimum persentasie vog.	Maksimum persentasie durum- koring volgens gewig, in brood- koring.	ONSUIWERHEDE.				Maksimum persentasie totale on- suiwerhede volgens gewig.	Maksimum persentasie gebreekte koring volgens gewig.	Maksimum persentasie beskadigde koring volgens gewig.	Maksimum Maksimum totale on- suiwerhede plus gebreekte koring plus beskadigde koring volgens gewig.
				Maksimum persentasie wilde ertjies volgens gewig.	Maksimum persentasie rog volgens gewig.	Maksimum persentasie gars, hawe en ongedorste are volgens gewig.	Maksimum persentasie vreemde materiaal volgens gewig.				
1.....	lb. 62	Persent. 13.0	Persent. 5.0	Persent. 1.5	Persent. 5.0	Persent. 3.0	Persent. 1.0	Persent. 5.0	Persent. 7.0	Persent. 5.0	Persent. 7.5
2.....	60	13.0	8.0	2.5	6.0	5.0	1.5	6.0	9.0	6.0	9.0
3.....	58	13.0	10.0	4.5	8.0	8.0	2.5	8.0	11.0	8.0	11.5
4.....	56	13.0	10.0	7.5	11.0	11.0	4.0	11.0	15.0	10.0	15.0
5.....	54	13.0	10.0	10.0	15.0	15.0	6.0	15.0	20.0	15.0	20.0
6.....	52	13.0	10.0	15.0	20.0	20.0	8.0	20.0	25.0	20.0	25.0
Ondergraad...	Minder as 52 lb.	Meer as 13.0 persent.	—	Meer as 15.0 persent.	Meer as 20.0 persent.	Meer as 20.0 persent.	Meer as 8.0 persent.	Meer as 20.0 persent.	Meer as 25.0 persent.	Meer as 20.0 persent.	Meer as 25.0 persent.

WHEAT GRADES.

Grade.	Minimum Bushel Weight.	Maximum Percentage of Moisture.	Maximum Percentage of Durum Wheat (by Weight) in Bread Wheat.	IMPURITIES.				Maximum Percentage of Total Impurities (by Weight).	Maximum Percentage of Broken Wheat (by Weight).	Maximum Percentage of Damaged Wheat (by Weight).	Maximum Percentage of Total Impurities, plus Broken Wheat, plus Damaged Wheat (by Weight).
				Maximum Percentage of Vetch (by Weight).	Maximum Percentage of Rye (by Weight).	Maximum Percentage of Barley, Oats and Unthreshed Ears, (by Weight).	Maximum Percentage of Foreign Matter. (by Weight).				
1.....	lb. 62	Per Cent. 13.0	Per Cent. 5.0	Per Cent. 1.5	Per Cent. 5.0	Per Cent. 3.0	Per Cent. 1.0	Per Cent. 5.0	Per Cent. 7.0	Per Cent. 5.0	Per Cent. 7.5
2.....	60	13.0	8.0	2.5	6.0	5.0	1.5	6.0	9.0	6.0	9.0
3.....	58	13.0	10.0	4.5	8.0	8.0	2.5	8.0	11.0	8.0	11.5
4.....	56	13.0	10.0	7.5	11.0	11.0	4.0	11.0	15.0	10.0	15.0
5.....	54	13.0	10.0	10.0	15.0	15.0	6.0	15.0	20.0	15.0	20.0
6.....	52	13.0	10.0	15.0	20.0	20.0	8.0	20.0	25.0	20.0	25.0
Undergrade...	Less than 52 lb.	More than 13.0 Per Cent.	—	More than 15.0 Per Cent.	More than 20.0 Per Cent.	More than 20.0 Per Cent.	More than 8.0 Per Cent.	More than 20.0 Per Cent.	More than 25.0 Per Cent.	More than 20.0 Per Cent.	More than 25.0 Per Cent.

(2) Koring wat—

- (a) koring- of ander graankorrels bevat wat beskadig is deur insekte wat skadelik is vir koring, maar wat vry is van lewende insekte wat skadelik is vir koring; of
- (b) meer as 20 persent erg ryp-beskadigde korrels volgens gewig bevat.

word een graad laer gegrader as dié wat ooreenkomstig die tabel in subregulasie (1) uiteengesit, bepaal is; met dien verstande dat koring wat koring- of ander graankorrels bevat wat beskadig is deur insekte wat skadelik is vir koring en wat op of na die eerste dag van Mei in enige jaar deur 'n koper ontvang word, nie ooreenkomstig die bepalings van hierdie subregulasie een graad laer gegradeer word nie as daardie koring voor genoemde eerste dag van Mei in daardie jaar of te eniger tyd gedurende 'n vorige jaar gedors was.

(3) Koring wat nie voldoen nie aan die vereistes vir een of ander van die grade spesifiseer in die tabel wat in subregulasie (1) uiteengesit is, of wat—

- (a) nie gebruik kan word vir die maal van gesonde meel of meelblom wat vir menslike verbruik geskik is nie; of
- (b) met stinkbrand besmet is; of
- (c) 'n muf, skimmel, suur of ander reuk het wat af te keur is; of
- (d) met 'n chemiese stof behandel is en as gevolg daarvan in die handel af te keur is; of
- (e) in die handel af te keur is omdat dit giftige onkruid of onkruidsaad of 'n chemiese stof of ander materiaal bevat wat moontlik vir die gesondheid van die mens nadelig kan wees; of
- (f) aan die vereistes vir graad 6 voldoen, maar koring- of ander graankorrels bevat wat beskadig is deur insekte wat vir koring skadelik is, of meer as 20 persent erg ryp-beskadigde koringkorrels volgens gewig bevat; of
- (g) lewende insekte bevat wat skadelik is vir koring, is ondergraadkoring; met dien verstande dat koring waarin lewende insekte wat vir koring skadelik is, aanwesig is, en wat op of na die eerste dag van Mei in enige jaar deur 'n koper ontvang word, nie ondergraadkoring is nie as dit voor genoemde eerste dag van Mei in daardie jaar of te eniger tyd gedurende 'n vorige jaar gedors is.

TOETSMETODES.

