

Saturation research film coat liquids

Introduction

To determine whether there is a saturation point beyond which more application of coating has no sense, we investigated whether a so-called saturation point exists, and where it is per crop. It turns out that seeds with a smooth seed coat can take up much less as the quantity of fluids than typically applied in the industry.

For this study, we looked at the actual quantities of coat (with active substances) that stay on the coated seed (versus the amounts applied) in correlation with the amount applied during the coating process.

Methodology

An accurately weighed quantity of seed is applied with an exact amount of film coating liquid.

The coater is completely cleaned before each test and made dry.

After the coating process the seeds are deposited in a container and then transferred back into a 2nd container and weighed again.

Results

The study shows that after saturation is reached the "surplus" to coat stays behind in the machine and the container / bag.

Example of beans

1000 grams of seed 6.5 grams of coating added in the Rotostat.

After coating and transfer from the first container turns out that after that 2.5 grams coating is gone! This is 38.5% of that which is applied during the coating process.

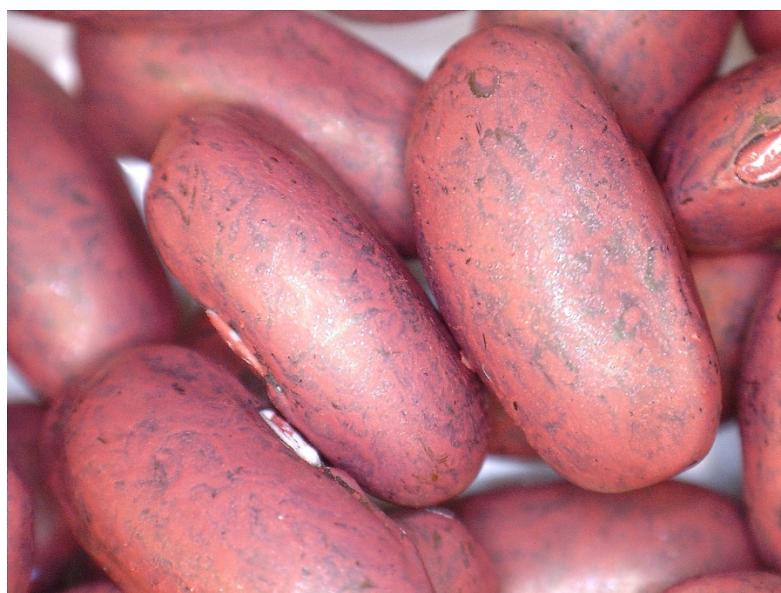
The saturation point of beans is therefore 3 grams per kg of seed.

In addition, the coverage of the coat if above the saturation point is coated worse!

Beans coated above the saturation



Beans coated to saturation



Average Saturation per crop

| | |
|-----------|-----------------|
| Afalfa | 10 gram/kg |
| Barley | 6 gram/kg |
| Basil | 25 gram/kg |
| Beans | 3 gram/kg |
| Beet | 40 gram/kg |
| Brassica | 20 gram/kg |
| Cabbage | 18 – 20 gram/kg |
| Chamomile | 31 gram/kg |
| Carrots | 48 gram/kg |
| Chives | 43 gram/kg |
| Corn | 8 gram/kg |
| Coriander | 38 gram/kg |
| Cucumber | 18 gram/kg |
| Dill | 55 gram/kg |
| Eggplant | 55 gram/kg |
| Endive | 60 gram/kg |
| Fennel | 32 gram/kg |
| Lettuce | 40 gram/kg |
| Melon | 18 gram/kg |
| Onion | 36 gram/kg |
| Parsley | 40 gram/kg |

Average Saturation per crop

| | |
|---------------------|-------------|
| Pea | 5 gram/kg |
| Pepper | 50 gram/kg |
| Pumpkin | 25 gram/kg |
| Radish | 15 gram/kg |
| Rice | 36 gram/kg |
| Spinach | 40 gram/kg |
| Squash | 35 gram/kg |
| Sweet Corn | 18 gram/kg |
| Tomato (fuzzed) | 50 gram/kg |
| Tomato (de fuzzed) | 40 gram/kg |
| Watermelon | 35 gram /kg |
| Watermelon, diploid | 10 gram/kg |
| Wheat | 6 gram/kg |
| Zuchinni | 35 gram/kg |