

PLANT VARIETY (POTATO SEED) REGULATIONS [ARRANGEMENT OF REGULATIONS]

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SECTIONS 35 AND 84-PLANT VARIETY (POTATO SEED) REGULATIONS
Regulations by the Minister

Statutory Instrument.
133 of 1984
Act No.
13 of 1994
21 of 1995

1. These Regulations may be cited as the Plant Variety (Potato Seed) Regulations. Title

2. (1) In these Regulations unless the context otherwise requires- Interpretation

"control growing" means a test where growing potato plants are examined to determine cultivar purity and/or virus infection;

"cultivar" means a subdivision of any species which can be distinguished from other subdivisions of that species by means of growth, plant, fruit or other characteristics;

"defect index" means a figure giving the status of a growing crop, a control growing plot or a potato seed lot taking into consideration both frequency and severity of the defects;

"isolation" means a required distance between two crops of the same species in order to prevent contamination either mechanically or by pollination;

"off-type" means a plant which does not show the recognised and acceptable habits and characteristics of the cultivar being grown; and

"seed class" means a step in seed multiplication system well defined in respect of another seed, standard of cultivation and seed quality.

(2) Unless the context otherwise requires words and expressions not defined in these Regulations but defined in the Plant Variety and Seeds Regulations, shall, in these Regulations, have the meaning assigned

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thereto.

3. (1) Potato seed is hereby prescribed to be seed to which the Act applies. Act to apply to potato seed

(2) No potato shall be sold as seed unless it has been certified by the Controller of Seeds in accordance with these Regulations.

(3) No potato seed shall be certified under these Regulations unless it has been produced and inspected, and attains the standards, as herein provided.

4. (1) Only cultivars which have been approved by the Controller of Seeds shall be eligible for certification. Certification of potato seed

(2) Potato seed shall be certified in six classes in accordance with the First Schedule.

(3) The standards for certification shall be in accordance with the Second Schedule.

5. (1) An application for registration as a grower of potato seed shall be made in accordance with Part VIII of the Act. Registration as grower

(2) An application shall not be approved if it is in respect of land on which, during the preceding three years, potatoes or other *Solanaceous* crops have been grown.

6. The grower shall plant the class of seed appropriate for his production; and shall retain such evidence of that class as may be sufficient to satisfy the Certifying Authority in that behalf. Evidence of class of seed grown

7. (1) An inspector carrying out a field inspection shall reject a crop for certification if he is satisfied that- Field inspection

(a) the crop is so heavily contaminated with weeds as to render it

unfit as seed;

(b) the crop is so heavily infested with blights as to render it unfit as seed;

(c) the isolation distance prescribed in the Second Schedule is not met;

(d) the standard relating to aphids as prescribed in the Second Schedule is not met;

(e) the standard relating to the removal from the field of undesirable plants as prescribed in the Second Schedule is not met; or

(f) the defect index as prescribed in the Second Schedule is in excess of 30.

(2) In respect of every field inspection carried out under these Regulations, a report in the appropriate form prescribed in the Third Schedule shall be rendered by the inspector and counter-signed by the grower.

8. (1) In respect of a crop intended for the production of pre-basic seed (S) or basic seed (SE), the grower shall give notice to the Certifying Authority informing him when the haulms have been destroyed and when he intends to lift the potatoes in order that before the potatoes are lifted samples may be taken for purposes of a virus post control.

Virus post control

(2) In respect of every virus post control carried out under these Regulations, a report in the appropriate form prescribed in the Third Schedule shall be rendered by the Certifying Authority.

9. (1) Potato seeds shall be graded in three sizes in accordance with the following specification:

Grading and packing

(a) Small 30-40 millimetres;

(b) Medium 41-50 millimetres;

(c) Large 51-60 millimetres.

(2) Potato seeds shall be packed in pockets or other containers approved by the Certifying Authority.

10. (1) Potato seed shall be presented for tuber control- Tuber control

(a) not earlier than fourteen days and not later than nine months after it has been lifted; and

(b) in seed lots not exceeding five tonnes each.