2. (1) *Monsterneming*—

- (a) *koring in sakke*—monsters vir die toets van koring in sakke word verkry deur klein hoeveelhede koring op verskillende hoogtes met 'n steker uit elke sak te neem. Die steker moet in alle gevalle diep in die sak ingestek word. As daar gevind word dat die koring van al die sakke saam oor die algemeen van dieselfde klas en kwaliteit is, word die monsters van al die sakke saam in 'n pan gegooi. Die klas en graad word dan van die monster in die pan bepaal nadat die koring in die pan deeglik gemeng is. Sakke waarvan die koring in enige opsig van die koring in die ander sakke verskil, word opsy gesit en afsonderlik gegradeer;
- (b) *koring in massa*—monsters vir die toets van koring in massa word verkry deur klein hoeveelhede met 'n dubbelbuissteker met veelvoudige afskortings en van geskikte lengte op verskillende plekke, so verspreid moontlik, uit die massa te neem; die steker moet so die pas moontlik ingestek word.
- (2) *Klassifisering*.—Wanneer dit nodig is om die persentasies van koringvariëteite of -soorte vir die bepaling van die klas van die koring vas te stel, moet duplikaatmonsters van 25 gram elk met die hand uitgesoek word vir die skeiding van die verskillende variëteite en soorte. Die persentasies in die mengsel word volgens gewig bepaal. As die verskil tussen die persentasies ten opsigte van die twee monsters verkry, nie groter as 0.5 is nie, word die gemiddelde van die twee persentasies wat aldus verkry is, geneem; as genoemde verskil groter as 0.5 is, moet die toets herhaal word. As die koring onsuiverhede of gebreke koringkorrels bevat, word 500 gram van die koring eers gesif vir die verwydering van gebreke korrels

(2) Any wheat which—

- (a) contains wheat or other grain kernels damaged by insects injurious to wheat, but is free from live insects injurious to wheat; or
- (b) contains more than 20 per cent of heavily frosted wheat kernels by weight;

shall be graded one grade lower than that determined in accordance with the table set out in sub-regulation (1); provided that wheat containing wheat or other grain kernels damaged by insects injurious to wheat and received by a purchaser on or after the first day of May in any year shall not be degraded in accordance with the terms of this sub-regulation if that wheat was threshed before the said first day of May in that year or at any time during a previous year.

(3) Any wheat which does not conform to the requirements for one or other of the grades set out in sub-regulation (1), or which—

- (a) cannot be used for the purpose of milling therefrom sound meal or flour fit for human consumption; or
- (b) is smutty; or
- (c) has a musty, mouldy, sour or any other objectionable odour; or
- (d) has been treated with any chemical and thereby rendered commercially objectionable; or
- (e) is commercially objectionable because it contains any poisonous weeds or weed seeds or any chemical or other substance likely to be deleterious to the health of human beings; or
- (f) complies with the requirements for grade 6, but contains wheat or other grain kernels damaged by insects injurious to wheat, or more than 20 per cent of heavily frosted wheat kernels by weight; or
- (g) contains live insects injurious to wheat;

shall be undergrade wheat; provided that wheat having live insects injurious to wheat present therein and received by a purchaser on or after the first day of May in any year shall not be undergrade wheat if that wheat was threshed before the said first day of May in that year or at any time during a previous year.

METHODS OF TESTING.

2. (1) *Taking of Samples*.

- (a) *of wheat in bags*—samples for the purpose of testing wheat in bags shall be obtained by the taking of small quantities of wheat from each bag by means of a grain probe, different levels in the bag being probed. Probing must in all cases be done towards the centre of the bag. If the wheat from all the bags in a lot is found to be generally of the same class and quality the samples from all the bags are thrown together into a pan. The class and grade are then determined from the sample in the pan after the wheat in the pan has been thoroughly mixed. Any bags containing wheat differing in any respect from the wheat in the other bags must be placed aside and graded separately;
- (b) *of wheat in bulk*—samples for the purpose of testing wheat in bulk shall be obtained by taking small quantities from the bulk with a double-tube multiple-compartment probe of suitable length at different places scattered as widely as possible, the probe to be pushed in as deeply as possible.

(2) *Classification*.—When it is necessary to determine the percentages of varieties or species of wheat for the determination of the class thereof, duplicate 25-gramme samples must be hand-picked for the separation of the various varieties and species. The percentage of admixture is determined by weight. If the difference between the percentages determined in respect of the two samples does not exceed 0.5, the average of the two percentages, thus determined shall be taken; if the said difference exceeds 0.5, the test must be repeated.

If the wheat contains impurities or broken wheat kernels, 500 grammes of the wheat shall first be screened for the removal of broken kernels in the manner prescribed

en wel op die wyse voorgeskryf by subregulasie (8) van hierdie regulasie; 'n monster van 100 gram word dan van die gesifte koring geneem en alle onsuiverhede met die hand uitgesoek. Duplikaatmonsters van 25 gram elk word dan van die gesuiwerde en gesifte koring geneem, en die klas bepaal volgens die wyse in hierdie subregulasie beskryf.

(3) *Bepaling van skepelgewig.*—Die skepelgewig word bepaal volgens een van onderstaande twee metodes:—

(a) *Chondrometer-metode.*—Die standaard-apparaat by hierdie metode is 'n chondrometer (skepelgewig-skaaltjie) van standaard-afmetings, naamlik—

Tregter.—Hoogte, 8.9 duim; bo-deursnee van tregter, 3.6 duim; deursnee van klepgat, 1.125 duim.

Emmer.—Binnehoogte, 4.9 duim; deursnee, 3 duim; inhoud, 34.675 kubieke duim, d.w.s. een pint (imperiaal); val van koring van klepgat na top van emmer, 1.2 duim.

Houtskraper.—Halfduim dik, 1.4 duim breed, en minstens 4 duim lank. Minstens een van die rande van die skraper moet goed gerond wees, maar nie afgeslyt nie.

