

Nueva versión  
**Aplicación  
Desktop**

Versión menor - V3.0.10  
2024/07/19

# Dashboard

C Csmat Digit | Csmat Coffee Technologies S.A.

**CSMART DIGIT**

Quality Control

- Home
- Artificial Intelligence
- Dashboard**
- Image Mosaic
- Lot Info
- Classification Report
- Export Data
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- Acquisition Settings
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About

File Name: AMOSTRA\_GRANO

File Location: D:\Csmat\_Digit\Analysis

Last Analys Model: 224\_MCL\_RNXT50\_SOFT4\_ARA\_BRA\_MIXEDV4\_B94

1. Relative to Weight

## Quality Control Dashboard

Total Defects <b>14.49%</b> Area: 4543	Primary Defects <b>0.87%</b> Area: 273	Secondary Defects <b>13.38%</b> Area: 4196	Foreign Matter <b>0.24%</b> Area: 74	Inspected Seeds <b>758</b> Est. Weight: 85g	COB protocol <b>Tipo 6/7</b> Eq. Defects: 125	Dominant Color RGB(158, 153, 127)
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### Screen Size Distribution

Aggregate Area

Screen Size	Area	Percentage	Cumulative %
Screen 10-	114	0.36%	100.00%
Screen 11	85	0.27%	99.64%
Screen 12	194	0.62%	99.37%
Screen 13	773	2.46%	98.75%
Screen 14	3759	11.98%	96.29%
Screen 15	9634	30.71%	84.31%
Screen 16	13694	43.66%	53.60%
Screen 17	2756	8.79%	9.94%
Screen 18	151	0.48%	1.15%
Screen 19+	202	0.64%	0.67%

1. Min and Max Screen: 10 - 19

□ Good □ Defects  Both

Save Image Generate Plot

### Classes Distribution

Class	Area	Percentage	Subset
Black	273	0.87%	Primary Defect
Broken	3032	9.67%	Secondary Defect
Floater	42	0.13%	Secondary Defect

1. Se puede seleccionar un nuevo botón de cambio etiquetado **Relative to Weight** y **Relative to Count** para cambiar todos los cálculos relacionados con la distribución del tamaño del tamiz. Cuando se selecciona **Relative to Count**, todos los gráficos y tablas reflejan la aparición de cada semilla en relación con la aparición total por recuento. Por otro lado, cuando se selecciona **Relative to Weight**, el porcentaje se calcula en función del área de cada semilla con respecto al área total de la muestra, que está intrínsecamente correlacionada con el peso.

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## Quality Control Dashboard

Total Defects: **14.49%** (Area: 4543)

Primary Defects: **0.87%** (Area: 273)

Secondary Defects: **13.38%** (Area: 4196)

Foreign Matter: **0.24%** (Area: 74)

Inspected Seeds: **758** (Est. Weight: 85g)

COB protocol: **Tipo 6/7** (Eq. Defects: 125)

Dominant Color: **RGB(158, 153, 127)**

Relative to Weight

### Screen Size Distribution

Aggregate Area vs Screen Size

Screen Size	Area	Percentage	Cumulative %
Screen 10-	114	0.36%	100.00%
Screen 11	85	0.27%	99.64%
Screen 12	194	0.62%	99.37%
Screen 13	773	2.46%	98.75%
Screen 14	3759	11.98%	96.29%
Screen 15	9634	30.71%	84.31%
Screen 16	13694	43.66%	53.60%
Screen 17	2756	8.79%	9.94%
Screen 18	151	0.48%	1.15%
Screen 19+	202	0.64%	0.67%

2.  Good  Defects  Both

Min and Max Screen: 10 - 19

### Classes Distribution

Class	Area	Percentage	Subset
Black	273	0.87%	Primary Defect
Broken	3032	9.67%	Secondary Defect
Floater	42	0.13%	Secondary Defect

2. El control deslizante **Min y Max** está destinado a definir los límites de la distribución del tamaño del tamiz. Cambiar los valores ajustará cualquier tamaño mayor o menor que los límites especificados para los límites seleccionados.

3. Despues de seleccionar los valores mínimo y máximo, haga clic en **Generate Plot** para calcular y generar el gráfico y la tabla del tamaño del tamiz.

