Table S1 The treatments each group in the uninfected area and the infected area.

Uninfected area				Infected area			
No.	BM	BN	BA	No.	BM	BN	BA
A1	5	0	0	A1	5	0	0
A2	2	0	0	A2	2	0	0
A3	1	0	0	A3	1	0	0
B1	0	4	0	B1	0	4	0
B2	0	2	0	B2	0	2	0
B3	0	1	0	B3	0	1	0
C1	0	0	5	C1	0	0	5
C2	0	0	2	C2	0	0	2
C3	0	0	1	C3	0	0	1
CK	0	0	0	CK	0	0	0
				D1	5	4	5
				D2	5	2	5
				D3	5	1	5
				E1	1	4	5
				E2	1	2	5
				E3	1	1	5
				F1	5	4	1
				F2	5	2	1
				F3	5	1	1
				G1	1	4	1
				G2	1	2	1
				G3	1	1	1

Table S2 Pearson correlation coefficient between elements

Uninfected area

	P	K	Cd	Cr	Cu	Ni	Pb	Zn	Fe	N
P	1.00									
K	0.35	1.00								
Cd	0.34	0.31	1.00							
Cr	0.08	0.17	-0.02	1.00						
Cu	0.35	0.11	-0.17	0.03	1.00					
Ni	0.06	0.00	-0.16	0.41	0.44	1.00				
Pb	0.35	0.08	0.53	-0.26	0.15	-0.14	1.00			
Zn	-0.11	0.13	0.05	0.23	0.10	0.03	-0.10	1.00		
Fe	0.30	0.13	-0.11	0.55	0.52	0.32	-0.05	0.40	1.00	
N	0.08	0.06	0.22	0.02	-0.20	-0.09	0.32	0.36	-0.03	1.00

Infected area

	P	K	Cd	Cr	Cu	Ni	Pb	Zn	Fe	N
P	1.00									
K	0.41	1.00								
Cd	-0.19	-0.18	1.00							
Cr	-0.06	-0.03	0.31	1.00						
Cu	-0.18	-0.12	0.41	0.38	1.00					
Ni	0.12	-0.08	0.03	0.32	0.12	1.00				
Pb	-0.07	-0.09	0.15	0.43	0.33	0.06	1.00			
Zn	-0.04	0.03	0.41	0.58	0.52	0.24	0.42	1.00		
Fe	0.26	-0.05	-0.40	0.33	0.05	0.31	0.30	0.19	1.00	
N	0.02	0.21	-0.10	0.06	0.04	0.28	-0.09	0.07	0.03	1.00

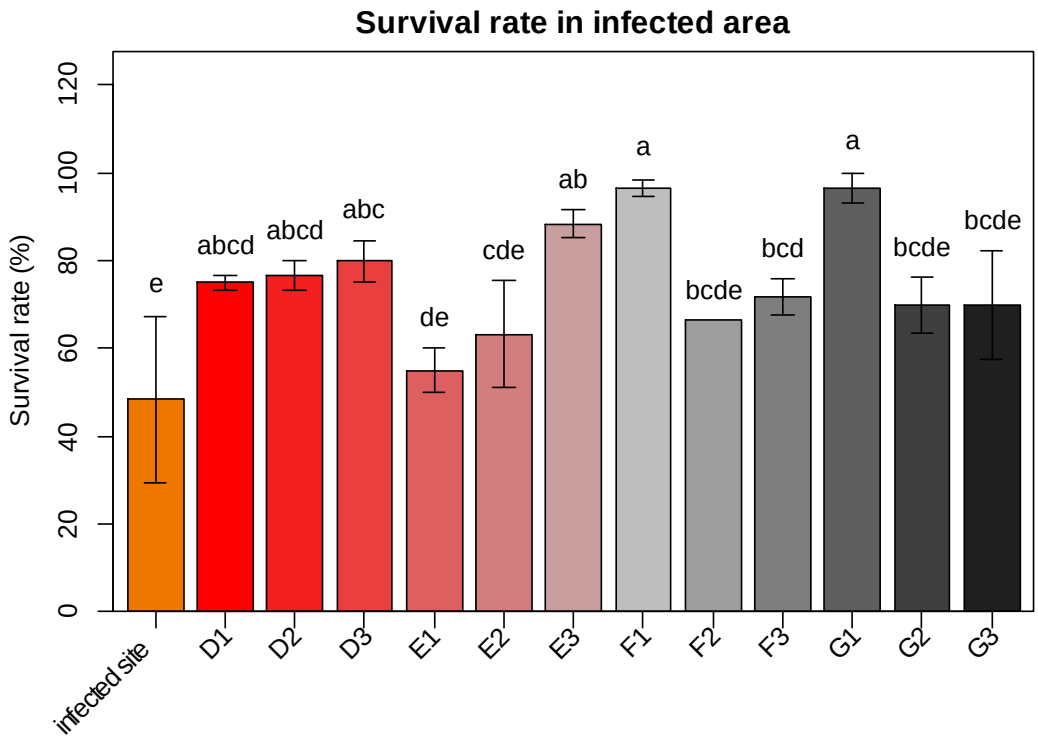


Figure S1. Compare the survival rate of plants under different treatment combinations in the infected area.

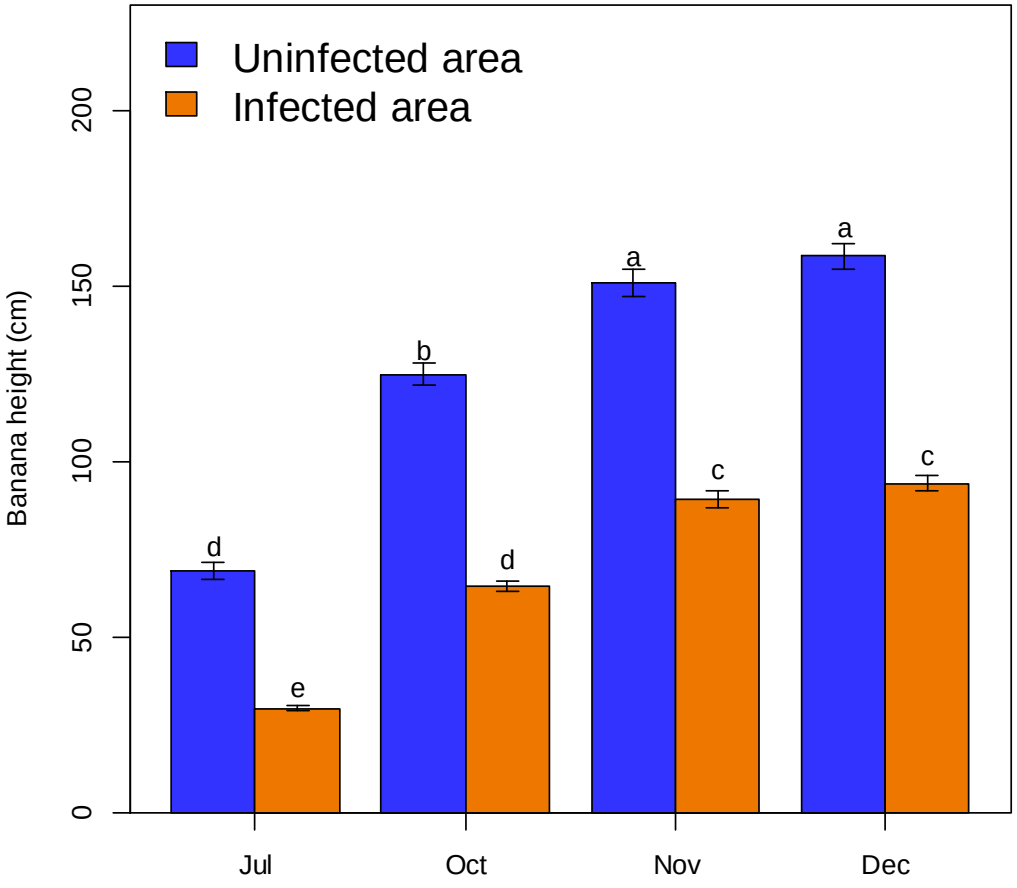


Figure S2. In six months of nursery trials, the growth results of the two fields in the uninfected area and the infected area from July to December.

