



Corrigendum: Peanut Leaf Wilting Estimation From RGB Color Indices and Logistic Models

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A Corrigendum on

Peanut Leaf Wilting Estimation From RGB Color Indices and Logistic Models

by Sarkar, S., Ramsey, A. F., Cazenave, A.-B., and Balota, M. (2021). *Front. Plant Sci.* 12:658621. doi: 10.3389/fpls.2021.658621

In the original article, there was a mistake in **Table 5** as published. There were typos in the text and numbers of the table. The corrected **Table 5** appears below:

In the original article, there was an error. There were typos in the equations of Model 1.

A correction has been made to **Results, Ordinal Logistic Models to Estimate Wilting (Ordinal 0-5 Rating)**, paragraph 3, Model 1 equations:

Model 1 for proximal RGB images:

$$P_0 = \frac{e^{(\varepsilon_a - 11.75)}}{1 + e^{(\varepsilon_a - 11.75)}}$$

$$P_1 = \frac{e^{(\varepsilon_a - 7.19)}}{1 + e^{(\varepsilon_a - 7.19)}} - P_0$$

$$P_2 = \frac{e^{(\varepsilon_a - 4.28)}}{1 + e^{(\varepsilon_a - 4.28)}} - P_0 - P_1$$

$$P_3 = 1 - P_0 - P_1 - P_2$$

In the original article, there was a mistake in **Table 9** as published. There were typos in the numbers of the table. The corrected **Table 9** appears below.

The authors apologize for these errors and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

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TABLE 5 | Wilting accuracy matrix with the number of manually taken wilting scores (2018) on a visual scale at the left and outside the table and the count of image-derived wilting scores in the table.

Visual wilting score	Number of manually taken wilting scores	Image-derived wilting score (0–5 scale)					
		Proximal images					
		0	1	2	3	4	5
0	4	0	4	0	0	•	•
1	72	0	52	20	0	•	•
2	65	0	20	41	4	•	•
3	26	0	0	20	6	•	•
4	0	•	•	•	•	•	•
5	0	•	•	•	•	•	•
Total	167						
Accuracy	59%	0	72%	63%	23%	•	•
Accuracy (second probability method)	91%						
Accuracy (nearest score method)	99%						

Visual wilting score	Number of manually taken wilting scores	Aerial images					
		0	1	2	3	4	5
		0	87	85	0	2	0
1	13	0	3	8	1	1	0
2	27	0	2	13	6	2	0
3	20	0	0	7	6	6	0
4	16	0	0	5	3	8	0
5	5	0	0	1	1	2	1
Total	168						
Accuracy	69%	98%	23%	48%	31%	50%	20%
Accuracy (second probability method)	81%						
Accuracy (nearest score method)	90%						

Wilting was on a scale of 0 to 5[†]. The percentage represents the fraction of wilting values that were estimated correctly using RGB color indices derived from RGB images. Indices were used to estimate leaf wilting using ordinal logistic regression*. The proximal images were taken 11 and 13 weeks after planting (WAP) whereas the aerial images were taken 15 WAP.

[†]A score of 0 represents potentially healthy plant with no wilting or leaf drooping symptoms; 1 represents some terminal and newer leaves fold up but overall, the plant looks healthy; 2 represents almost all leaves fold up and show signs of wilting, lower and older leaves start to fold; 3 represents wilting and drooping shows up on all leaves of the plant, low-moisture effect.

TABLE 9 | Wilting accuracy matrix with the number of manual wilting scores (2019) on a visual scale at the left and outside the table and the count of image-derived wilting scores in the table.

Plant water status	Estimated turgid vs. wilted plants					
	Proximal images			Aerial images		
	No of plots within each water status	Turgid	Wilted	No of plots within each water status	Turgid	Wilted
Turgid	89	82	7	90	86	4
Wilted	78	5	73	78	5	73
Total	167			168		
Accuracy	93%	92%	94%	95%	96%	94%

Wilting was on a binary scale of Turgid/Wilted[†]. The percentage represents the fraction of wilting values that were estimated correctly using the logistic model derived in 2018. The 2018 binary models were validated by substituting the RGB color indices[‡] values derived in 2019. The proximal and aerial images were taken 15 weeks after planting.

[†]Wilting scores 0 and 1 were rated as turgid and scores above 2 (2 inclusive) were rated as wilted.

[‡]Color space indices – Intensity, Hue, Saturation, Lightness, a*, b*, u*, v*, green area (GA), greener area (GGA), crop senescence index (CSI).

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