Hoe die apparaat gebruik word.—Die hele apparaat moet geplaas word op 'n harde, gladde, waterpas oppervlakte wat nie geruk of geskud word nie. Die tregter word gevul met koring en bo afgeskraap sodat dit gelykvol is. Daarna word die emmer reg onder die middel van die tregterklep geplaas sodat die emmer vas op sy bodem staan. Dan word die tregterklep wyd oopgestoot met 'n vinnige swaai sodat die koring die emmer vol maak en aan alle kante oorloop, waarna die kas van die skepelgewig-skaaltjie 6 duim agteruit gestoot en die tregter opsy geswaai word sonder dat die emmer gestamp of geskud word. Die oortollige koring word dan van die emmer afgeskraap met die standaardskraper wat vertikaal op sy rand gehou word. As 'n skraper 'n ronde sowel as 'n skerp rand het, mag slegs die ronde rand gebruik word om mee te skraap. By die afskraap word die skraper lig maar vas op die rand van die emmer beweging regoor die rand van die emmer heen geplaas en die oortollige koring met een vaste afgeskraap sodat die emmer dan net gelykvol koring bly. Die emmer word versigtig maar goed met die een hand vasgehou. Daarna word die emmer en die koring geweeg op die teenwig-arm wat presies waterpas moet staan wanneer die gewig afgelees word.

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

(b) *Die tweevlakskepel-tregtermetode.*—Die standaard-apparaat by hierdie metode is as volg:—

'n *Vier-in-een-skaal*

'n *Emmer.*—Binnehoogte, 4.9 duim; deursnee, 3 duim; inhoud, 34.675 kubieke duim, d.w.s. een pint (imperiaal).

'n *Houtskraper.*— $\frac{1}{2}$ duim dik, 1.4 breed en minstens 4 duim lank. Die rande van die skraper moet goed gerond wees, maar nie afgeslyt nie.

'n *Keëlvormige tregter.*—Met 'n swaai aan die nou end, wat deur middel van 'n regop metaalstaaf aan 'n tweevlakmetaalvoetstuk geheg is; die afmetings van die tregter is as volg: Vertikale hoogte, 8.9 duim; bo-deursnee van tregter, 3.6 duim; deursnee van klepgat, 1.125 duim.

Die keëlvormige tregter is aan die regop staaf geheg deur middel van 'n metaalarm wat aan die een end oor die regop staaf pas en daarom heen geswaai kan word en aan die ander end aan die tregter geheg is. Wanneer die tregter in posisie is, moet sy middellyn loodreg wees. Die hoogste vlak, wat 'n afstand van 1.2 duim moet laat tussen die onderste rand van die tregter en die rand van die emmer, word vir die toets van koring gebruik.

by sub-regulation (8) of this regulation; a sample of 100 grammes is then taken of such screened wheat, and all impurities removed by hand-picking. Duplicate 25-gramme samples are then taken of such pure, screened wheat, and the class determined in the manner described in this sub-regulation.

(3) *Determination of Bushel Weight.*—The bushel weight shall be determined by one or other of the following two methods:—

(a) *Chondrometer Method.*—The standard apparatus in this method is a chondrometer of standard dimensions, viz.—

Hopper.—Height, 8.9 in.; top diameter of hopper, 3.6 in.; diameter of shutter hole, 1.125 in.

Bucket.—Internal height, 4.9 in.; diameter, 3 in.; capacity, 34.675 cub. in.; i.e., 1 pint (imperial); drop of wheat from shutter hole to top of bucket, 1.2 in.

Wooden Scraper.—Half in. thick, 1.4 in. wide, and at least 4 in. long. At least one edge of the scraper must be well rounded, but not worn.

Method of Using Apparatus.—The entire apparatus must be placed on a hard, smooth, level surface, not subject to jarring or shaking. The hopper is filled with wheat 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, the wheat being allowed to fill the bucket and to overflow on all sides, after which the chondrometer box is moved back six inches without jarring or shaking the bucket and the hopper swung away. The surplus wheat is then scraped from the bucket with the standard scraper, which is held vertically. If the scraper has both a round and a 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 wheat scraped off with one firm scrape straight across the rim of the bucket. The scraping should leave the bucket just level full of wheat. The bucket and the wheat are weighed on the counterpoise beam, care being taken to have the beam exactly horizontal before the weight is read.

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

(b) *The two-level bushel-funnel method.*—The standard apparatus 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 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.

A Conical Hopper.—with a swing shutter at the narrow end, attached to a two-level metal base by means of an upright metal rod; the dimensions of the hopper are as follows: Vertical height, 8.9 inches; top diameter, 3.6 inches; diameter of shutter hole, 1.125 inches.

The conical hopper is attached to the upright rod by means of a metal arm fitting over and able to rotate round the upright at one end and fixed to the conical hopper at the other end. When the hopper is in position its centre line must be vertical. The higher level, which should give a clearance of 1.2 inches between the bottom rim of the hopper and the rim of the bucket, is used for testing wheat.

Metode van bepaling.—Die hele apparaat word op 'n harde, effe oppervlakte geplaas wat nie gestamp of geskud kan word nie. Die tregter word met koring gevul en afgeskraap sodat hy net gelykvol is. Die emmer word nou op die voetstuk van die staander geplaas sodat hy bodem se middelpunt reg onder dié van die tregterklep is. Die emmer moet vas op die voetstuk staan. Die tregterklep word met 'n vinnige swaai oopgestoot sodat die koring die emmer vol maak en aan alle kante oorloop. Die tregter word omgeswaai weg van die emmer af, sonder dat die emmer gestamp of gestoot word.

Die oortollige koring word dan van die emmer afgeskraap met die standaardskraaper wat vertikaal op sy rand gehou word. As die skraaper 'n ronde sowel as 'n skerp rand het, mag slegs die ronde rand gebruik word om mee te skraap. By die afskraap word die skraaper lig maar vas op die rand van die emmer geplaas en die oortollige koring met een vaste beweging regoor die rand van die emmer heen afgeskraap sodat die emmer dan net gelykvol koring bly. Die emmer word versigtig maar goed met een hand vasgehou. Die vier-in-een-skaal word dan op 'n gelyke, vaste oppervlakte geplaas en in ewewig gebring. Die koring wat in die emmer is, word in die pan van die vier-in-een-skaal geplaas en geweeg ten einde die skepelgewig van die koring te bepaal.