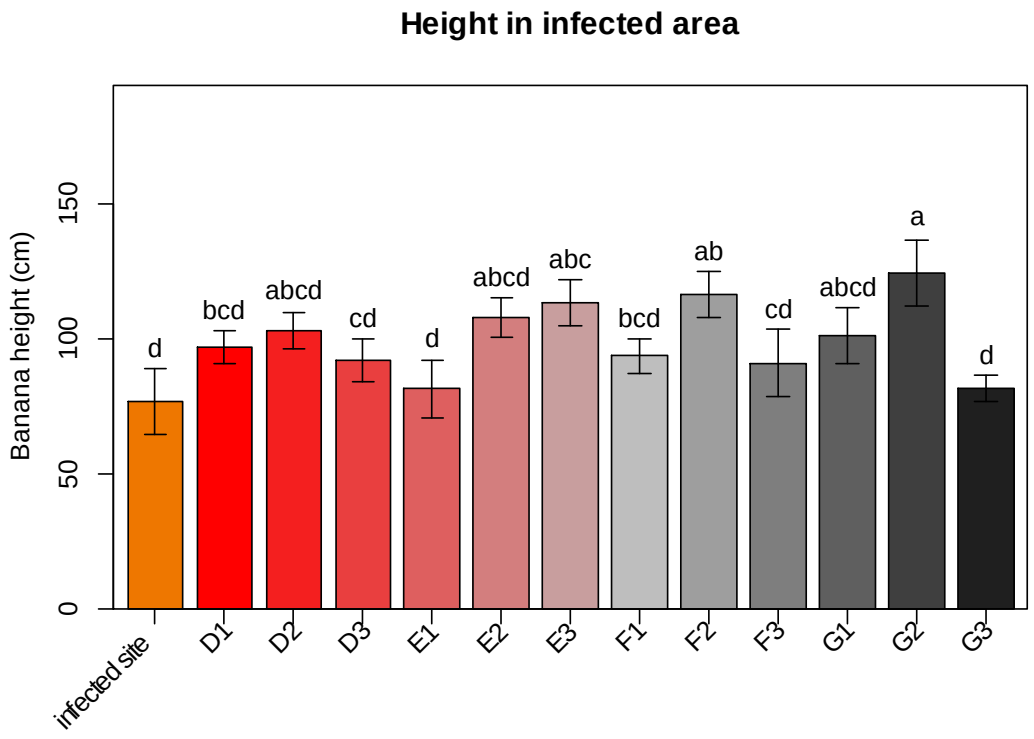


Figure S3. Compare the banana height of plants under different treatment combinations in the infected area.

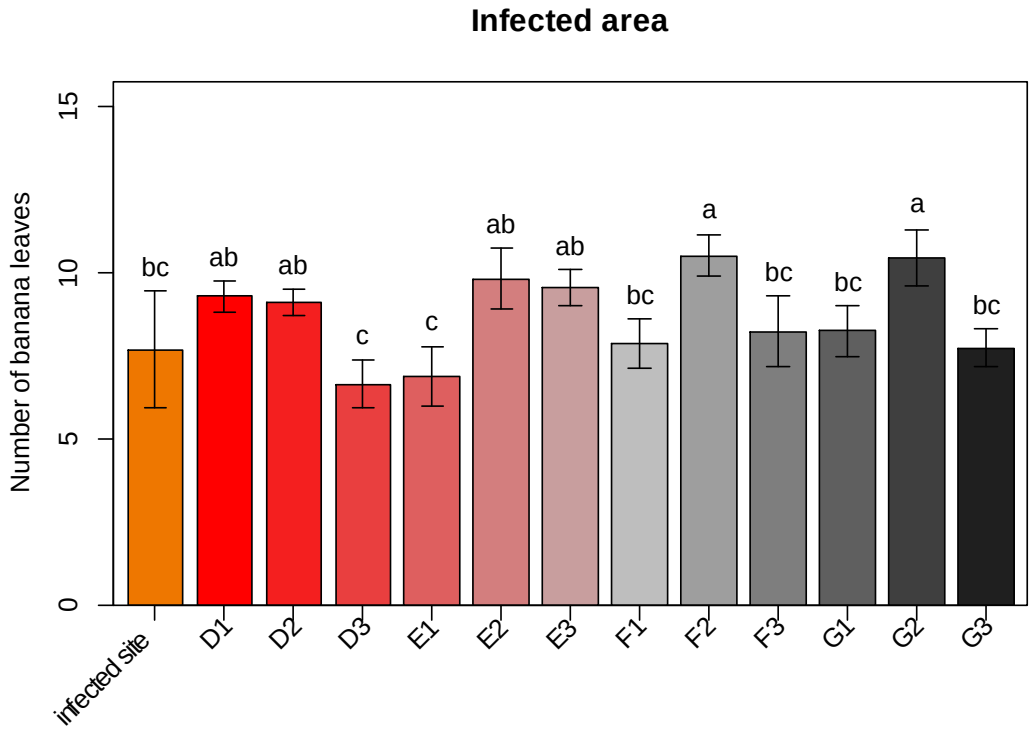


Figure S4. Compare the number of banana leaves under different treatment combinations in the infected area.

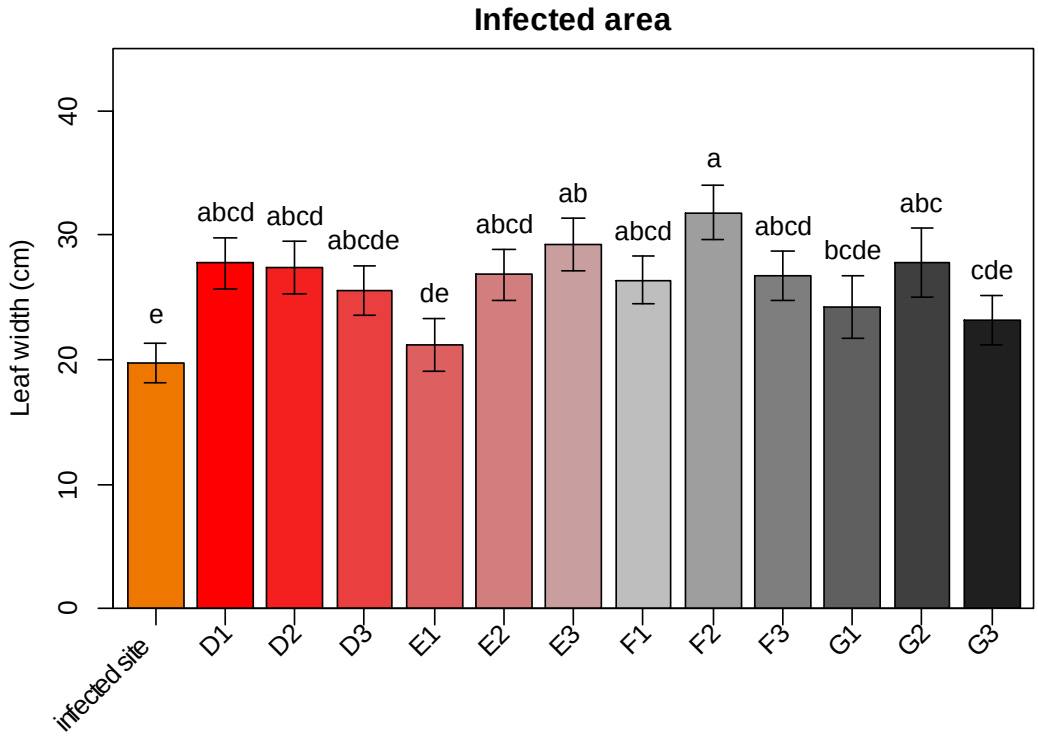


Figure S5 (a). Compare the leaf of banana plant leaves under different treatment combinations in the infected area.