(2) In respect of every tuber control carried out under these Regulations, a report in the appropriate form prescribed in the Third Schedule shall be rendered by the inspector and counter-signed by the grower.

11. (1) Potato seed samples shall be presented for control growing in accordance with instructions issued from time to time by the Certifying Authority. Control growing

(2) In respect of every control growing carried out under these Regulations, a report in the appropriate form prescribed in the Third Schedule shall be rendered by the Certifying Authority.

12. (1) Potato seed which has been certified in accordance with these Regulations shall be sealed and labelled with the appropriate label provided by the Certifying Authority. Labelling and storing of potato seed

(2) Potato seed shall be stored, both before and after certification, in a manner satisfactory to the Certifying Authority-

(a) so as to avoid disease, infection and contamination thereof;

(b) in buildings disinfected with a disinfectant approved by the Certifying Authority; and

(c) in lots separate from ware potatoes and other potato seed lots.

(3) When potato seed is stored in an open shed, in addition to the provisions of sub-regulation (2), volunteer *Solanaceous* or old sprouting potato tubers shall not be allowed within fifty metres of such open shed.

(4) When an inspector is satisfied that potato seed has been stored contrary to the provisions of this regulation, he may-

(a) in the case of potato seed which has not been certified, refuse certification; or

(b) in the case of potato seed which has been certified, cancel such certification.

13. Unless cancelled earlier, the validity of a certification for potato seed shall be sixty days from the date of the tuber control: Validity of certification

Provided that upon the expiry of a certificate a further tuber control may be carried out and the seed may be recertified for a like period.

14. Any person aggrieved by any decision under these Regulations of an Inspector may appeal to the Certifying Authority and to the Minister from any decision of the Certifying Authority. Appeals

15. The fees prescribed in the Fourth Schedule shall be payable in respect of the matters therein set out. Fees

FIRST SCHEDULE

(Regulation 4)

POTATO SEED CERTIFICATION SCHEME

Code	Class	Parent seed and availability	Colour of label
S1 (S2, S3)	Pre-basic Seed	Produced by the breeder under the supervision of a Certifying Agency. The maximum number of generations shall not exceed three, as determined by the Certifying Agency and such number of generation shall form part of the identification.	Violet stripe on white
SE	Basic Seed	Produced from Pre-basic Seed under the supervision of a Certifying Agency. Only one generation permitted. Produced from Basic Seed and inspected by a Certifying Agency.	White
E1	Certified Seed, 1st generation	Produced from Certified Seed, 1st generation (or higher class) and inspected by a Certifying Agency.	Blue stripe on white
E2	Certified Seed, 2nd generation	Produced from Certified Seed, 2nd generation (or higher class) and inspected by a Certifying Agency.	Red stripe on white
A	Certified Seed, 3rd generation	Produced from Certified Seed, 3rd generation (or higher class) and inspected by a Certifying Agency.	Red stripe on white
B	Certified Seed, 4th generation		Green stripe on white

NOTES:

1. Field inspection is compulsory for all classes.
2. For classes S and SE virus post control is compulsory.
3. Tuber control is compulsory for all classes.
4. For classes S1 to E2 control growing is compulsory.
5. Pre-basic seed shall not be available to the public; basic seed shall be available only to registered seed growers; the other classes shall be available to the public.

SECOND SCHEDULE

(Regulations 7, 8, 10 and 11)

STANDARDS FOR CERTIFICATION OF POTATO SEED

QUALITY CLASS (Code)	FIELD INSPECTION		VIRUS POST CONTROL	TUBER CONTROL	CONTROL GROWING
	Isolation (metres)	Defect Index (highest value)	Maximum severe virus diseases %	Defect Index (highest value)	Defect Index (highest value)
S1 (S2, S3)	150	1	0.1	10	3
SE	100	4	0.8	10	8
E1	100	8	-	10	15
E2	100	8	-	10	15
A	100	12	-	15	-
B	50	30	-	20	-

NOTES:

Field inspection

1. The isolation refers to the distance between the potato crop for certification and potato crops of lower quality classes or volunteer potato plants. Between different cultivars of the same quality class the isolation shall be at least 5 metres.