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

(4) *Bepaling van persentasie wilde ertjies.*—Die persentasie wilde ertjies in koring word bepaal deur die wilde ertjies met die hand uit te soek uit duplikaatmonsters van 100 gram elk. Die gewig van die wilde ertjies aldus verkry, uitgedruk as 'n persentasie van die totale gewig van die monster, verteenwoordig die hoeveelheid wilde ertjies in die monster. As die verskil tussen die persentasies ten opsigte van die twee monsters verkry, nie groter as 0.5 is nie, word die gemiddelde van die twee persentasies wat aldus verkry is, geneem, as genoemde verskil groter as 0.5 is, moet die toets herhaal word.

(5) *Bepaling van persentasie rog.*—Die persentasie rog in koring word bepaal deur die rog met die hand uit te soek uit duplikaatmonsters van 25 gram elk. Die gewig van die rog aldus verkry, uitgedruk as 'n persentasie van die totale gewig van die monster, verteenwoordig die hoeveelheid rog in die monster. As die verskil tussen die persentasies ten opsigte van die twee monsters verkry, nie groter as 0.5 is nie, word die gemiddelde van die twee persentasies wat aldus verkry is, geneem; as genoemde verskil groter as 0.5 is, moet die toets herhaal word.

(6) *Bepaling van persentasies gars, hawer en ongedorste are.*—Die persentasie gars, hawer en ongedorste are in koring word bepaal deur die gars, hawer en ongedorste are met die hand uit te soek uit duplikaatmonsters van 50 gram elk. Die gewig van die gars, hawer en ongedorste are aldus verkry, uitgedruk as 'n persentasie van die totale monster, verteenwoordig die hoeveelheid gars, hawer en ongedorste are in die monster. As die verskil tussen die persentasies ten opsigte van die twee monsters verkry, nie groter as 0.5 is nie, word die gemiddelde van die twee persentasies wat aldus verkry is, geneem; as genoemde verskil groter as 0.5 is, moet die toets herhaal word.

(7) *Bepaling van persentasie vreemde materiaal.*—Die persentasie vreemde materiaal in koring word bepaal deur die vreemde materiaal met die hand uit te soek uit duplikaatmonsters van 100 gram elk. Die gewig van die vreemde materiaal aldus verkry, uitgedruk as 'n persentasie van die totale gewig van die monster, verteenwoordig die hoeveelheid vreemde materiaal in die monster. As die verskil tussen die persentasies ten opsigte van die twee monsters verkry, nie groter as 0.5 is nie, word die gemiddelde van die twee persentasies wat aldus verkry is, geneem; as genoemde verskil groter as 0.5 is, moet die toets herhaal word.

Method of Using Apparatus.—The entire apparatus is placed on a hard, smooth, level surface, not subject to jarring or shaking. The hopper is filled with wheat and scraped off level full. The bucket is then placed on the base of the stand so that its centre is directly below that of the hopper shutter. The bucket must rest firmly on this base. Thereupon the hopper shutter is opened wide with a quick swing, the wheat being allowed to fill the bucket and to overflow on all sides. The hopper is then swung round, away from the bucket, without disturbing the bucket in any way.

The surplus wheat is then scraped from the bucket with the standard 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 wheat scraped off with one firm scrape straight across the rim of the bucket. The scraping should leave the bucket just level full of wheat. The four-in-one scale is placed on a firm level base and balanced, the wheat 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. If the two readings do not agree, the test must be repeated.

(4) *Determination of Percentage of Vetch.*—The percentage of vetch in wheat is determined by hand-picking duplicate 100-gramme samples. The weight of the vetch so obtained, expressed as a percentage of the total weight of the sample, gives the vetch content of the sample. If the difference between the percentages 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 said difference exceeds 0.5, the test must be repeated.

(5) *Determination of the Percentage of Rye.*—The percentage of rye in wheat is determined by hand-picking duplicate 25-gramme samples. The weight of the rye so obtained, expressed as a percentage of the total weight of the sample, gives the rye content of the sample. If the difference between the percentages 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 said difference exceeds 0.5, the test must be repeated.

(6) *Determination of Percentage of Barley, Oats and Unthreshed Ears.*—The percentage of barley, oats and unthreshed ears in wheat is determined by hand-picking duplicate 50-gramme samples. The weight of the barley, oats and unthreshed ears so obtained expressed as a percentage of the total weight of the sample, gives the barley, oat and unthreshed ear content of the sample. If the difference between the percentages 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 said difference exceeds 0.5, the test must be repeated.

(7) *Determination of Percentage of Foreign Matter.*—The percentage of foreign matter in wheat is determined by hand-picking duplicate 100-gramme samples. 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 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 said difference exceeds 0.5, the test must be repeated.

(8) *Bepaling van persentasie gebreekte koring.*—Die persentasie gebreekte koring word bepaal deur duplikaatmonsters van 500 gram elk op die volgende manier met die standaardsif te sif:—

Die standaardsif word inmeekaargesit en die koring word op die smalgatsif geplaas. Die koring word dan gesif deur die sif heen en weer, beurtelings weg van en terug na die hanteerder van die sif toe, te beweeg in dieselfde rigting as die lengte-asse van die opening van die smalgatsif. Iedere stoot bestaan uit 'n heen-en-weer beweging, en 50 stote voltooi die sifproses. Met elke stoot word die sif, wat op 'n tafel of ander geskikte gladde oppervlakte moet rus, 15 tot 18 duim weg van die hanteerder van die sif af en weer terug beweeg. Ten einde oormatige slytasie van die bodem van die soliede pan te voorkom, kan die sifwerk gedoen word oor bruin papier wat aan die tafel vasgeheg is, of die sif kan in een of ander houër geplaas word wat dan op die hierbo beskrewe manier beweeg word. Die snelheid van die beweging moet sodanig wees dat die voorgeskrewe 50 stote binne 50 tot 60 sekondes voltooi word. Gebreekte koringkorrels wat in die opening vassit, word nie vir graderingsdoel-eindes as gebreekte koring beskou nie. Die materiaal wat deur die sif gegaan het en in die soliede onderste pan versamel is, word daarna ondersoek en alle onsuiverhede verwyder. Die oorblywende materiaal word dan geweeg, en die gewig daarvan, uitgedruk as 'n persentasie van die totale gewig van die monster, verteenwoordig die persentasie gebreekte koring in die monster. As die verskil tussen die persentasies wat vir die twee monsters bepaal is, nie groter as 0.5 is nie, word die gemiddelde van die twee persentasies wat aldus bepaal is, geneem; as genoemde verskil groter as 0.5 is moet die toets herhaal word.