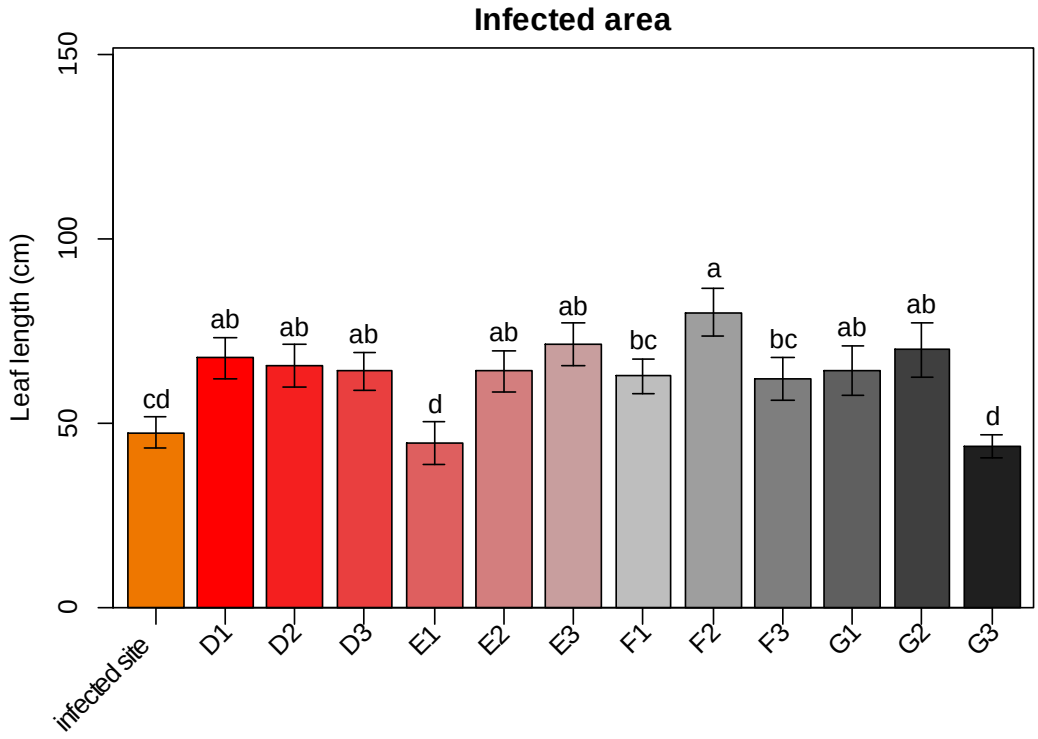


Figure S5 (b). Compare leaf length of banana plant under different treatment combinations in the infected area.

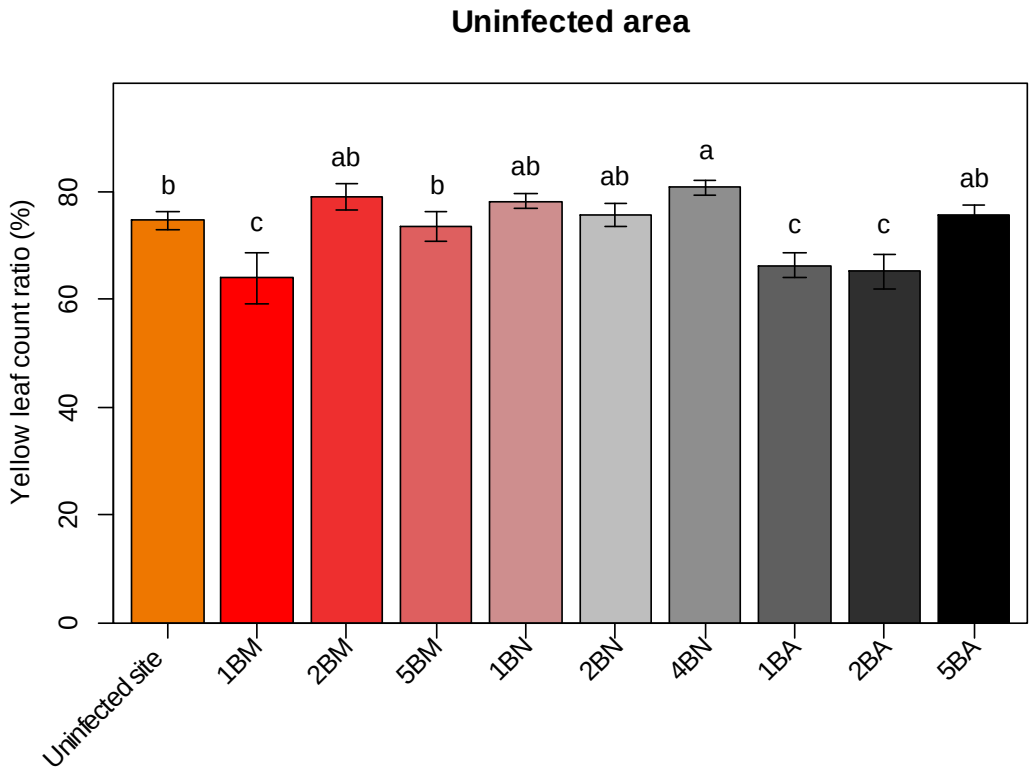


Figure S6 (a). Compare leaf yellow ratio of banana plant under different treatment combinations in the uninfected area.

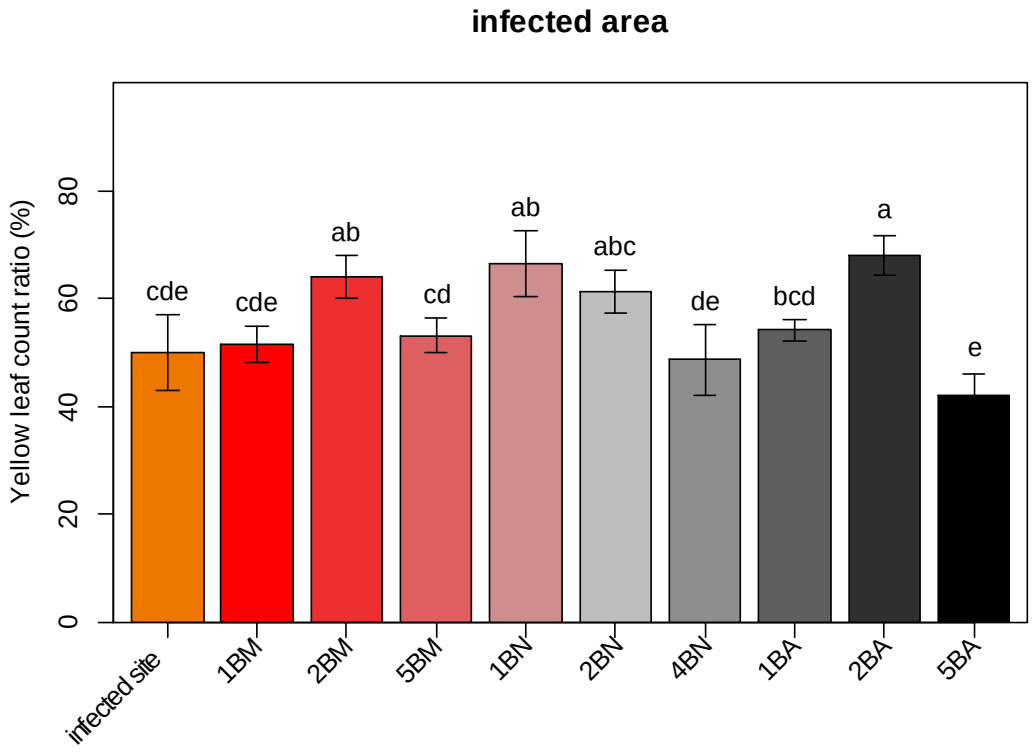


Figure S6 (b). Compare leaf yellow ratio of banana plant under different treatment combinations in the infected area.

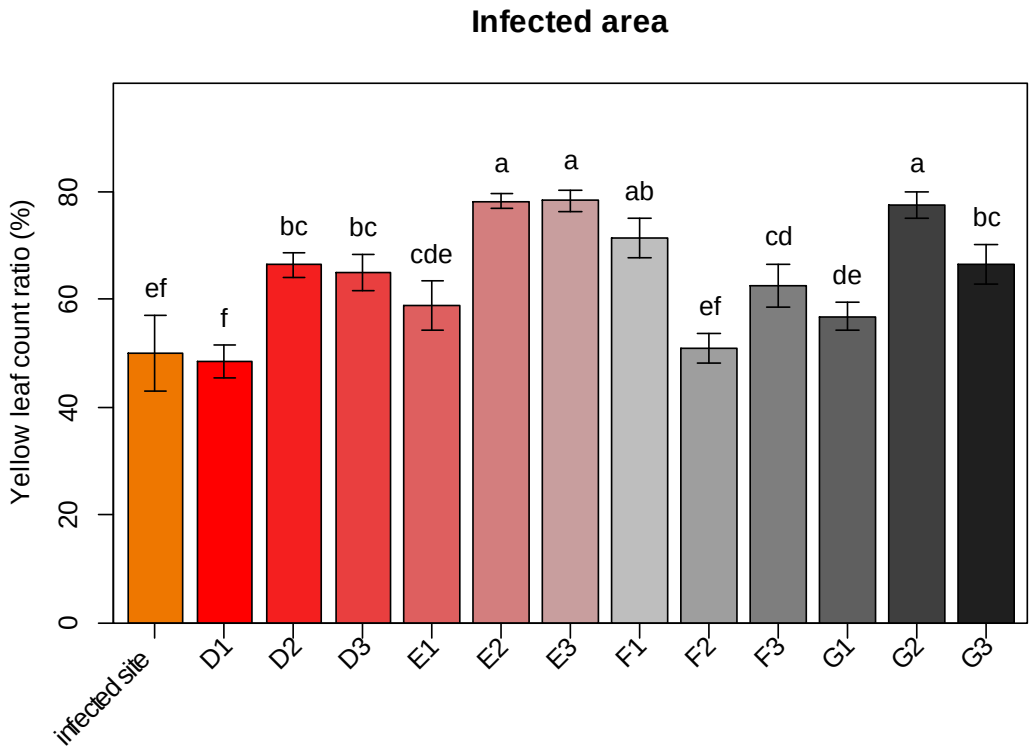


Figure S6 (c). Compare leaf length of banana plant under different treatment combinations in the infected area.