3.

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Relative to Weight

## Quality Control Dashboard

Total Defects <b>14.49%</b> Area: 4543	Primary Defects <b>0.87%</b> Area: 273	Secondary Defects <b>13.38%</b> Area: 4196	Foreign Matter <b>0.24%</b> Area: 74	Inspected Seeds <b>758</b> Est. Weight: 85g	COB protocol <b>Tipo 6/7</b> Eq. Defects: 125	Dominant Color RGB(158, 153, 127)
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### Screen Size Distribution

The chart displays the distribution of screen sizes from 13 to 18 inches. The Y-axis represents Aggregate Area, ranging from 0 to 14,000. The X-axis represents Screen Size. The chart shows two series: 'OK' (blue bars) and 'NOK' (black bars). A red line represents the cumulative percentage. The data is summarized in the following table:

Screen Size	Area	Percentage	Cumulative %
Screen 13-	1168	3.72%	100.00%
Screen 14	3759	11.98%	96.28%
Screen 15	9634	30.71%	84.30%
Screen 16	13694	43.66%	53.59%
Screen 17	2756	8.79%	9.93%
Screen 18+	354	1.13%	1.14%

Min and Max Screen: 13 - 18

Legend:  Good  Defects  Both

**4.**

**4.**

### Classes Distribution

The chart displays the distribution of classes: Black, Broken, and Floater. The Y-axis represents Area, ranging from 0 to 25,000. The legend indicates the following categories: OK (green), Primary Defects (red), Secondary Defects (orange), and Foreign Matter (purple). The data is summarized in the following table:

Class	Area	Percentage	Subset
Black	273	0.87%	Primary Defect
Broken	3032	9.67%	Secondary Defect
Floater	42	0.13%	Secondary Defect

4. Ejemplo de gráfico y tabla ajustados, limitados a los tamices 13 y 18.

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## Quality Control Dashboard

Total Defects

**14.49%**

Area: 4543

Primary Defects

**0.87%**

Area: 273

Secondary Defects

**13.38%**

Area: 4196

Foreign Matter

**0.24%**

Area: 74

**5.**

Inspected Seeds

**758**

Est. Weight: 85g

COB protocol

**Tipo 6/7**

Eq. Defects: 125

Dominant Color

RGB(158, 153, 127)

 Relative to Weight

## Screen Size Distribution



## Expected Screen Size Distribution

Screen Size	Expected Count (300g)
Screen 10 and less	3738 seeds
Screen 11	3524 seeds
Screen 12	3309 seeds
Screen 13	2970 seeds
Screen 14	2910 seeds
Screen 15	2775 seeds
Screen 16	2535 seeds
Screen 17	2235 seeds
Screen 18 and more	1920 seeds

Close

# Dashboard

5. La estimación del peso considera la distribución esperada del tamaño del tamiz en relación con un peso conocido. Esta información se asocia al archivo del modelo AI, permitiendo que cada modelo tenga una distribución diferente. Los usuarios deben crear esta tabla para sus modelos. Con base en la distribución esperada, es posible estimar el peso de la muestra analizada. Nótese que no es posible asumir que todas las semillas que pasan por el equipo serán registradas y por lo tanto la distribución esperada sirve como variable base para el resultado correcto de los métodos de clasificación.

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Classification Methods

Total Defects	Method	Equivalent Defects	Type
<b>115</b>	COB	125	Tipo 6/7
	NY	125	NY 6

Weight Factor: 3.53

6.

7.

COB NY

Class	Original Count	Weighted Count	Factor	Equivalent Defects
Black	7	25	1 to 1	25
Broken	79	279	5 to 1	56
Floater	1	4	5 to 1	1
Fox Bean	19	68	0	0
Husk Small	0	0	3 to 1	0
Husk Medium	0	0	3 to 1	0
Husk Large	0	0	1 to 1	0
Immature	6	22	5 to 1	5
Insect Dam.	10	36	5 to 1	8
Ok	624	2203	0	0
Parchment	2	8	2 to 1	4
Pod	0	0	1 to 1	0
Rocks Small	0	0	3 to 1	0
Rocks Medium	2	8	1 to 2	16
Rocks Large	0	0	1 to 5	0
Shell	8	29	3 to 1	10
Sour	0	0	2 to 1	0