(9) *Bepaling van persentasie beskadigde koring.*—Die persentasie beskadigde korrels in koring word bepaal deur die beskadigde korrels in duplikaatmonsters van 25 gram elk met die hand uit te soek. Die gewig van die beskadigde korrels aldus verkry, uitgedruk as 'n persentasie van die totale gewig van die monster, verteenwoordig die persentasie beskadigde koring in die monster. As die verskil tussen die persentasies wat vir die twee monsters bepaal is, nie groter as 0.5 is nie, word die gemiddelde van die twee persentasies wat aldus bepaal is, geneem; as genoemde verskil groter as 0.5 is, moet die toets herhaal word.

(10) *Bepaling van persentasie erg ryp-beskadigde koring.*—Die persentasie erg ryp-beskadigde korrels in koring word bepaal deur die erg ryp-beskadigde korrels in duplikaatmonsters van 25 gram elk met die hand uit te soek. Die gewig van die erg ryp-beskadigde korrels aldus verkry, uitgedruk as 'n persentasie van die totale gewig van die monster, verteenwoordig die persentasie erg ryp-beskadigde korrels in die monster. As die verskil tussen die persentasies ten opsigte van die twee monsters verkry, nie groter as 0.5 is nie, word die gemiddelde van die twee persentasies wat aldus verkry is, geneem; as genoemde verskil groter as 0.5 is, moet die toets herhaal word.

(11) *Bepaling van voggehalte.*—Die voggehalte van koring word bepaal volgens een van onderstaande twee metodes:—

(a) *Brown-Duvel-toetsmetode.*—Die apparaat word op 'n plek waar daar geen trek is nie, opgerig. 100 gram koring word in die fles gegooi en 150 kubieke sentimeter vogtoetsolie bygevoeg. Die koring en olie word deeglik gemeng deur die fles te skud. Die opening van die fles word gesluit met 'n rubberprop waardeur 'n standaardtermometer gaan wat so gestel is dat 4/5des van die kwiksilwerbol in die olie en koring versink is. Sleks korrek gegradeerde Celciustermometers, spesiaal vir die apparaat gemaak, 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 goed pas. Die gaasdraad met asbestmiddelstuk onder die fles moet in goeie toestand wees en so gestel word dat die vlam direk onder

(8) *Determination of Percentage of Broken Wheat.*—The percentage of broken wheat is determined by screening duplicate 500-gramme samples by means of the standard sieve in the following manner:—

The standard sieve is assembled and the wheat is placed on the chess sieve. The wheat is then screened by moving the sieve to and fro alternately away from and towards the operator, the direction of motion being in a line with the long axes of the slots of the chess sieve. Each to-and-fro movement constitutes one stroke, and fifty such strokes complete the screening process. In each stroke the sieve is moved 15 to 18 inches away from the operator and back, with the sieve resting on a table or other suitable smooth surface. To prevent excessive wear of the bottom of the solid pan, the screening may be done over sheets of brown paper fastened to the table, or the sieve may be placed in some container which is subjected to the stroke movement as described. The speed of the stroke movement should be such that the prescribed 50 strokes are completed in 50 to 60 seconds. Any broken wheat sticking in the slots is for the purpose of grading not to be regarded as broken wheat. The material which has passed through the sieve into the solid bottom pan is now examined, and any impurities are removed. The remaining material is then weighed, and the weight, expressed as a percentage of the total weight of the sample, represents the broken wheat content of the sample. If the difference between the percentages determined in respect of two samples does not exceed 0.5, the average of the two percentages so determined shall be taken; if the said difference exceeds 0.5, the test must be repeated.

(9) *Determination of Percentage of Damaged Wheat.*—The percentage of damaged kernels in wheat is determined by hand-picking duplicate 25-gramme samples. The weight of the damaged wheat so obtained, expressed as a percentage of the total weight of the sample, gives the percentage of damaged wheat in the sample. If the difference between the percentages 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 said difference exceeds 0.5, the test must be repeated.

(10) *Determination of Percentage of Heavily Frosted Wheat.*—The percentage of heavily frosted kernels in wheat is determined by hand-picking duplicate 25 gramme samples. The weight of the heavily frosted kernels so obtained, expressed as a percentage of the total weight of the sample, gives the percentage of heavily frosted wheat in the sample. If the difference between the percentages 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 said difference exceeds 0.5, the test must be repeated.

(11) *Determination of Moisture Content.*—The moisture content of wheat shall be determined by one or other of the following two methods:—

(a) *Brown Duvel Method.*—The testing apparatus is assembled in a place away from draughts. 100 grammes of wheat are introduced into the flask, and 150 c.c. of moisture testing oil added. The wheat and oil must be well mixed by shaking. The opening of the flask is closed by means of a rubber stopper, through which passes a standard thermometer, so adjusted that 4/5ths of the mercury bulb is submerged in the wheat and oil. Only correctly graduated centigrade thermometers, specially made for this apparatus, may be used. The flask is then placed in the Brown-Duvel apparatus, and the arm of the flask is connected to the condenser tube so that it fits properly. The wire gauze with asbestos centre 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 $\frac{3}{4}$ in. above the asbestos. A correctly graduated measuring cylinder is placed under the condenser

die middel van die asbes is terwyl die fles verhit word. Die staander waarop die fles rus, moet so hoog wees dat die bodem van die fles omtrent $\frac{1}{2}$ duim bo die asbes is. 'n Korrek gegradeerde maatglas word onder die kondenseerbuis geplaas om die water wat afgedryf word op te vang. 'n Onafgebroke stroom kou water moet deur die kondenseertenk loop, of as 'n klein Brown-Duvel-apparaat met enkelvlak sonder voorsiening vir 'n stroom water gebruik word, moet die tenk voor elke toets met koue water gevul word.