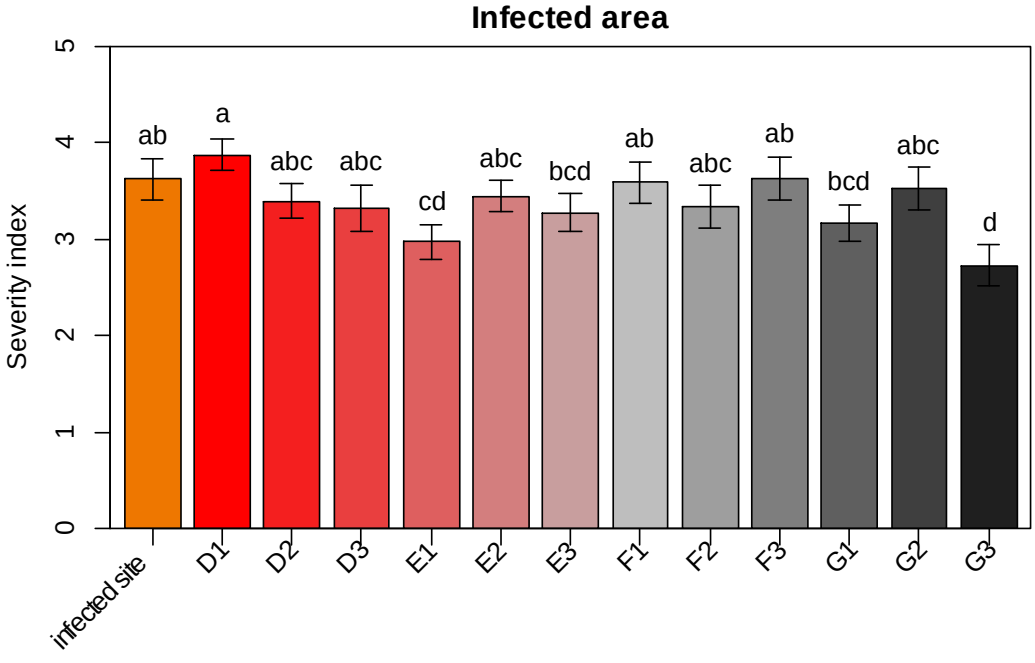


Figure S7. Compare Severity index of banana plant under different treatment combinations in the infected area.

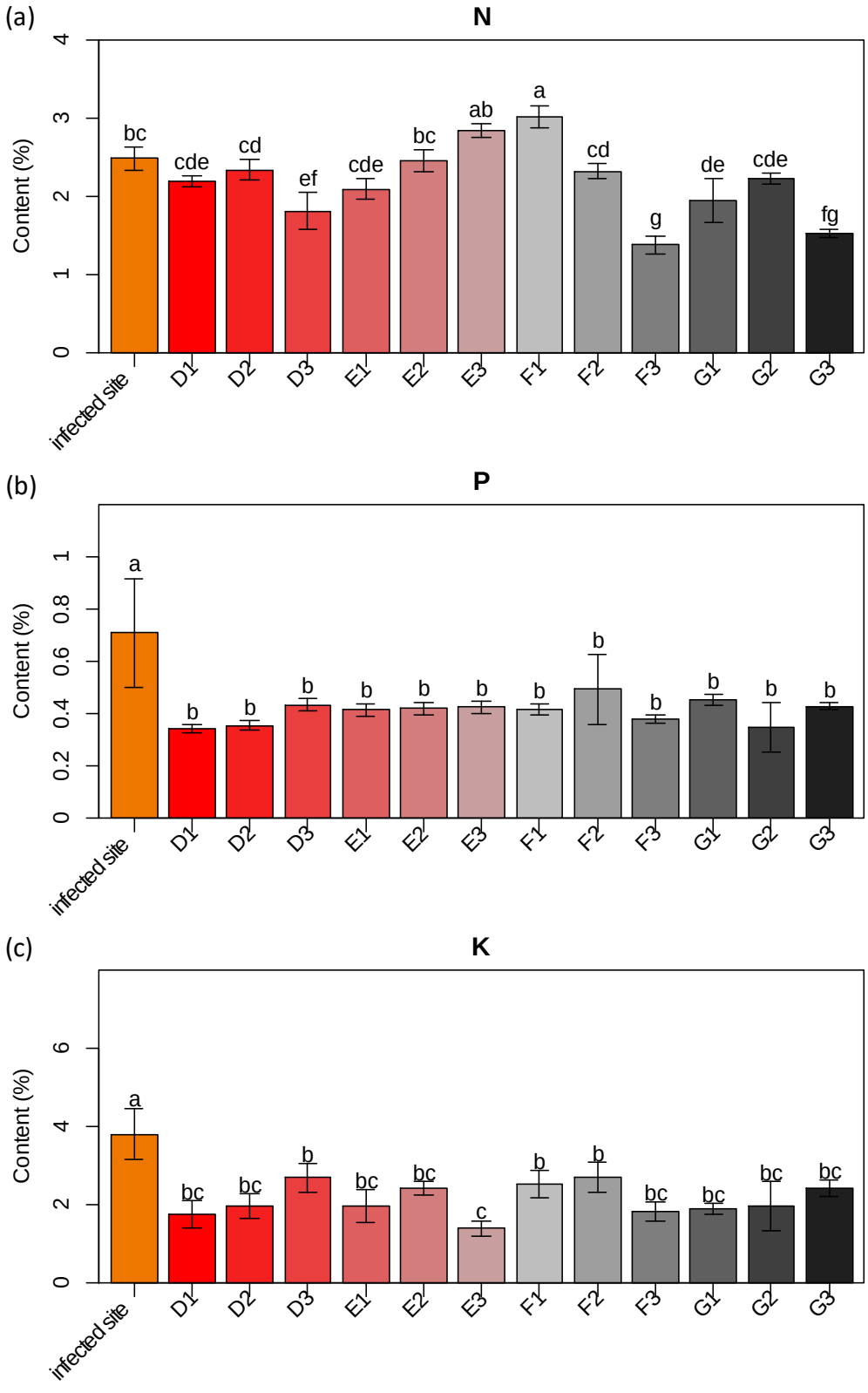


Figure S8. Compare the NPK of banana plants under the combined treatment of the infected area. (a) nitrogen, (b) phosphate and (c) potassium.

