Interdepartmental Executive Committee on Pest Management
Le Comité interministériel exécutif sur la lutte antiparasitaire

# Regulatory Directive DIR94-06

## Colour Standards for Seed Treatment Products and Labelling of Treated Seed

The purpose of this document is to inform registrants and other interested groups and agencies about the colour standards for seed treatment products and the labelling requirements for treated seed. These standards and requirements were previously outlined in Trade Memoranda T-1-210, *Colour Standard for Cereal Seed Treatment Products*, T-1-252, *Blue Coloration Standard for Seed Treatment Dressings Intended for Rapeseed/Canola*, and T-1-220, *Labelling of Treated Seed*. These Trade Memoranda have now been combined and re-issued in this Regulatory Directive. This document also outlines new labelling requirements for seed treatment products containing the formulant Rhodamine B.

This Regulatory Directive replaces Trade Memorandum T-1-210 dated February 14, 1980, T-1-220 dated February 15,1980, and T-1-252 dated February 14, 1986.

This document is published under the authority of the Interdepartmental Executive Committee on Pest Management which represents the departments of Agriculture and Agri-Food, Health, Environment, and Natural Resources.

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## Foreword

Under Section 16.(2) of the *Seeds Regulations,* it is required that "any seed treated with a pest control product shall be thoroughly stained with a conspicuous colour to show that the seed has been so treated." The *Seeds Regulations* as well as the *Pest Control Products Regulations* also require that the container of the treated seed be properly labelled to identify the control product used together with appropriate precautionary symbols and signal words. The following guidelines are presented with respect to the colour standards for seed treatment products and labelling of treated seeds under the authority of the *Seeds Act* and the *Pest Control Products Act*.

# 1.0 Colour Standard for Cereal Seed Treatment Products

In cooperation with the pesticide industry associations, seeds industry, and Canadian Grain Commission, a colour standard for cereal seed treatment products has been established. This standard was established in order to facilitate the detection of treated seed in food or feed grain channels.

All cereal seed treatment products accepted for registration under the terms of the *Pest Control Products Act* must conform to this colour standard.

An outline of the laboratory method is provided for the preparation of the standard (using Rhodamine B) to which all cereal seed treatment products must be compared.

At the time of submitting an application for registration, a 250 g sample of Red Spring Wheat that has been treated with the coloration product at the dosage specified on the product label, must be submitted to the Plant Industry Directorate, Agriculture and Agri-Food Canada for examination.

## 1.1 Laboratory Method to Determine the Adequacy of Red Dye in Seed Treatment Products Used on Cereals

**Materials**

Varieties: Red Spring Wheat

Sound, unbleached and unweathered seed should be used in these tests. It is assumed that it may not be necessary to carry out this procedure for oats, barley and rye if a satisfactory degree of coloration is obtained with the product on red spring wheat (e.g., Neepawa). Should it be necessary to test the producton oats, barley and rye, the following amounts of standard dye solution should be used on 0.5 kg of seed.

oats: 0.625 mL
rye: 0.375 mL
barley: 0.437 mL

Any of the varieties of oats, barley and rye in current use will be acceptable.

Dye: Rhodamine B
Colour Index 45170
Fluorescent

Ethylene glycol used: Laboratory grade.

**Method**

Prepare 0.75% dye solution by dissolving 0.25 g of Rhodamine B dye in 16.5 mL of water plus 15.0 mL of ethylene glycol.

In order to obtain the desired dye intensity, use 0.38 mL of dye solution on 0.5 kg of Red Spring Wheat. Condition a 1000 mL Erlenmeyer flask by placing 0.5 kg wheat seed in the flask and adding 0.35 mL of dye solution gently down the sides of flask with a pipette. Shake flask for five minutes to give uniform coverage to the seed and to the inside of the flask. Discard this seed.

Repeat this procedure with another 0.5 kg of seed to obtain the standard treated sample.

To determine the adequacy of the dye in a seed treatment product, follow the same procedure using the recommended dosage of the product and a flask conditioned with the product.

Compare the product-treated seed with the standard treated sample.