Die deksel word dan oor die fleshouer geplaas en die verhitting begin. Verhitting kan geskied deur middel van elektrisiteit, koolgasblaaslampe of alkoholampe soos vir die apparaat verskaf word. In alle gevalle moet die hitte egter so gereël word dat die temperatuur van 180°C in minstens 19 minute maar hoogstens 21 minute bereik word. As dit langer duur, sal die resultate te laag wees, en as dit korter duur sal die resultate te hoog wees. Die verhitting moet dadelik stopgesit word sodra die temperatuur van 180°C bereik word. (Gewoonlik duur dit 10 minute voordat die temperatuur styg tot 109°C of 110°C en nog 10 minute voordat 180°C bereik word.)

As die voggehalte van die monster besonder hoog is, kan skuim gevorm word en die inhoud oorkook as die normale metode van verhitting toegepas word. Onder sulke omstandighede kan die regte voggehalte die beste bepaal word deur die mengsel vinnig te verhit totdat opborreling van olie plaasvind, en dan min hitte te gee totdat 'n paar kubieke sentimeter water afgedryf is. Die normale verhitting kan dan toegepas en die orige vog sonder skuimvorming binne die voorgeskrewe tydperk deur verdamping verwyder word.

Nadat die verhitting ophou, kan 'n geringe geleidelike styging in temperatuur verwag word. 'n Skielike styging of daling van verskeie grade in die temperatuur toon aan dat die vlam te kwaai was gedurende die laaste deel van die verhitting, en dan moet die toets herhaal word. As die water wat oorstook, verkleur is, dui dit aan dat die koring gebrand het en dan moet die toets herhaal word.

Die deksel en termometer moet nie verwyder word voordat die temperatuur tot 160°C gedaal het nie. Wag totdat die temperatuur tot 160°C of laer gedaal het, en verwyder dan die deksel, haal die termometer uit en maak die afleweringsbuisie los. Skud alle druppels water af wat aan die kante van die maatglas hang, en lees dan die persentasie vog af. Die lesing word geneem onder die laag olie wat bo-op die water dryf. Resultate moet afgelees word tot een-tiende van een persent. Alle toetse moet twee keer gedoen word en as die verskil tussen die twee aflesings nie groter as 0.2 is nie, word die gemiddelde van die twee aflesings as die voggehalte geneem; as genoemde verskil groter as 0.2 is, moet die toets herhaal word.

By die gebruik van hierdie apparaat moet gesorg word dat geen voos rubberproppe gebruik word nie, dat die maatglas skoon en droog gemaak word voordat dit gebruik word, dat geen olie onmiddellik na 'n vorige toets weer gebruik word nie, en dat die kwiksilwerkolom ongebroke is voordat met 'n toets begin word.

Gebruik vir iedere toets of vars olie of olie wat vir 'n tydlang nie gebruik is nie; in alle gevalle moet die olie tot 'n temperatuur van 200°C verhit word en eers afkoel voordat dit gebruik word.

- (b) *Marconi-elektriese weerstandsmetode.*—Die apparaat vir die bepaling van voggehalte volgens hierdie metode bestaan uit die Marconivogmeter Model T.F. 933 of T.F. 933A, waardeur vog in die koring deur middel van elektriese weerstand bepaal word. Die apparaat moet nie in 'n trek en direkte sonlig geplaas word nie. 'n Hoeveelheid van minstens 70 en hoogstens 80 gram van 'n verteenwoordigende

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 tank should be filled with cold water before each test.

The cover is then placed over the flask compartment and heating started. Heating may be brought about by electrical elements, coal-gas, blow-lamps or alcohol burners (spirit lamps) as supplied for the apparatus. In all cases, however, the heat must be so regulated that the temperature of 180°C is reached in not less than 19 minutes and not more 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 temperature reaches 180°C . (Normally it takes 10 minutes for the temperature to rise to about $100-110^{\circ}\text{C}$ and a further 10 minutes to rise to 180°C .)

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. The heat may then be turned on to normal again and the remaining moisture driven off without foaming within the prescribed period of heating.

After the heat has been cut off, a slight gradual rise in temperature is to be expected. A sudden increase or a sudden decrease in temperature of several degrees indicates that the flame was too intense during the latter part of heating and the test should be repeated. If the water which distills over is discoloured, the wheat has evidently been burned and the test must be repeated.

Neither the cover nor the thermometer must be removed until the temperature has dropped to 160°C . After the temperature has fallen to 160°C or lower, the cover and the thermometer are removed and then the delivery tube is disconnected.

All drops clinging to the sides of the measuring cylinder are shaken down and the percentage of moisture read off. The reading is taken beneath the layer of oil floating on the water. Results must be read to one-tenth of one 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 shall be taken as the moisture content; if the said difference exceeds 0.2, the test must be repeated.

When this apparatus is used, care should be taken to avoid the use of mushy rubber stoppers, to clean and dry the measuring flasks before using 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 any test is commenced.

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 wheat is determined through electrical resistance. The apparatus shall be placed away from draughts and direct rays of the sun. A quantity of not less than 70 and not more than 80 grammes of a repre-

monster van die koring waarvan die voggehalte getoets moet word, moet in 'n handgraanmeul of koffiemeul gemaal word wat so gestel is dat die koring tot 'n growwe meel vermaal word. Die meul moet egalig gedraai word teen so 'n spoed dat die hele monster in 'n tydperk van minstens 30 sekondes en hoogstens 90 sekondes gemaal sal word. Die gemaalde monster moet onmiddellik in 'n glasfles met 'n skroefdeksel en met 'n inhoudsmaat van tussen 300 en 400 kubieke sentimeters geplaas word. Nadat die fles behoorlik 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 halfvol 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. Die sel moet nie gestamp of geskud word nie. Onmiddellik daarna moet die sel (met die metaaldrukprop na bo) in die klamp wat deel van die Marconi-apparaat uitmaak, geplaas word 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 hoof toestel 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 wyserskyf 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 sowel as die temperatuur van die gemaalde monster in die glasfles. 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. Waar moontlik, moet lesings slags op die swart of positiewe waardes op die wyserskywe geneem word. Die lesings op die wyserskywe moet herlei word tot persentasies volgens onderstaande tabel:—

