doi: 10.4081/ijfs.2025.13307

# SUPPLEMENTARY MATERIAL

## Temporary increase of official controls at border control posts in the European Union: theoretical assessment of the measures laid down in Commission Implementing Regulation EU/2019/1793

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**Key words:** official control, food import, EU regulation, effectiveness, efficiency, Bayes' theorem.

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**Supplementary Table 1. Number of non-compliant consignments found at the EU BCPs level, from January 2020 to March 2024 (source: RASFF Portal: https://webgate.ec.europa.eu/rasff-window/screen/search).**

| Jan2020 - Mar2024 | Food | | | | | | Feed | |
|---|---|---|---|---|---|---|---|---|
| **Country** | **Pesticides** | **Aflatoxins** | **Cyanide** | **Sulphites** | **Salmonella** | **Sudan Color** | **Aflatoxins** | **Salmonella** |
| **Argentina** | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Bolivia** | 0 | 4 | 0 | 0 | 0 | 0 | 4 | 0 |
| **Brazil** | 9 | 0 | 0 | 1 | 5 | 0 | 1 | 0 |
| **Cambodia** | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **China** | 10 | 8 | 0 | 0 | 1 | 0 | 0 | 0 |
| **Dominican Republic** | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Egypt** | 50 | 26 | 0 | 0 | 7 | 0 | 0 | 0 |
| **Ethiopia** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Georgia** | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ghana** | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| **India** | 108 | 22 | 0 | 0 | 16 | 0 | 0 | 2 |
| **Indonesia** | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Iran** | 1 | 28 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Kenya** | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Lebanon** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Madagascar** | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Malaysia** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Nigeria** | 0 | 1 | 0 | 0 | 18 | 0 | 0 | 0 |
| **Pakistan** | 46 | 13 | 0 | 0 | 1 | 0 | 0 | 0 |
| **Senegal** | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Serbia** | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Sri Lanka** | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Sudan** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Syria** | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Thailand** | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Türkiye** | 129 | 73 | 2 | 1 | 5 | 0 | 1 | 0 |
| **Uganda** | 11 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| **United States** | 1 | 77 | 0 | 0 | 0 | 0 | 1 | 0 |
| **Uzbekistan** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Vietnam** | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total amount** | **447** | **268** | **2** | **2** | **56** | **3** | **7** | **2** |

**Supplementary Table 2. Residual prevalence of non-compliant consignments placed on the European Union market despite the increased official controls at the border control post level following the CIR EU/2019/1793.**

| Performance of the sampling and analysis methods | Starting prevalence | OCs' frequency | | | | |
|---|---|---|---|---|---|---|
| | | **10%** | **20%** | **30%** | **40%** | **50%** |
| **A** | **0.01** | 0.009 | 0.008 | 0.007 | 0.006 | 0.005 |
| | **0.05** | 0.046 | 0.041 | 0.036 | 0.032 | 0.027 |
| | **0.10** | 0.091 | 0.083 | 0.074 | 0.065 | 0.055 |
| | **0.20** | 0.185 | 0.169 | 0.152 | 0.135 | 0.117 |
| **B** | **0.01** | 0.009 | 0.008 | 0.008 | 0.007 | 0.006 |
| | **0.05** | 0.046 | 0.042 | 0.039 | 0.035 | 0.031 |
| | **0.10** | 0.093 | 0.086 | 0.078 | 0.071 | 0.063 |
| | **0.20** | 0.187 | 0.174 | 0.160 | 0.146 | 0.131 |
| **C** | **0.01** | 0.009 | 0.008 | 0.008 | 0.007 | 0.006 |
| | **0.05** | 0.046 | 0.043 | 0.038 | 0.034 | 0.030 |
| | **0.10** | 0.093 | 0.086 | 0.078 | 0.070 | 0.061 |
| | **0.20** | 0.188 | 0.174 | 0.160 | 0.144 | 0.127 |

OCs, official controls; A, sensitivity of 95% and specificity of 99%; B, sensitivity of 80% and specificity of 99%; C, sensitivity of 95% and specificity of 80%.