2. A potato crop will be considered heavily infested with aphids if there are more than 150 per 100 leaves taken from the lower half of a plant. Provided that haulm destruction of a heavily infested crop is carried out within seven days from the date of discovering by inspection, it may be cleared by field inspection.

3. Undesirable plants shall be cleared away as soon as possible by removing both the haulms and the tubers to a distance of at least 30 metres from every edge of the field.

4. Diseased plants, plants of other cultivars and off type plants shall be recorded as percentages by number; and the percentages found shall be multiplied by the appropriate factors set out in note 5, and the various products so obtained shall be added together to give the defect index for the particular field.

5. The factors to obtain the defect index for a field inspection shall be as follows:

<i>Defect</i>	<i>Factor</i>
Leaf roll virus (PLRV).....	10
Severe mosaic (PVY).....	8
Black leg	3

Verticillium wilt.....	2
Fusarium wilt	2
Wildings.....	2
Cultivar mixtures	1
Off-types	1
Mild mosaic	1
Bolters.....	1

Virus post control

6. Samples for virus post control shall be taken in the field after haulm destruction. A minimum of one thousand tubers per field shall be sampled.

7. The determination of virus shall be done by serological methods and/or by ocular inspection. The result shall be given as a percentage by number of infected tubers.

Tuber control

8. From each lot presented for tuber control at least five primary samples of a minimum of forty tubers each shall be drawn. The primary samples mixed together shall form the working sample to be examined. At least 500 tubers per seed lot shall be examined.

9. The working samples shall be washed, and all the tubers shall be cut through before they are examined.

10. Diseased, damaged and severely mis-shaped tubers and tubers deviating in size from the grade size shall be recorded as percentage by number; and the percentages found shall be multiplied by the appropriate factors as set out in note 11 and the various products so obtained shall be added together to give the defect index for the seed lot.

11. The factors to obtain the defect index for the tuber control of a potato seed lot are as follows:

<i>Defect</i>	<i>Factor</i>
Pink rot.....	10
Pythium rot.....	10
Soft rot	10
Spindle tuber	10
Black leg	3
Fusarium	3
Phytophthora.....	3
Other dry rots	3
Root knot nematodes.....	3
Alternaria	1
Black heart	1
Black scurf	1
Sunscald	1
Tuber moth.....	1
Cut worms.....	0.50

Other insect damages	0.50
Heel end necrosis	0.50
Internal heat necrosis	0.50
Mechanical damages	0.50
Powdery scab	0.50
Spraing	0.50
Common scab.....	0.25
Cracks	0.25
Severely mis-shapen tubers.....	0.25
Tubers of deviating size	0.25

12. For the purposes of an examination the following shall be ignored:

- (i) attacks by *Black scurf*, *Common scab* and *Powdery scab* if the area covered is less than 10 per cent of the total tuber area;
- (ii) *mechanical damages*, *cut worms damages*, *other insect damages* and *cracks* if the area covered is less than 10 per cent of the total tuber area or if the penetrating depth is less than 10 per cent of the tuber length;
- (iii) *internal heat necrosis* and *spraing* covering less than 10 per cent of the cut surface;
- (iv) diffuse *brown spotting*; and
- (v) size deviation of less than 5 per cent of the total tubers examined.

13. If in the case of defects with a factor of 10 or 3, the product of the percentage of defective tubers and the appropriate factor exceeds 5, the seed lot shall be rejected.

Control growing

- 14. (i) From every certified potato seed lot of the classes S1 to E2 a sample of at least 500 tubers shall be drawn for the purposes of control growing.
- (ii) The potato plants in the control plots shall be inspected frequently during their growing period and cultivar contaminations, diseases and other defects shall be recorded as percentages by number. The percentages found shall be multiplied by the various factors set out in Note 5 to obtain the defect index for a control growing.