AI Parameters

Prediction Entropy	True Positives	True Negatives	False Positives	False Negatives
Average Entropy: 0.78%	<b>112</b> Ratio: 14.78%	<b>643</b> Ratio: 84.83%	<b>0</b> Ratio: 0.0%	<b>3</b> Ratio: 0.4%
Confidence Level: High Confidence				

6. Según el **Peso Estimado** y el **Peso Requerido** del método de clasificación, se aplica un **Factor de Peso**.

7. Todas las ocurrencias de cada defecto se multiplicarán por el **Factor de Peso**, generando un **Recuento Ponderado**. A partir de esto se aplica el factor de clase, definido por el método elegido, para determinar los **Defectos Equivalentes** por clase y total.

8. Este procedimiento se aplica a todos los métodos presentes en el modelo de IA y se puede acceder a él en la vista de pestañas.

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**Non Defective Seeds**  
 OK Classes  
 643 Seeds | 85.51%  
 Dominant Color: RGB(158, 153, 127)  
 Color by Class  
 Draw Perimeter  
 Draw Min Axis

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**Defective Seeds**  
 NOK Classes  
 115 Seeds | 14.49%  
 Dominant Color: RGB(158, 153, 126)  
 Color by Class  
 Draw Perimeter  
 Draw Min Axis

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**10.** Edit Selection      **11.** Clear Selection

**Image Mosaic**

9. Al presionar **CTRL** y hacer clic en las celdas de la cuadrícula, puede seleccionar varias imágenes a la vez. Se muestra una marca de verificación verde en cada semilla seleccionada.

10. Al presionar **Editar Selección**, se abrirá un menú lateral que permitirá al usuario cambiar la clase de todas las imágenes seleccionadas a la vez.

11. Para restablecer la selección, el usuario puede hacer clic en el botón **Borrar Selección**.



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Non Defective Seeds

OK Classes

643 Seeds | 85.51%

Dominant Color: RGB(158, 153, 127)

Color by Class   Draw Perimeter   Draw Min Axis

Seed Features

Classification

Select class: 12.

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Edit Selection

## Image Mosaic

12. Utilice el menú de selección para asignar una nueva clase a las imágenes seleccionadas.

12.

# Classification Report

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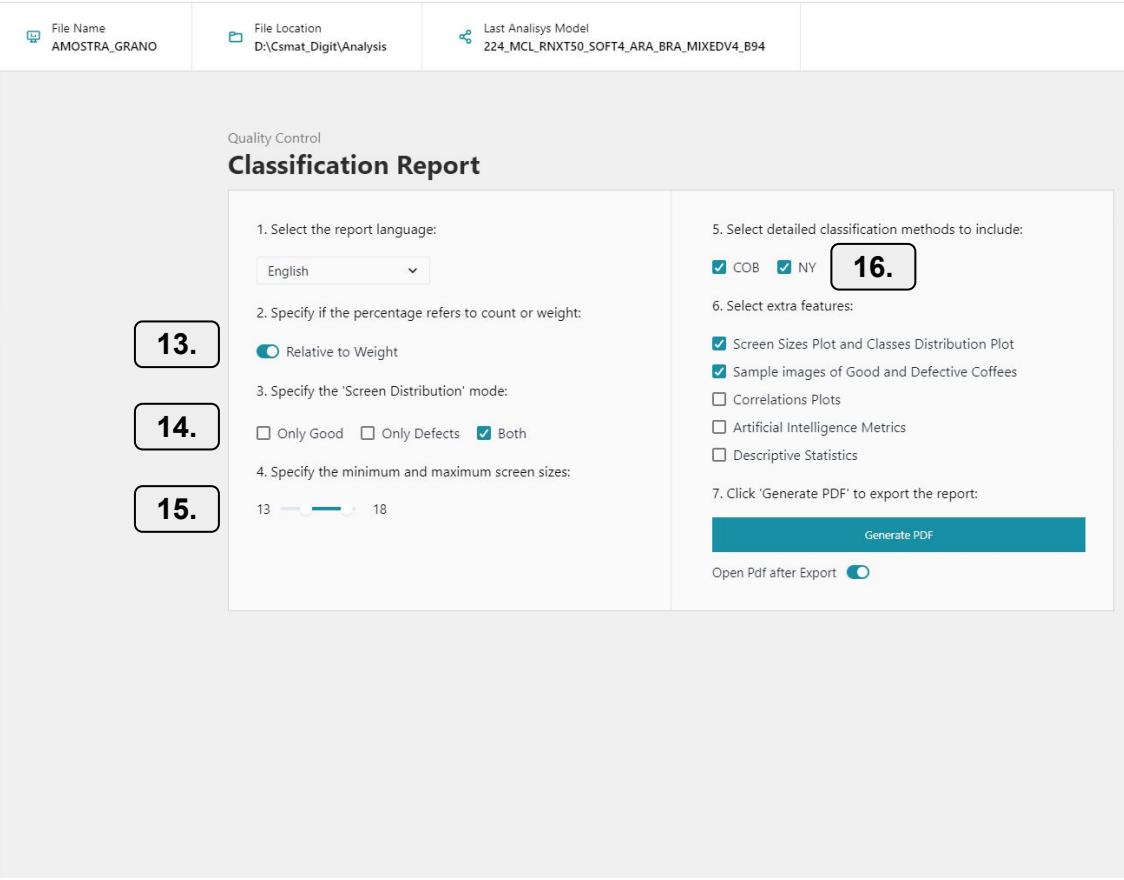
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Quality Control