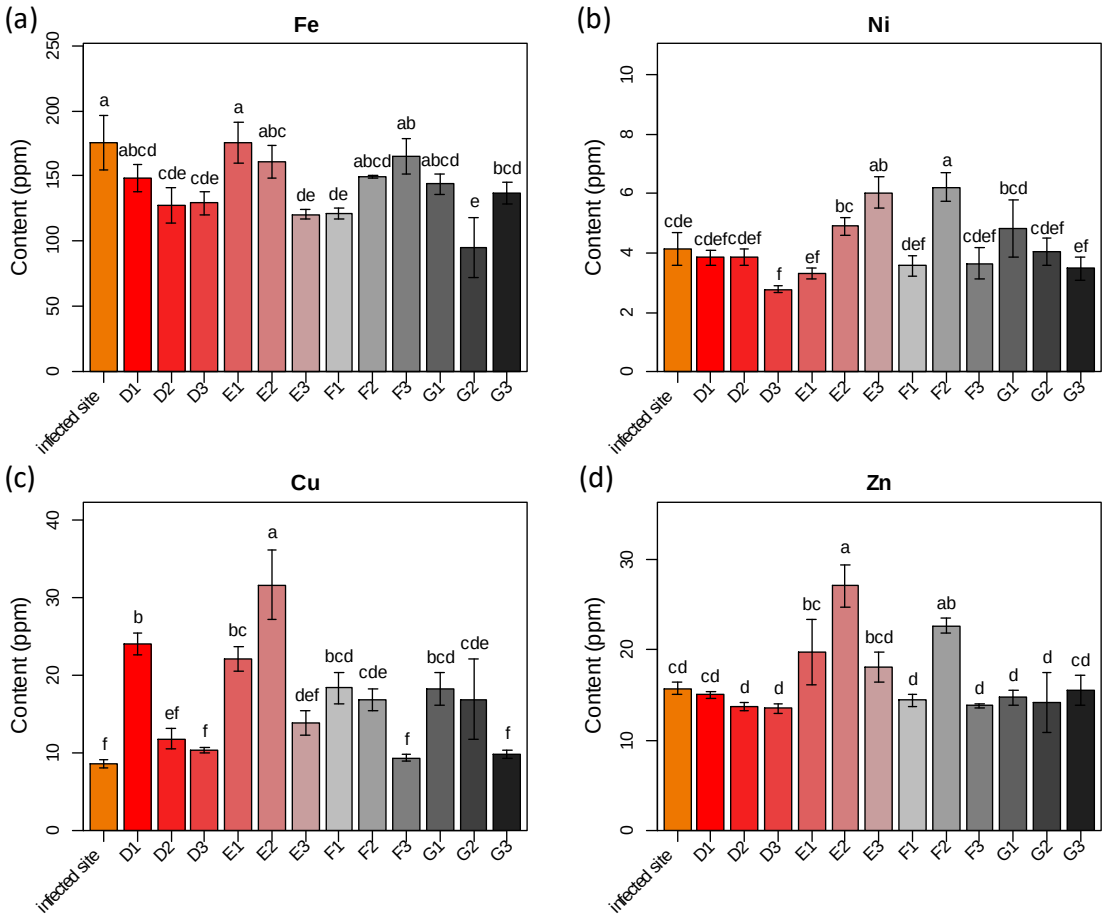


Figure S9. Compare the trace elements of banana plants under the combined treatment of the infected area. (a) iron, (b) nickel, (c) copper and (d) zinc.

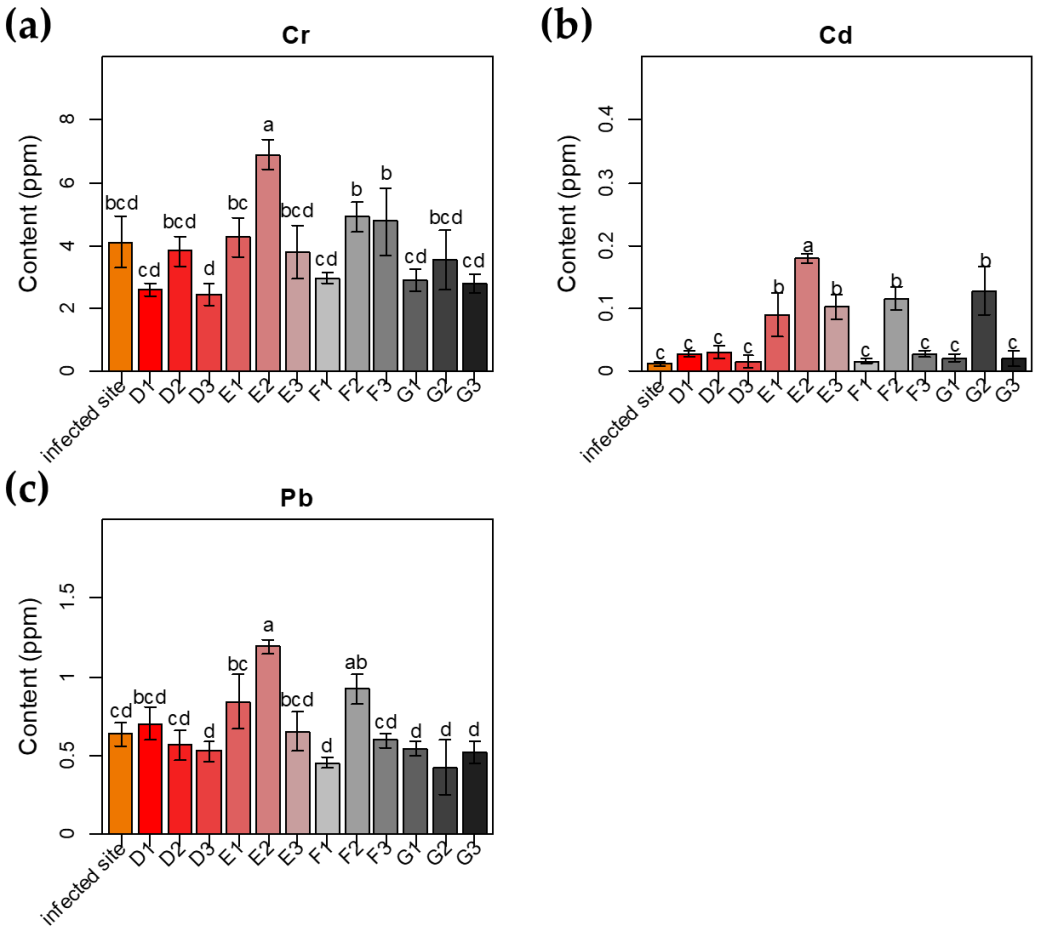


Figure S10. Compare the trace elements of banana plants under the combined treatment of the infected area. (a) Cr, (b) Cd and (c) Pb.

3.2.6 PCA analysis of banana morphology

Principle component analysis (PCA), it simplifies the complexity of high-dimensional data while retaining trends and patterns [32]. We use PCA to observe the pattern of plant height, leaf length, width, leaf number, yellow ratio and severity index to rescale these data in PC1 (68.1%) and PC2 (20.1%). Here, PC1 and PC2 are the main axes of the variance in the data set. In Figure 11S, we can see that the points represent various treatments. The PCA chart shows 32 treatments and 96 points, each treatment includes an average point and 2 standard error points. In the results, the two main groups show blue uninfected areas and red infected areas. The treatments are marked with A1 to G3 in the various combined treatments in Table 1S. In the figure, we can see that F2 (5BM+4BN+1BA), G2 (1BM+2BN+1BA) and D1 (5BM+4BN+5BA) are close to the uninfected area. When only using BM or BA will improve banana growth conditions, in the PCA chart, A1 (5BM) and C3 (1BA) are close to the uninfected area, but using BN will not improve the conditions, B1 (4BN), B2 (2BN) or B3 (1BN). In summary, the combined treatment of BM, BN and BA can effectively improve bananas in the nursery stage in the infected area.

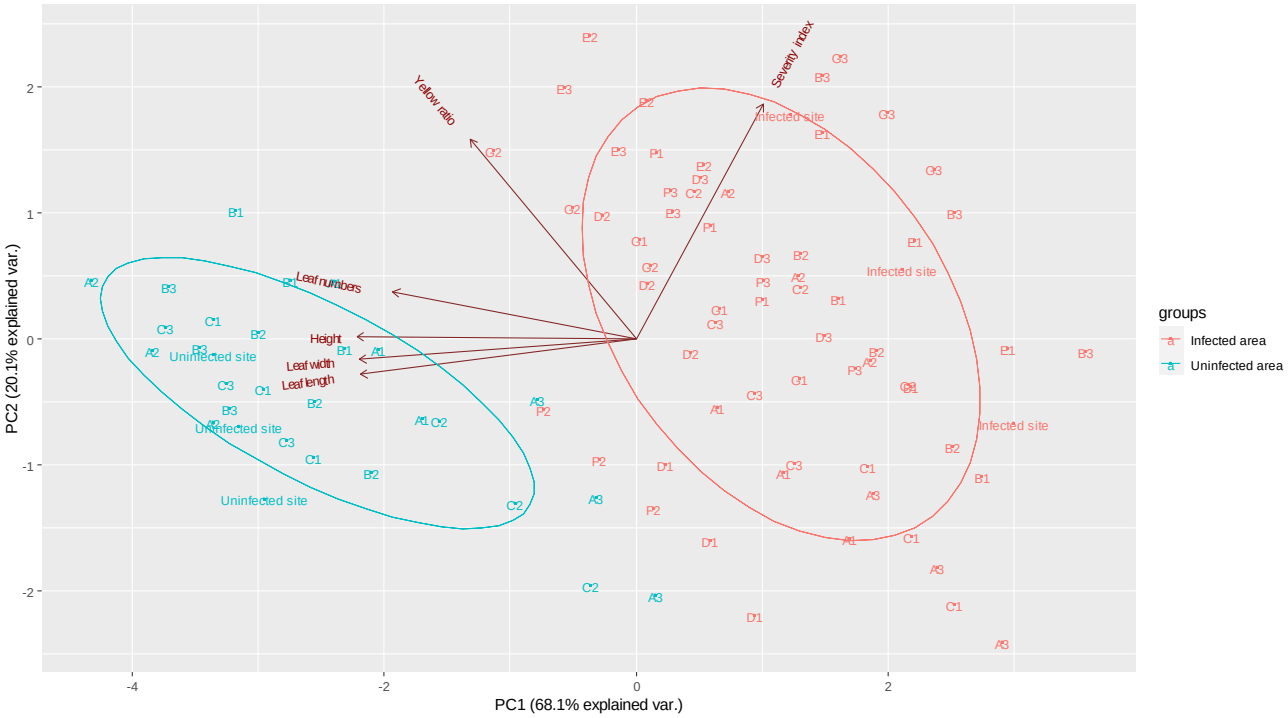


Figure S11. PCA of banana plant morphogy. The PCA was performed on banana morphology under different treatment conditions of banana height, leaf length, leaf width, leaf number and leaf yellow ratio and severity index in the uninfected area and the infected area.