General

- 1. For Wart Disease (*Synchytrium endobioticum*); Bacterial Wilt; Brown Rot; Ring Rot (*Pseudomonas solacearum* and *Corynebacterium sepedonicum*) and Potato Cyst Nematode (*Globodera sp.*) the tolerance is nil at *field inspection*, *tuber control* and *control growing* for all classes.
- 2. If a potato seed lot does not reach the standards for the class it has been grown; it may be approved in a lower class, or rejected for certification if found to be of a lower standard than that prescribed for Certified Seed 4th generation.

THIRD SCHEDULE

(Regulations 5, 7, 8, 10 and 11)

PRESCRIBED FORMS

FORM 1 (To be completed in duplicate)

REPUBLIC OF ZAMBIA

MINISTRY OF AGRICULTURE AND FOOD SECURITY
(SEEDS) ACT, CAP. 236

PLANT VARIETY (POTATO SEED) REGULATIONS

APPLICATION FOR REGISTRATION AS SEED GROWER TO PRODUCE POTATO SEED

To: Controller of Seeds,
P.O. Private Bag 7,
Chilanga.

Name of applicant

Name and address of farm

Cultivar to be grown

Parent seed: Class Certification No

Quantity.....kg. Proposed date of planting

Previous crops grown in this field for the last three years:

Year: 19..... 19..... 19.....

Crop: Year:..... ..

Comments

Date Signature

(A map giving instructions on how to reach the farm must be drawn overleaf)

For Official Use only

Cultivar approved..... Hectarage approved

Conditions imposed

Date.....

.....
Controller of Seeds

FORM 2
REPUBLIC OF ZAMBIA

MINISTRY OF AGRICULTURE AND FOOD SECURITY
PLANT VARIETY AND SEEDS ACT, CAP. 236

PLANT VARIETY (POTATO SEED) REGULATIONS

FIELD INSPECTION REPORT

Registration No: Cultivar

Grower

Farm:

Hectares..... Isolation: Metres:

DEFECTS:

<i>Kind</i>	<i>Number of</i>	<i>Percentage</i>	<i>Index</i>
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.....
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Remarks

Date:

Signature of Grower:

Inspector

FORM 3
REPUBLIC OF ZAMBIA

MINISTRY OF AGRICULTURE AND FOOD SECURITY
PLANT VARIETY AND SEEDS ACT, CAP. 236

PLANT VARIETY (POTATO SEED) REGULATIONS

VIRUS POST CONTROL REPORT

Registration No: Cultivar:

Grower

Farm:

Number of tubers tested:

VIRUS:

<i>Kind</i>	<i>Percentage by Number</i>
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Date:

Controller of Seeds.

FORM 4
REPUBLIC OF ZAMBIA

MINISTRY OF AGRICULTURE AND FOOD SECURITY
PLANT VARIETY AND SEEDS ACT, CAP. 236

PLANT VARIETY (POTATO SEED) REGULATIONS

TUBER CONTROL REPORT

Registration No: Cultivar

Seed Lot No:

Grower:

Farm:

Number of tuber tested:

DEFECTS:

<i>Kind</i>	<i>Percentage</i>	<i>Index</i>
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Date

.....
Signature of Grower

Inspector

FORM 5

REPUBLIC OF ZAMBIA

MINISTRY OF AGRICULTURE AND WATER DEVELOPMENT
PLANT VARIETY AND SEEDS ACT, CAP. 236

PLANT VARIETY (POTATO SEED) REGULATIONS, 1984

CONTROL GROWING REPORT

Cultivar: Certification No:

Seed lot No:

DEFECTS:

<i>Kind</i>	<i>Index</i>
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Remarks

Date:

Controller of Seeds

FOURTH SCHEDULE

(Regulation 15)

PRESCRIBED FEES

	Fee units
Registration fees*	225 per hectare
Virus post control fees	2 per tuber
Tuber control fees	1 per tuber
Sealing fees**	2 per bag (container)

NOTES:

* Includes prescribed field inspections and control growing.

** Irrespective of size of bag or container.

(As amended by Act No. 13 of 1994)