Lesing op wyserskywe.	Persentasie.	Lesing op wyserskywe.	Persentasie.
0	8.8	26	13.7
1	9.0	27	14.0
2	9.1	28	14.2
3	9.3	29	14.4
4	9.5	30	14.7
5	9.7	31	14.9
6	9.9	32	15.2
7	10.1	33	15.4
8	10.3	34	15.6
9	10.5	35	15.9
10	10.7	36	16.1
11	10.8	37	16.4
12	10.0	38	16.7
13	11.2	39	16.9
14	11.4	40	17.2
15	11.6	41	17.5
16	11.8	42	17.8
17	12.0	43	18.2
18	12.2	44	18.5
19	12.4	45	18.8
20	12.5	46	19.2
21	12.7	47	19.6
22	12.9	48	20.0
23	13.1	49	20.4
24	13.3	50	20.8
25	13.5	51	21.3

sentative sample of the wheat to be tested for moisture shall be ground in a hand grain mill or coffee mill which has been so adjusted that the wheat is ground to a coarse meal. 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 90 seconds. The milled sample shall immediately be placed in a screw cap glass jar of between 300 and 400 cubic centimetres 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. The cell shall not be jarred. 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 lefthand 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 as well as the temperature of the milled sample shall now be taken. 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. Whenever possible, readings shall only be taken on the black or positive values on the dials. Dial readings shall be converted into percentages according to the following table:—

Dial Reading.	Percentage.	Dial Reading.	Percentage.
0	8.8	26	13.7
1	9.0	27	14.0
2	9.1	28	14.2
3	9.3	29	14.4
4	9.5	30	14.7
5	9.7	31	14.9
6	9.9	32	15.2
7	10.1	33	15.4
8	10.3	34	15.6
9	10.5	35	15.9
10	10.7	36	16.1
11	10.8	37	16.4
12	11.0	38	16.7
13	11.2	39	16.9
14	11.4	40	17.2
15	11.6	41	17.5
16	11.8	42	17.8
17	12.0	43	18.2
18	12.2	44	18.5
19	12.4	45	18.8
20	12.5	46	19.2
21	12.7	47	19.6
22	12.9	48	20.0
23	13.1	49	20.4
24	13.3	50	20.8
25	13.5	51	21.3

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° Celsius is en met 0.1 te verminder vir elke een graad Celsius wat die termometerlesing bo 20° Celsius is.

Alle toetse moet twee keer gedoen word en as die verskil tussen die twee persentasies nie groter as 0.2 is nie, word die gemiddelde van die twee persentasies as die voggehalte geneem; as genoemde verskil groter as 0.2 is, moet die toets herhaal word met afsonderlike hoeveelhede van die oorspronklike gemaalde monster.

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.

Wanneer 'n vogbepaling deur middel van hierdie metode gedoen word, moet gesorg word dat die apparaat in goeie werkende toestand is deur deur middel van '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 toetsel in sy normale posisie in die klamp gehou word. 'n Stukkie metaaldraad of silwerpapier (tinfoelie) 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 isoleerring 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 toetsel vir 'n paar minute in die son of in 'n redelik warm lug geplaas en die toets herhaal word.

N.B.—Daar dien op gelet te word dat indien die toestel met batterye toegerus is en dit onmoontlik is om die galvanometernaald op die „zero”-posisie in te stel, dit noodsaaklik is dat die batterye vervang word. As dit nie moontlik is om dadelik nuwe batterye te bekom nie, moet die ou batterye dadelik verwyder word, of die apparaat gebruik word of nie, daar hulle die apparaat onherstelbaar kan beskadig.

WOORDOMSKRYWING.

3. Vir die toepassing van hierdie regulasies beteken—
 - „broodkoring”, die kariopsis van die soorte *Triticum vulgare* en *Triticum compactum*;
 - „durumkoring”, die kariopsis van die soorte *Triticum durum*, *Triticum turgidum* en *Triticum polonicum*;
 - „skepelgewig”, gewig per imperiale skepel;
 - „vreemde materiaal”, alle ander materiaal as koring, wilde ertjies, gars, hawer, rog en ongedorste are maar met inbegrip van onkruidsaad van enige aard en enige ander materiaal, soos kaf, stukke bindtouw, klippe en stokkies;
 - „gebreekte koring”, gebreekte en maer koringkorrels wat deur die standaardsif gaan;
 - „gars”, die korrels van die geslag *Hordeum*;
 - „hawer”, die korrels van die geslag *Avena*;
 - „rog”, die kariopsis van die geslag *Secale*;
 - „onsuiwerhede”, wilde ertjies, rog, gars, hawer, vreemde materiaal en ongedorste are;

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 reading is above 20° C.

All tests shall be made twice, and if the difference between the two percentages does not exceed 0.2, the average of the two percentages shall be taken as the moisture content; if the said difference exceeds 0.2, the test must be repeated on separate quantities of the original milled sample.

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

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.

NOTE.—It should be noted that if the apparatus is provided with batteries and it proves impossible to adjust the galvanometer needle to the zero position, it is essential that the batteries be replaced. If this cannot be done immediately, the old batteries must be removed immediately, whether the apparatus is used or not, as they may cause irreparable damage.

DEFINITIONS.

3. For the purpose of these regulations—

- “bread wheat” shall mean the caryopsis of the species *Triticum vulgare* and *Triticum compactum*;
- “durum wheat” shall mean the caryopsis of the species *Triticum durum*, *Triticum turgidum* and *Triticum polonicum*;
- “bushel weight” shall mean weight per imperial bushel;
- “foreign matter” shall mean all material other than wheat, vetch, barley, oats, rye and unthreshed ears, and shall include weed seeds of any kind and any other material such as chaff, bits of binder twine, stones and sticks;
- “broken wheat” shall mean broken and thin wheat kernels which pass through the standard sieve;
- “barley” shall mean the kernels of the genus *Hordeum*;
- “oats” shall mean the kernels of the genus *Avena*;
- “rye” shall mean the caryopsis of the genus *Secale*;
- “impurities” shall mean vetch, rye, barley, oats, foreign matter and unthreshed ears;

„ongedorste are”, are en gedeeltes van are van koring, gars, hawer en rog wat nog kariopsisse of korrels, na gelang van die geval, bevat;