3.3.4 PCA analysis of element content in banana leaf

Figure 11 shows the PCA analysis using NPK, with essential and non-essential element nutrients as the original axis. As a result of PCA1 (24.7%) and PCA2 (18.5%), project the original axis to the PCA of the new axis. By PCA analysis, 32 treatments A1-G3, uninfected sites, and infected sites are displayed on the PCA chart as data points. The distance of each point shows the variability of each treatment. Here we can see the original axis of NPK, showing the direction of the group in the uninfected area, and Fe, Cu, Zn, Ni, and Cr showing the direction of group in the infected area. In the infected area, the Pearson correlation coefficient of Ni and Fe is 0.31, and that of Cu and Zn is 0.52 in Table 2S. In Figure 12S, E2 (1BM+2BN+5BA) and B3 (1BN) are outside the two groups. The results show that the content composition of E2 and B3 is different from the two groups. Therefore, PCA analysis can help us find the unique point on the graph.

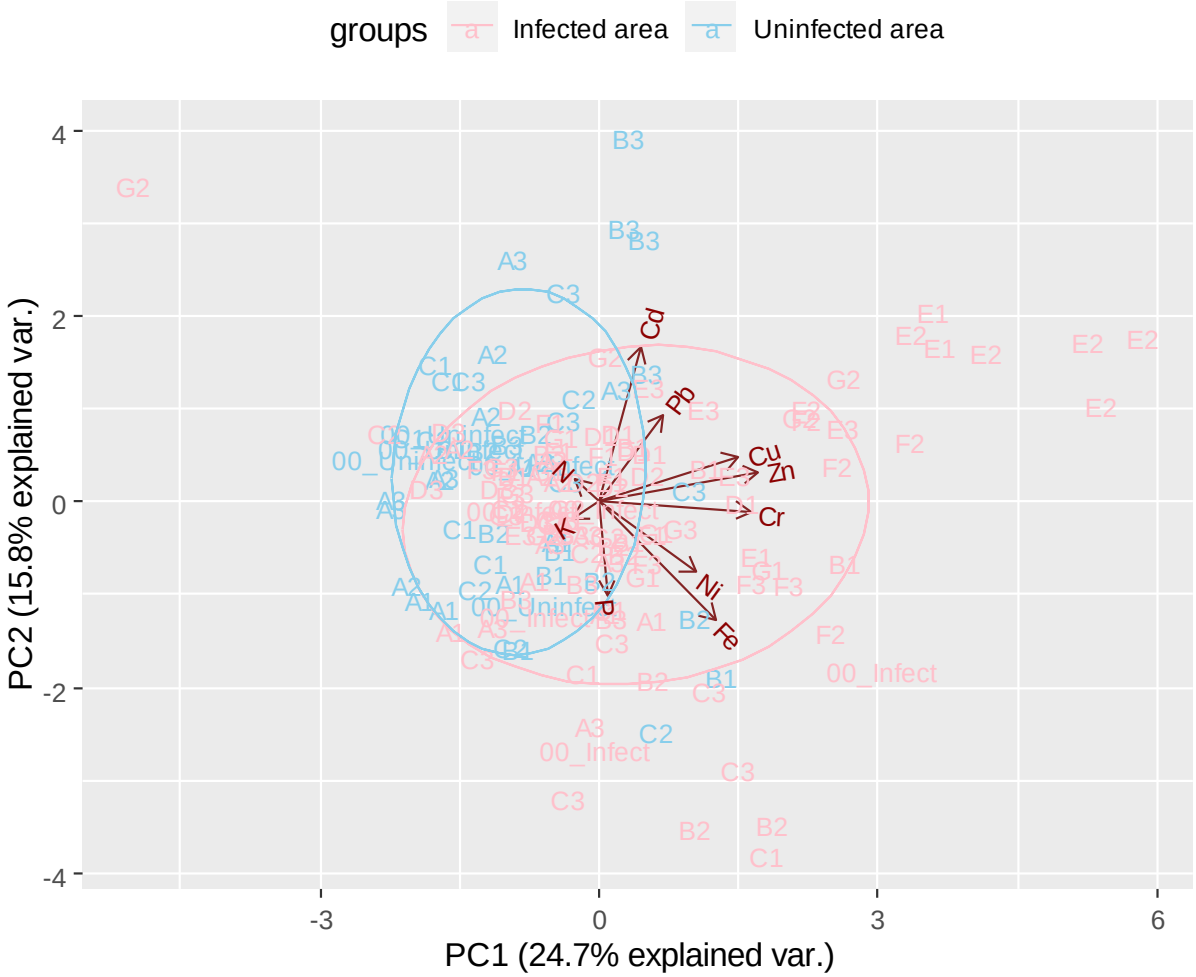


Figure S12. Principal component analysis (PCA) of nutrients and elements. PCA analysis was performed on N, P, K, Fe, Ni, Cu, Zn, Cr, Cd and Pb of banana leaves under A1-G3 treatment. Uninfected areas are blue, and infected areas are red.

method S1

2.8. Basic nutrient determination of banana leaf

Total nitrogen (method number AFS1110-1)

1 Sample processing: Take an appropriate amount of fertilizer samples and place them in a mortar, grind them thoroughly, and mix them evenly.

2 Sample solution:

2.1 Various types of nitrogen:

(1) Weigh 0.300 g correctly (weigh directly in liquid form), place it in a 100 mL decomposition tube, add 7 mL concentrated sulfuric acid and 0.3 g salicylic acid, mix them with a test tube shaker, and let it stand overnight (decomposition is required) The tube is sealed or capped so as not to absorb ammonia gas).

(2) Add about 0.3 g of sodium thiosulfate every other day. Put the decomposition tube in a high-temperature heating decomposition furnace and heat it at about 100°C. At this time, foam will be generated. If too much foam is generated, it can be taken out of the decomposition furnace and cooled to prevent the foam from rushing out of the nozzle, and then placed in decomposition. Continue heating on the stove until no foam is generated, increase the temperature to 350°C at a rate of 50°C every 20 to 30 minutes, and heat at 350°C until the solid decomposes (about 3 hours) and turns into a soy sauce color. Be careful not to dry out the decomposed sample solution.

(3) Take it out and let it cool, add 2 mL of 30% hydrogen peroxide, and place it in the decomposition furnace, and heat it until the sample solution is clear. If the added hydrogen peroxide is used up (about 20 minutes) and the sample is still not clear, repeat this step until the sample solution turns pale yellow to white (about 1 to 1.5 hours).

(4) Take it out and cool it at room temperature, then add about 40 mL reagent water to release part of the heat of dilution. After cooling to room temperature, wash with reagent water and transfer it to a 250 mL quantitative bottle for quantification, then immediately use filter paper filter.

2.2 Those without nitrate nitrogen:

(1) Weigh 0.500～5.000 g correctly (weigh directly in liquid form), place it in a 100 mL decomposition tube, add about 1 g decomposition accelerator and add 20 mL concentrated sulfuric acid, mix it with a test tube shaker, and let it stand overnight .

(2) Put the decomposition tube on the pyrolysis furnace, first heat it at about 100°C, and at the same time increase the temperature to 350°C at a rate of 50°C every 30 minutes, and heat at 350°C until the solid is completely decomposed (about 3 hours), take it out and let it cool to room temperature, wash it with reagent water, transfer it into a 250 mL quantitative flask, and then filter it with filter paper immediately.

2.3 Reduced iron method:

(1) Correctly weigh 0.500～5.000 g of nitrate nitrogen (weigh directly in liquid form), place it in a 100 mL decomposition tube, add about 30 mL reagent water and mix well, add 5 g reduced iron and 30 mL Sulfuric acid (1+1) solution, gently shake to mix. After standing to make the reaction decay, slowly warm up and boil for 15 minutes. After cooling, add about 1 g of decomposition accelerator and add 20 mL of concentrated sulfuric acid, mix it with a test tube shaker, and let it stand overnight.