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**Supplementary Table 3. Residual prevalence of non-compliant consignments placed on the European Union market despite the intensified official controls at the border control post level with an amplification factor *m*=3, after each non-compliant result.**

| Performance of the sampling and analysis methods | Starting prevalence | OCs' frequency | | | | |
|---|---|---|---|---|---|---|
| | | 10% | 20% | 30% | 40% | 50% |
| A | **0.01** | 0.0090 | 0.0080 | 0.0070 | 0.0060 | 0.0050 |
| | **0.05** | 0.0447 | 0.0394 | 0.0340 | 0.0285 | 0.0229 |
| | **0.10** | 0.0886 | 0.0768 | 0.0647 | 0.0523 | 0.0395 |
| | **0.20** | 0.1737 | 0.1455 | 0.1152 | 0.0826 | 0.0474 |
| B | **0.01** | 0.0092 | 0.0083 | 0.0075 | 0.0067 | 0.0058 |
| | **0.05** | 0.0457 | 0.0413 | 0.0368 | 0.0323 | 0.0278 |
| | **0.10** | 0.0908 | 0.0814 | 0.0717 | 0.0619 | 0.0517 |
| | **0.20** | 0.1796 | 0.1581 | 0.1354 | 0.1113 | 0.0858 |
| C | **0.01** | 0.0087 | 0.0072 | 0.0057 | 0.0040 | 0.0022 |
| | **0.05** | 0.0431 | 0.0355 | 0.0271 | 0.0178 | 0.0075 |
| | **0.10** | 0.0855 | 0.0692 | 0.0507 | 0.0295 | 0.0051 |
| | **0.20** | 0.1686 | 0.1308 | 0.0846 | 0.0267 | 0.0039 |

The value in grey is appraised as it involves sampling of all consignments presented. OCs, official controls; A, sensitivity of 95% and specificity of 99%; B, sensitivity of 80% and specificity of 99%; C, sensitivity of 95% and specificity of 80%.

**Supplementary Table 4. Residual prevalence of non-compliant consignments placed on the European Union market despite the intensified official controls at the border control post level with an amplification factor *m*=5, after each non-compliant result.**

| Performance of the sampling and analysis methods | Starting prevalence | OCs' frequency | | | | |
|---|---|---|---|---|---|---|
| | | 10% | 20% | 30% | 40% | 50% |
| A | **0.01** | 0.0090 | 0.0080 | 0.0069 | 0.0059 | 0.0049 |
| | **0.05** | 0.0442 | 0.0382 | 0.0322 | 0.0261 | 0.0199 |
| | **0.10** | 0.0862 | 0.0720 | 0.0572 | 0.0420 | 0.0261 |
| | **0.20** | 0.1626 | 0.1212 | 0.0754 | 0.0242 | 0.0057 |
| B | **0.01** | 0.0091 | 0.0083 | 0.0074 | 0.0066 | 0.0057 |
| | **0.05** | 0.0453 | 0.0404 | 0.0356 | 0.0307 | 0.0257 |
| | **0.10** | 0.0892 | 0.0781 | 0.0667 | 0.0550 | 0.0429 |
| | **0.20** | 0.1725 | 0.1429 | 0.1110 | 0.0764 | 0.0389 |
| C | **0.01** | 0.0081 | 0.0059 | 0.0035 | 0.0004 | 0.0003 |
| | **0.05** | 0.0394 | 0.0272 | 0.0130 | 0.0019 | 0.0013 |
| | **0.10** | 0.0762 | 0.0474 | 0.0115 | 0.0033 | 0.0022 |
| | **0.20** | 0.1402 | 0.0551 | 0.0083 | 0.0057 | 0.0039 |

The values in grey are appraised as they involve sampling of all consignments presented. OCs, official controls; A, sensitivity of 95% and specificity of 99%; B, sensitivity of 80% and specificity of 99%; C, sensitivity of 95% and specificity of 80%.