



**Australian Government**

**National Measurement  
Institute**

Bradfield Road, West Lindfield NSW 2070

# **Interim Certificate of Approval**

## **NMI P15/2/1**

**VALID FOR VERIFICATION PURPOSES UNTIL 22 MARCH 2012**

Issued by the Chief Metrologist under Regulation 60  
of the  
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the instruments herein described.

Foss Model EyeFoss Grain Analysing Instrument

submitted by Foss Pacific Pty Ltd  
Unit 2, 112-118 Talavera Road  
North Ryde NSW 2113

**NOTE:** This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

### **DOCUMENT HISTORY**

<b>Rev</b>	<b>Reason/Details</b>	<b>Date</b>
0	Pattern provisionally approved – interim certificate issued	22/12/11

## CONDITIONS OF APPROVAL

### **General**

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 15/2/1' and only by persons authorised by the submitter.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI 15/2/1' in addition to the approval number of the instrument, and only by persons authorised by the submitter.

It is the submitter's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the National Measurement Institute (NMI) and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with document NMI P 106.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificates No S1/0/A or No S1/0B.

### **Special Conditions of Approval: (Provisional approval)**

This approval is limited to the instruments located at one (1) site only, the location or serial numbers of which may be obtained from the National Measurement Institute. The submitter shall advise NMI in writing of the proposed location or serial numbers, of each instrument prior to it being initially verified.

Instruments purporting to comply with this approval shall be marked with approval number 'NMI P15/2/1' and only by persons authorised by the submitter. (Note: The 'P' in the approval number may be a temporary marking.)

The approval will remain provisional pending completion of satisfactory testing and evaluation.

NMI may attend and carry out in-situ testing in conjunction with the verification testing.

The submitter shall provide NMI with copies of test results from the initial verification and all subsequent tests.

In the event of unsatisfactory performance, or of suitable test results not being received by NMI the approval may be cancelled (or altered).

The submitter shall implement such modifications as required by NMI. In the event that such modifications (if any are required by NMI) are not made to the satisfaction of NMI prior to the dates agreed, this approval may be withdrawn.

In addition to verification of these instruments prior to use for trade, re-verification will be required every twelve months and may be required following implementation of any modifications by NMI.

Any grain sample which is judged to be downgraded based on results from the EyeFoss, will be re-analysed by a qualified sampler to validate the results. The process of re-analysing will be to ensure that no one is unfairly disadvantaged due to the performance of the EyeFoss instrument.

## 1. Description of Pattern

approved on 22/12/11

A Foss model EyeFoss 1241-0500 grain analysing instrument used to assess certain characteristics of a whole grain sample of barley or wheat grain. The characteristics assessed and their units of measurement, for a nominal 0.5 litre test sample, are:

### (a) For wheat;

- (i) Contaminants
  - Ryegrass (grams per test sample)
  - Spear grass + wild oats + barley (count per test sample)
- (ii) Defective kernels
  - BP3 + BP4 + FFS (count per 500 kernels)
  - Frosted (count per 500 kernels)

### (b) For barley;

- (i) Contaminants
  - Ryegrass (grams per test sample)
  - Wheat (count per 800 kernels)
  - Spear grass + wild oats (count per 800 kernels)
- (ii) Defective kernels
  - [Germ-end] Stained (count per 400 kernels)
  - Frosted (count per 100 kernels)
  - Skinned (count per 100 kernels)

The instrument operates with certain Foss software, including Foss Integrator version 1.5.3 with Hotfix 5, Measurement Engine version 1.2.42, and Image Server version 1.2.33.

The pattern may be connected to an Infratec model 1241 grain protein measuring instrument.

## INTERIM VERIFICATION TEST PROCEDURE

### General

Analyse the wheat sample and barley sample prepared by NMI three times under repeatability conditions on the instrument.

Wheat test sample (11/12 season sample #3 contaminated at NMI)

Barley test sample (11/12 season sample #8 contaminated at NMI)

Remove a specified number of defects from each sample and analyse three times again.

Compare every measurement on the four different samples against the error limits specified below.

### Specific instructions

- 1) Clean the instrument thoroughly prior.
- 2) After each analysis, open the instrument and return any stray kernels and ryegrass to the respective sample.
- 3) Number of contaminants and defective kernels to remove from the received samples following 3 analyses under repeatability conditions:

#### Wheat test sample

Ryegrass: remove at least 1.5 g

Frosted: remove 89 kernels

Stained: remove 327 kernels

Barley: remove 50 kernels

Spear grass: remove 25 kernel

Wild oats: remove 25 kernels

#### Barley test sample

Ryegrass: remove at least 1.5 g

Frosted: remove 163 kernels

Germ-end stained: remove 75 kernels

Wheat: remove 30 kernels

Spear grass: remove 15 kernels

Wild oats: remove 15 kernels

Skinned: remove 63

- 4) Expected values (based on EyeFoss measurements on clean wheat and barley sample and addition of defective grains and contaminants at NMI)

#### **Wheat sample as received-**

Ryegrass (g/ test sample): 2.81

Frosted (count/ 500 kernels): 8 - 10

Stained (count/ 500 kernels): 24

Barley + spear grass + wild oats (count/ test sample): 140

#### **Barley sample as received-**

Ryegrass (g/ test sample): 3.2

Frosted (count/ 100 kernels): 4

[Germ-end] stained (count/ 400 kernels): 9 - 11

Spear grass + wild oats (count/ 800 kernels): 5

Wheat (count/ 800 kernels): 4

Skinned (count/ 100 kernels): 2 - 3

**Wheat sample after removal of some defects/ contaminants-**

Ryegrass (g/ test sample): 2.81 less weight or ryegrass removed

Frosted (count/ 500 kernels): 4 - 6

Stained (count/ 500 kernels): 9

Barley + spear grass + wild oats (count/ test sample): 40

**Barley sample after removal of some defects/ contaminants-**

Ryegrass (g/ test sample): 3.2 less weight or ryegrass removed

Frosted (count/ 100 kernels): 1

[Germ-end] stained (count/ 400 kernels): 5 - 7

Spear grass + wild oats (count/ 800 kernels): 2

Wheat (count/ 800 kernels): 1

Skinned (count/ 100 kernels): 1 - 2

5) Error limits

For a specific defect/ contaminant level, error limits are shown.

The error limit applies to the full range where only one value is shown.

Ryegrass in wheat or barley (g/ test sample)	Contaminant	<=2	>2
	Error limit	± 0.5	± 1
Stained wheat (count/ 500 kernels)	Defect level	<=15	>15
	Error limit	± 5	± 10
Frosted wheat (count/ 500 kernels)	Defect level	<=7	>7
	Error limit	± 2	± 3
Type 7b in wheat (count/ test sample)	Contaminant	<=100	>100
	Error limit	± 20	± 60
[Germ-end] stained barley (count/ 400 kernels)	Defect level	<=7	>7
	Error limit	± 3	± 5
Frosted barley (count/100 kernels)	Defect level		
	Error limit	± 5	
Type 7a in barley (count/ 800 kernels)	Contaminant	<=3	>3
	Error limit	± 3	± 5
Wheat in barley (count/ 800 kernels)	Contaminant	<=5	>5
	Error limit	± 3	± 5
Skinned barley (count/100 kernels)	Defect level		
	Error limit	± 3	

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