(2) Same as 2.2(2).

2.4 Devada alloy method: same as 2.2.

3 Determination:

3.1 Using a nitrogen distillation device, place a triangular flask containing 20 mL of 2% boric acid absorption liquid under the condenser, and immerse the end of the condenser into the 2% boric acid absorption liquid.

3.2 Heating distillation:

(1) Correctly measure 10 mL of the above 2.1, 2.2, and 2.3 sample solution in a distillation flask, add 10 mL of 10 M sodium hydroxide solution, and then heat and distill. After the first drop of distillate is dripped into the distillation flask, take out the triangular flask after timing for 7 minutes.

(2) Correctly measure 10 mL of 2.4 sample solution in a distillation flask, add about 1 g of Devada alloy, and then add 10 mL of 10 M sodium hydroxide solution, and heat and distill. After the first drop of distillate is dripped into the distillation flask, take out the triangular flask after timing for 7 minutes.

3.2 Distillate (green) is titrated with sulfuric acid titration solution to the same color as the original boric acid absorption solution (purple or purple, the pH of the original solution can be measured with a pH meter), and the titration milliliter is recorded. In addition, quantify the reagent water, sample blank solution and ammonium standard solution, and record the titration in milliliters.

4. Result processing

4.1 Recovery rate (RE)(%) = $\frac{(V_1 - V_2)\times S\times 14.01\times 100}{N\times(V_5/1000)\times(14.01/18.04)}$

4.2 Sample total nitrogen content (%) = $\frac{(V_3 - V_4)\times S\times 14.01}{W_t\times 1000}\times\frac{100}{RE}\times\frac{V_7}{V_6}\times 100$

S: concentration of sulfuric acid titration solution (mg/L)

N: Concentration of ammonium standard solution (mg/L)

V1: Titration volume of ammonium standard solution (mL)

V2: Reagent water (blank) titration volume (mL)

V3: Titration volume of sample solution (mL)

V4: Titration volume of sample blank solution (mL)

V5: Volume of ammonium standard solution used in distillation (mL)

V6: Volume of sample solution used in distillation (mL)

V7: Quantitative volume of sample solution (mL)

Wt: Weigh the sample weight (g)

5. Quality control

5.1 Blank sample analysis: Perform at least one blank sample analysis for every 10 samples or every batch (when there are less than 10 samples).

5.2 Repeated sample analysis: At least one repeated sample analysis is performed for every 10 samples or each batch (when there are less than 10 samples), and the relative difference percentage should be less than 10%, or meet the specifications of the control chart.

5.3 Check sample analysis: At least one check sample analysis is performed for every 10 samples or every batch (when there are less than 10 samples), and the recovery rate should be between 80% and 120%, or meet the specifications of the control chart .
8. Note: Use a transformer to adjust the voltage during distillation, and do not make the steam too strong to cause the boric acid temperature to be too high (so that the temperature of the boric acid solution does not exceed 25°C).
Sample processing: Take an appropriate amount of fertilizer samples and place them in a mortar, grind them thoroughly, and mix them evenly.

Total Phosphorus Anhydride (Method No. AFS1120-1)

1 Sample processing: Take an appropriate amount of fertilizer samples and place them in a mortar, grind them thoroughly, and mix them evenly.
2 Sample solution: Weigh 2.000 g correctly, place it in a 100 mL decomposition tube or a 150 mL tall beaker, add l5 mL concentrated hydrochloric acid and 5 mL concentrated nitric acid, cover the decomposition tube lid or cover the watch glass, and place it at high temperature Slowly heat in the heating decomposing furnace or the heating plate. If the foam is intensely generated, remove it and let it cool for a while until the intense reaction is over. Remove the decomposition tube cover or watch glass and continue to heat and evaporate until it is almost dry. After cooling, l5 mL of concentrated hydrochloric acid and 5 mL of concentrated nitric acid are added along the inner wall to wash, repeat heating and evaporate until almost dry. Add 25 mL of about 2 M hydrochloric acid solution, heat it slightly to dissolve it, cool to room temperature, wash with reagent water and transfer it to a 100 mL quantitative bottle for quantification, and then filter it with filter paper immediately.
3 Determination:
3.1 Molybdenum Yellow Method:
(1) Calibration line production: correctly measure 0, 2.0, 4.0, 6.0, 8.0 and 10.0 mL of 50 mg/L phosphorus standard solution, add them to 6 50 mL quantitative flasks, add about 20 mL of background solution, and then add 10 mL of nitric acid-vanadic acid-molybdic acid coloring agent, after mixing, quantify with the background liquid, the concentrations of which are 0, 2.0, 4.0, 6.0, 8.0 and 10.0 mg/L respectively, mix well, and let stand for 20 minutes. The absorbance was measured at a wavelength of 420 nm, and a standard calibration curve was made. It can also be adjusted according to the actual operating conditions of the laboratory.
(2) Accurately measure 5.0 mL of the sample solution and place it in a 50 mL quantitative flask, prepare the sample solution to be tested according to the above-mentioned calibration curve sample preparation procedure, and measure its absorbance at a wavelength of 420 nm. In addition, measure the sample blank solution and record its absorbance.
3.2 Inductively coupled plasma atomic emission spectrometer method:
(1) Calibration line production: correctly measure 0, 1.0, 2.0, 4.0, 8.0, 10.0 and 20.0 mL of 1000 mg/L phosphorus standard solution, add them to 7 100 mL quantitative flasks, and dilute with background solution for quantification. The concentrations were 0, 10.0, 20.0, 40.0, 80.0, 100.0 and 200.0 mg/L. It can also be adjusted according to the actual operating conditions of the laboratory.

(2) Measure the calibration curve standard solution prepared above with an inductively coupled plasma atomic emission spectrometer, and draw the calibration curve of concentration and signal intensity.

(3) Take an appropriate amount of sample solution, measure the concentration with an inductively coupled plasma atomic emission spectrometer, and measure the sample blank solution.

4. Result processing

4.1 ICP-AES method:

$$\text{Sample total phosphorus conc.(mg/kg)} = \frac{(A - B)\times V\times 1000\times f}{W\times 1000}$$

Total phosphoric anhydride content (%) = Sample total phosphorus concentration (mg/kg)/10000×142/62

A: Phosphorus concentration in sample solution (mg/L)

B: Phosphorus concentration of sample blank solution (mg/L).

V: quantitative volume of sample solution (mL)

f: dilution factor

W: Weigh the sample weight (g)

5. Quality control ("Quality control related to calibration line, check solution and sample analysis"):

5.1 Production of calibration curve: The calibration curve should be re-made each time the sample, and its linear correlation coefficient (R value) should be greater than or equal to 0.995.

5.2 Calibration line check: After the calibration line is made, a calibration standard solution close to the middle concentration of the calibration line must be prepared with a standard product of a different source or different batch number for the calibration line check. At the end of each batch of analysis or every 20 samples, the solution must also be used to check the calibration line, and the relative error value should be within ±10%.

5.3 Analysis of the check solution: a check solution prepared with a standard product of a different source or different batch number. At least one check shall be performed for every 10 samples or every batch (when there are less than 10 samples), and the recovery rate should be between Between 80% and 120%, or meet the regulations of the control chart

5.4 Blank sample analysis: perform at least one blank sample analysis for every 10 samples or every batch (when there are less than 10 samples). The acceptable standard of the blank analysis value should be less than the detection limit of the double method.

5.5 Repeated sample analysis: At least one repeated sample analysis is performed for every 10 samples or each batch (when there are less than 10 samples), and the relative difference percentage should be less than 10%, or meet the specifications of the control chart.

5.6 Additional sample analysis: At least one additional sample analysis is performed for every 10 samples or each batch (when there are less than 10 samples), and the recovery rate should be between 80% and 120%, or meet the specifications of the control chart .

5.7 If the sample concentration is greater than the calibration range of the calibration line, the sample should be diluted before measurement.

Potassium Oxide (Method No. AFS1130-1)

Steps

1 Sample processing: Take an appropriate amount of fertilizer samples and place them in a mortar, grind them thoroughly, and mix them evenly.

2 Sample solution: Weigh 2.000 g correctly, place it in a 100 mL decomposition tube or a 150 mL tall beaker, add l5 mL concentrated hydrochloric acid and 5 mL concentrated nitric acid, cover the decomposition tube lid or cover the watch glass, and place it at high temperature Slowly heat in the heating decomposing furnace or the heating plate. If the foam is intensely generated, remove it and let it cool for a while until the intense reaction is over. Remove the decomposition tube cover or watch glass and continue to heat and evaporate until it is almost dry. After cooling, l5 mL of concentrated hydrochloric acid and 5 mL of concentrated nitric acid are added along the inner wall to wash, repeat heating and evaporate until almost dry. Add 25 mL of about 2 M hydrochloric acid solution, heat it slightly to dissolve it, cool to room temperature, wash with reagent water and transfer it to a 100 mL quantitative bottle for quantification, and then filter it with filter paper immediately.