## Classification Report

- Select the report language: English
- Specify if the percentage refers to count or weight: Relative to Weight
- Specify the 'Screen Distribution' mode: Both
- Specify the minimum and maximum screen sizes: 13 - 18
- Select detailed classification methods to include: COB, NY
- Select extra features: Screen Sizes Plot and Classes Distribution Plot, Sample images of Good and Defective Coffees
- Click 'Generate PDF' to export the report: **16.**

Open Pdf after Export:



13. O relatório de classificação incorpora alterações na distribuição de peneira, permitindo que seja representado em relação ao peso ou em relação à contagem.

14. Pode-se selecionar somente café bom, somente café defeituoso, ou ambos, para geração das tabelas e gráficos do relatório.

15. O usuário pode especificar limites para o tamanho de peneira.

16. Uma nova caixa de seleção permite especificar o método a ser incluído no relatório.

# Classification Report

The screenshot shows the CSMART DIGIT Quality Control application. At the top, there are file details: File Name (AMOSTRA\_GRANO), File Location (D:\Csmat\_Digit\Analysis), and Last Analysis Model (224\_MCL\_RNXT50\_SOFT4\_ARA\_BRA\_MIXEDV4\_B94). On the right, there are three icons: a red square with a white 'x', a user profile icon, and a right-pointing arrow.

The left sidebar contains the following menu items:

- Quality Control
  - Home
  - Artificial Intelligence
  - Dashboard
  - Image Mosaic
  - Lot Info
  - Classification Report
  - Export Data
  - Export Images** (highlighted)
  - Compare
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A large central window displays the "Export Images" dialog box. The title is "Export Images". Inside, there are two sections:

1. Please select the image export mode:
  - Export all classes (Classification results)
  - Export as a single class (Dataset creation)
  - Export corrected images only (Model improvement)
2. Click 'Export Images' to save individual images

At the bottom of the dialog box is a large blue button labeled "Export Images". Below it is another button labeled "Open folder after saving" with a checked radio button.

A large number "17." is overlaid on the left side of the main window area.

**13. A exportação de imagens foi dividida em três modos diferentes:**

**Exportar Todas as Classes:** Salva uma nova pasta para cada classe, contendo as respectivas imagens dentro.

**Exportar como uma Única Classe:** Salva todas as imagens em uma única pasta e é destinado à criação de conjuntos de dados de treinamento, particularmente em casos onde a amostra de entrada é previamente conhecida por ser de uma única classe.

**Exportar Imagens Corrigidas:** Exporta apenas as imagens cuja classes foram alteradas pelo usuário.



CSMART COFFEE TECHNOLOGIES SA

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