### 1.2 Note on Rhodamine B

The red dye Rhodamine B is used for colouring cereal seeds that have been treated with pesticides. Rhodamine B has recently been placed on the list of inerts of toxicological concerns by the U.S. Environmental Protection Agency (EPA). While the effects of Rhodamine B are being further investigated, EPA allows its continued use in pesticide products and the U.S. Food and Drugs Administration is continuing approval of its new uses as a colouring agent in cosmetics. In line with Canada's harmonization effort with the U.S., our interim position is such that this red dye material is allowed for continued use on the condition that the product receives special labelling. All new or amended labels of pesticide products containing Rhodamine B must have the statement: **"This product contains x% of Rhodamine B which has been determined to be of toxicological concern."**

## 2.0 Blue Coloration Standard for Seed Treatment Dressings Intended for Rapeseed/Canola

A specific colour standard for rapeseed/canola seed treatment dressings has been established in order to increase the visual distinguishability of treated rapeseed by itself and that mixed with untreated rapeseed. All seed treatment dressings intended for rapeseed/canola must be dyed a distinct baby blue colour. All other colours shall be considered unacceptable. In particular, red dyes should be avoided as they render treated seed difficult to distinguish from black coloured rapeseed. Baby blue was chosen as it is one of the very few colours that is totally foreign to rapeseed.

At the time of submitting an application for registration, 100 g samples of each of the varieties Westar and Tobin rapeseed that have been treated with the blue coloration product (at the dosage specified on the product label) must be submitted to the Plant Industry Directorate for examination. (Sample must be submitted in duplicate using plastic containers).

An outline of the laboratory method is provided for the preparation of the standard to which all rapeseed seed treatment products can be compared when used according to label directions.

## 2.1 Laboratory Method to Determine the Adequacy of Blue Dye in Seed Treatment Products Used on Rapeseed

### Materials

Varieties: Westar (or Argentine type equivalent) or Tobin (or Polish type equivalent) rapeseed

Sound, unbleached and unweathered seed should be used in these tests. In order to differentiate treated rapeseed admixed with untreated rapeseed at a level of ten stained seeds per 100 g, the seeds stained with the blue dye must be highly conspicuous - regardless of whether it is yellow or black rapeseed which has been dyed or used in the admixture test. In all cases, at least 80% of the treated seed must be distinguishable and in 60% of the fortified samples all admixed seeds should be recoverable.

| | |
|---|---|
| Dye: | *Phenamine Brilliant Blue 6B Concentrate Powder*<br>Colour Index 24410 |
| Filler: | Calcium Carbonate, Snowcal Whiting 8/SW |
| Ethylene glycol: | Laboratory Grade |
| Surfactant: | nonyl phenol (ethoxylate)6 |
| Water: | Distilled |
| Defoamer: | silicone emulsion |

### Method

Prepare a standard dye product by mixing 4.72 g ethylene glycol, 4.73 g distilled water, 0.35 g blue dye, 0.20 g surfactant and 1 drop of defoamer in a small vial or jar. Mix by shaking. Add 10.0 g filler and shake. Shake before using.

In order to obtain the desired dye intensity, use 2.25 mL of dye product on 100 g of Westar and Tobin rapeseed. Condition a 500 mL Erlenmeyer flask by placing 100 g rapeseed in the flask and adding the dye product directly onto the seed with a syringe. Shake the flask for five minutes to give uniform coverage to the seed and to the inside of the flask. Discard this seed.

Repeat this procedure with another 100 g of seed to obtain the standard treated sample.

To determine the adequacy of the dye in a seed treatment product, follow the same procedure using the recommended dosage of the product and a flask conditioned with the product.

Compare the product-treated seed with the standard-treated sample.

The exact colour of blue is not critical; however, the general opacity and coverage of the seed treatment product should compare closely to the standard.

## 3.0 Labelling of Treated Seed

Concern has been expressed regarding the selection of appropriate precautionary symbols and signal words relevant to the labelling of packaged, treated seed as outlined in Schedule II of the *Pest Control Products Regulations*, and Section 16 of the *Seeds Regulations*. The following guidelines are presented with respect to the labelling of treated seed as required under the authority of the these Regulations.

### 3.1 Commercial Quantities (greater than 0.5 kg)

Symbols and signal words required on packaged commercial quantities of treated seed (as per Schedule II, item 3(b) of the *Pest Control Products Regulations*) will be those utilized on the label of the pesticide with which the seed is treated. It is recognized that this interpretation may represent over-labelling. However, this position is considered justifiable, since we are attempting to prevent the possible hazard related to ingestion as human food or animal feed. This procedure will establish a consistent and authoritative source for appropriate information; that is, the label of the pest control product with which the seed is treated.

### 3.2 Garden Quantities (up to and including 0.5 kg)

Although the principles outlined in Schedule II, item 3(b) of the *Pest Control Products Regulations* are also relevant to small packet seeds for home gardeners, it would not be necessary to carry symbols and signal words applicable to the pesticide with which the seed is treated. This position is consistent with the minute amounts of pesticide associated with individual garden quantities, and recognizes the space limitations usually associated with packages in this trade.

Please note that proper labelling of both commercial and garden quantities require the following statements:

**Do not use for food or feed. This seed is treated with (name of pesticide, including the common name or chemical name of its active ingredient).**