3 Determination:

3.1 Flame photometer method:

(1) Production of calibration line: correctly measure 0, 1.6, 3.2, 4.8, 6.4, 8.0 and 9.6 mL of 1000 mg/L potassium standard solution, add them to 7 200 mL quantitative flasks, and dilute with background solution for quantification. The concentrations were 0, 8, 16, 24, 32, 40, 48 mg/L. It can also be adjusted according to the actual operating conditions of the laboratory.

(2) Measure the calibration curve standard solution prepared above with a flame photometer, and draw the calibration curve of concentration and signal intensity.

(3) Take an appropriate amount of sample solution, measure the concentration with a flame photometer, and measure the sample blank solution.

3.2 Inductively coupled plasma atomic emission spectrometer method:

(1) Production of calibration line: correctly measure 0, 1.0, 2.0, 4.0, 8.0, 10.0 and 20.0 mL of 1000 mg/L potassium standard solution, add them to 7 100 mL quantitative flasks, and dilute with background solution for quantification. The concentrations were 0, 10.0, 20.0, 40.0, 80.0, 100.0 and 200.0 mg/L. It can also be adjusted according to the actual operating conditions of the laboratory.

(2) Measure the calibration curve standard solution prepared above with an inductively coupled plasma atomic emission spectrometer, and draw the calibration curve of concentration and signal intensity.

(3) Take an appropriate amount of sample liquid, measure the concentration with an inductively coupled plasma atomic emission spectrometer, and check the sample White solution is measured.

4. Result processing

4.2 Inductively coupled plasma atomic emission spectrometer method:

$$\text{Sample total potassium concentration (mg/kg)} = \frac{(A - B)\times V\times 1000\times f}{W\times 1000}$$

Total potassium oxide content (%) = Total potassium concentration (mg/kg)/10000×94/78

A: The potassium concentration of the sample solution (mg/L).

B: Potassium concentration of sample blank solution (mg/L)

V: quantitative volume of sample solution (mL)

f: dilution factor

W: Weigh the sample weight (g)

Total iron (method number AFS1105-1)

1 Sample processing: Take an appropriate amount of fertilizer samples and place them in a mortar, grind them thoroughly, and mix them evenly.

2 Sample solution: Weigh 2.000 g correctly, place it in a 100 mL decomposition tube or a 150 mL tall beaker, add 15 mL concentrated hydrochloric acid and 5 mL concentrated nitric acid, cover the decomposition tube lid or cover the watch glass, and place it at high temperature Slowly heat in the heating decomposing furnace or the heating plate. If the foam is intensely generated, remove it and let it cool for a while until the intense reaction is over. Remove the decomposition tube cover or watch glass and continue to heat and evaporate until it is almost dry. After cooling, l5 mL of concentrated hydrochloric acid and 5 mL of concentrated nitric acid are added along the inner wall to wash, repeat heating and evaporate until almost dry. Add 25 mL of about 2 M hydrochloric acid solution, heat it slightly to dissolve it, cool to room temperature, wash with reagent water and transfer it to a 100 mL quantitative bottle for quantification, then filter it with filter paper immediately.

3 Determination:

3.1 Preparation of calibration line: correctly measure 0, 1.0, 3.0, 5.0, 7.0 and 10.0 mL of 1000 mg/L iron standard solution, add them to 6 100 mL quantitative flasks, and quantify the background solution. The concentrations are respectively 0, 10.0, 30.0, 50.0, 70.0 and 100.0 mg/L. It can also be adjusted according to the actual operating conditions of the laboratory.

3.2 Measure the calibration curve standard solution prepared above with an inductively coupled plasma atomic emission spectrometer, and draw the calibration curve of concentration and signal intensity.

3.3 Take an appropriate amount of sample solution, measure the concentration with an inductively coupled plasma atomic emission spectrometer, and measure the sample blank solution.

4. Result processing

$$\text{The total iron concentration of the sample (mg/kg)} = \frac{(A - B)\times V\times 1000\times f}{W\times 1000}$$

Total iron content (%) = total iron concentration (mg/kg)/10000

A: The concentration of iron in the sample solution (mg/L).

B: Iron concentration of sample blank solution (mg/L)

V: quantitative volume of sample solution (mL)

f: dilution factor

W: Weigh the sample weight (g)

Cadmium, chromium, copper, nickel, lead, zinc, titanium (method number AFS1293~9-1)

Steps

1 Sample processing: Take an appropriate amount of fertilizer samples and place them in a mortar, grind them thoroughly, and mix them evenly.

2 Sample solution: Weigh 2.000 g correctly (weigh directly in liquid form), place it in a 100 mL decomposition tube or a 150 mL tall beaker, add l5 mL concentrated hydrochloric acid and 5 mL concentrated nitric acid, and cover the decomposition tube lid or lid Place the upper glass in a high-temperature decomposing furnace or a heating plate to slowly heat it. If the foam is intensely generated, remove it and let it cool for a while until the fierce reaction is over, slightly remove the decomposition tube cover or the glass and continue to heat and evaporate until nearly Dried up, after cooling, wash with 15 mL concentrated hydrochloric acid and 5 mL concentrated nitric acid along the inner wall to wash and add, repeat heating and evaporate until almost dry. Add 25 mL of about 2 M hydrochloric acid solution, heat it slightly to dissolve it, cool to room temperature, wash with reagent water and transfer it to a 100 mL quantitative bottle for quantification, and then filter it with filter paper immediately.

3 Determination

3.1 Calibration line production: correctly measure the appropriate volume of heavy metal standard solution, add it to a quantitative bottle, add appropriate type and volume of acid solution, make the calibration line standard solution and the matrix of the digested sample similar to prepare each heavy metal calibration line Standard solution. The attached table lists examples of calibration lines for reference, and can also be adjusted according to the actual operating conditions of the laboratory.

3.2 Measure the prepared calibration line standard solution with an inductively coupled plasma atomic emission spectrometer, and draw calibration lines for the concentration of each heavy metal and the signal intensity. Then carry out the determination of sample solution and sample blank solution.

Attached table, the concentration, volume and final concentration of each heavy metal standard solution in 6 100 mL quantitative bottles

element	Calibration line	blank	1	2	3	4	5
cadmium	Final concentration (mg/L)	0	0.02	0.05	0.1	0.5	1
	Concentration	0	1.0 mg/L			10.0 mg/L	
	Measure the volume	0	2 mL	5 mL	10 mL	5 mL	10 mL
chromium	Final concentration (mg/L)	0	0.5	1	2	3	4
	Concentration	0	10.0 mg/L		100 mg/L		
	Measure the volume	0	5 mL	10 mL	2 mL	3 mL	4 mL
copper	Final concentration (mg/L)	0	0.5	2	4	8	16
	Concentration	0	10.0 mg/L	100 mg/L			

	Measure the volume	0	5 mL	2 mL	4 mL	8 mL	16 mL
nickel	Final concentration (mg/L)	0	0.5	2	4	8	10
	Concentration	0	10.0 mg/L	100 mg/L			
	Measure the volume	0	5 mL	2 mL	4 mL	8 mL	10 mL
lead	Final concentration (mg/L)	0	0.5	2	4	8	16
	Concentration	0	10.0 mg/L	100 mg/L			
	Measure the volume	0	5 mL	2 mL	4 mL	8 mL	16 mL
Zinc	Final concentration (mg/L)	0	0.5	2	4	8	12
	Concentration	0	10.0 mg/L	100 mg/L			
	Measure the volume	0	5 mL	2 mL	4 mL	8 mL	12 mL
titanium	Final concentration (mg/L)	0	0.5	2	4	8	16
	Concentration	0	10.0 mg/L	100 mg/L			
	Measure the volume	0	5 mL	2 mL	4 mL	8 mL	16 mL
Add 4.2 mL of concentrated hydrochloric acid to each quantitative bottle, and quantify to							

4. Result processing

$$\text{The content of each heavy metal in the sample (mg/kg)} = \frac{(A - B)\times V\times 1000\times f}{W\times 1000}$$

A: The concentration of each heavy metal in the sample solution (mg/L).

B: The concentration of heavy metals in the sample blank solution (mg/L)

V: quantitative volume of sample solution (mL)

f: dilution factor

W: Weigh the sample weight (g)

5. Quality control: the same as "Quality control related to calibration line, check solution and sample analysis".