„ander graan”, die korrels of stukkies korrels van gars, hawer en rog;

„wilde ertjies”, die saad van die onkruid bekend as wilde ertjies of wieke (*Vicia* spp.);

„insekte wat skadelik is vir koring”, die graankalander (*Sitophilus granarius*), die ryskalander (*Sitophilus oryzae*), die Australiese koringkalander (*Rhizopertha dominica* Fab.) en die Angoumoisgraanmot (*Sitotroga cerealla*);

„beskadigde koring”—

(a) koring-, gars-, hawer- en rogkorrels wat deur insekte wat skadelik is vir koring, beskadig is; of

(b) uitgeloopte koringkorrels waarin die ontkieming of spruiting sover gevorder is dat die vel wat die kiem bedek, gebreek is en die ontwikkelde worteltjies of spruite (plumula) duidelik sigbaar is; of

(c) hitte-beskadigde koringkorrels of stukke koringkorrels wat deur hitte van buite af, of as gevolg van hitte deur binnevestiging in koring met 'n oormaat vog, duidelik verkleur is (bruinswart of swart), met uitsondering egter van koringkorrels waarin die verkleuring tot die kiem-end beperk is; of

(d) skimmelbesmette koringkorrels waarop skimmel- of ander swamorganismes, behalwe stinkbrand, duidelik sigbaar is; of

(e) onryp koringkorrels wat 'n duidelike groen kleur het;

„stinkbrandbesmette koring”, koring wat in so 'n mate met stinkbrand besmet is dat dit 'n onmiskenbare reuk van stinkbrand het, of dat die korrels weens stinkbrand swart is, of dat daar meer as vier stinkbrandkorrels (of dele van korrels gelykstaande met meer as vier stinkbrandkorrels) per 100 gram koring aanwesig is;

„erg ryp-beskadigde koring”, koring wat gedurende die melk- tot sagte deegstadium deur strawwe ryp beskadig was en wat daardeur gekenmerk word dat die korrels taamlik vet maar heeltemal, tot in die groef, met klein blasies bedek is, maar sluit nie koring in nie waarin rypbeskadiging beperk is tot die semeldeel van die korrels waarvan net die rugkant met blasies bedek is, of onryp gerimpelde koringkorrels waarin rimpeling deur ryp veroorsaak is terwyl die korrels nog onryp was;

„vogtoetsolie”—

(a) „Pan”-slaai- en kookolie, vervaardig deur die Epic Oil Mills (Pty.), Limited;

(b) „Epic”-slaai- en kookolie, vervaardig deur die Epic Oil Mills (Pty.), Limited; en

(c) „Consol”-olie, vervaardig deur die Epic Oil Mills (Pty.), Limited;

„standaardsif”, 'n handsif wat bestaan uit 'n growwe smalgatsif met openings vier en 'n half vier-en-sestigstes van 'n duim wyd en 'n halfduim lank, in 'n pan met soliede bodem pas, gemaak van aluminium (dikte No. 20) en 13 duim in deursnee is.

HERROEPING VAN BESTAANDE REGULASIES.

4. Die regulasies met betrekking tot die gradering en manier van gradering volgens kwaliteit van koring, afgekondig by Goewermentskennisgewing No. 1763 van 1944, soos gewysig, word hierby herroep met ingang van 1 November 1955.

„unthreshed ears” shall mean ears and bits of ears of wheat, barley, oats and rye which still contain caryopses or kernels, as the case may be;

„other grain” shall mean the kernels or pieces of kernels of barley, oats and rye;

„vetch” shall mean the seed of the weed known as „wild vetch” or „wilde ertjie” (*Vicia* spp.);

„insects injurious to wheat” shall mean the grain weevil (*Sitophilus granarius*), the rice weevil (*Sitophilus oryzae*), the Australian wheat weevil (*Rhizopertha dominica* Fab.) and the Angoumois grain moth (*Sitotroga cerealla*);

„damaged wheat” shall mean—

(a) wheat, barley, oat and rye kernels which have been damaged by insects injurious to wheat; or

(b) sprouted wheat kernels in which germination or sprouting has proceeded so far that the skin covering the embryo has been broken and the developing rootlets or plumula of the embryo can be clearly seen; or

(c) heat damaged wheat kernels or pieces of wheat kernels which have been distinctly discoloured (brownish-black or black) by external heat or as a result of heating caused by internal fermentation in wheat containing a high moisture content, but shall not include wheat kernels in which the discoloration is confined to the embryo end; or

(d) mould infected wheat kernels which can be seen to be infected with mould organisms or other fungi, excluding stinking smut; or

(e) immature wheat kernels which are distinctly green in colour;

„smutty wheat” shall mean wheat which is infected with stinking smut to such an extent that it has an unmistakable odour of smut or that the grains are black with smut, or that it contains more than four smut balls or portions of balls equivalent to more than four smut balls per 100 grammes of wheat;

„heavily frosted wheat” shall mean wheat which has been damaged by severe frost during the milk to soft dough stage and which is characterised by the kernels being fairly plump but covered with small blisters over the entire kernel, extending into the crease—but shall not include „bran-frosted” kernels in which blistering is confined to the back of the kernel, or immature wrinkled kernels in which wrinkling has been caused by frost while the kernels were immature;

„moisture testing oil” shall mean—

(a) „Pan” salad or cooking oil, manufactured by the Epic Mills (Pty.), Limited;

(b) „Epic” salad and cooking oil, manufactured by the Epic Oil Mills (Pty.), Limited; and

(c) „Consol Oil”, manufactured by the Epic Oil Mills (Pty.), Limited;

„standard sieve” shall mean a hand sieve which consists of a coarse chess sieve with slotted perforations four and a half sixty-fourths of an inch wide and half an inch long, is made of No. 20 gauge aluminium, is 13 inches in diameter, and fits into a solid bottom pan.

REPEAL OF EXISTING REGULATIONS.

4. The regulations relating to the grading and the manner of grading according to quality of wheat, published under Government Notice No. 1763 of 1944, as amended, are hereby repealed with effect from the 1st November, 1955.

INVOERDERS UITVOERDERS NYWERAARS

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