

**Table S1.** Individual effects of Nitrogen rates (a) and mulch types (b) on physiological parameters of cotton

<b>a)</b>	0 N kg ha <sup>-1</sup>	70 N kg ha <sup>-1</sup>	140 N kg ha <sup>-1</sup>	210 N kg ha <sup>-1</sup>	<i>LSD</i>
Chl contents (mg mL <sup>-1</sup> )	0.67 d	1.38 c	1.76 b	2.10 a	0.32
Nitrogen (mg kg <sup>-1</sup> )	1.44 c	2.77 b	2.94 a	3.05 a	0.16
Phosphorus (mg kg <sup>-1</sup> )	3.88 d	4.45 c	4.80 b	4.96 a	0.14
Potassium (mg kg <sup>-1</sup> )	136.97 c	164.50 b	182.20 a	193.30 a	14.10
Calcium (mg kg <sup>-1</sup> )	12.26 d	14.04 c	14.39 b	14.69 a	0.26
Magnesium (mg kg <sup>-1</sup> )	6.62 d	7.41 c	8.36 b	8.72 a	0.31

<b>b)</b>	Control	Chemical mulch	Natural Mulch	<i>LSD</i>
Chl contents (mg mL <sup>-1</sup> )	1.09 b	1.46 a	1.61 a	0.30
Nitrogen (mg kg <sup>-1</sup> )	2.01 b	2.56 a	2.58 a	0.46
Phosphorus (mg kg <sup>-1</sup> )	3.53 b	4.51 a	4.65 a	0.86
Potassium (mg kg <sup>-1</sup> )	129.96 b	169.68 a	175.60 a	29.88
Calcium (mg kg <sup>-1</sup> )	11.04 b	13.86 a	13.88 a	1.33
Magnesium (mg kg <sup>-1</sup> )	6.17 b	7.77 a	7.86 a	1.01

The treatment means with same letters are not statistically significant at 5% probability level.  
Chl= chlorophyll, LSD=least significant difference

**Table S2.** Individual effects of Nitrogen rates (a) and mulch types (b) on quality parameters of cotton

<b>a)</b>	0 N kg ha <sup>-1</sup>	70 N kg ha <sup>-1</sup>	140 N kg ha <sup>-1</sup>	210 N kg ha <sup>-1</sup>	<i>LSD</i>
GOT (%)	29.90 d	34.02 c	37.53 b	40.93 a	2.18
F length (mm)	24.80 c	29.06 b	29.72 b	30.93 a	1.09
F strength (g tex <sup>-1</sup> )	23.63 c	24.77 c	26.32 b	29.40 a	1.37
F fineness (µg inch <sup>-1</sup> )	3.93 d	4.32 c	4.84 b	5.10 a	0.23
F uniformity (%)	45.12 d	48.26 c	51.48 b	53.80 a	2.05
F elongation (%)	10.22 d	12.85 c	13.13 b	13.39 a	0.23

<b>b)</b>	Control	Chemical mulch	Natural Mulch	<i>LSD</i>
GOT (%)	27.60 b	35.77 a	36.52 a	1.69
F length (mm)	22.65 b	28.52 a	29.05 a	2.38
F strength (g tex <sup>-1</sup> )	20.30 b	26.06 a	26.67 a	1.36
F fineness (µg inch <sup>-1</sup> )	3.55 b	4.54 a	4.66 a	0.94
F uniformity (%)	39.34 b	49.81 a	50.02 a	1.33
F elongation (%)	9.82 b	12.35 a	12.58 a	1.01

The treatment means with same letters are not statistically significant at 5% probability level.  
GOT=ginning out turn, F= fiber, LSD=least significant difference

**Table S3.** Individual effects of Nitrogen rates (a) and mulch types (b) on yield parameters of cotton

<b>a)</b>	0 N kg ha <sup>-1</sup>	70 N kg ha <sup>-1</sup>	140 N kg ha <sup>-1</sup>	210 N kg ha <sup>-1</sup>	<i>LSD</i>
Total yield (t ha <sup>-1</sup> )	4.73 d	5.60 c	6.77 b	7.47 a	0.58
Biomass yield (t ha <sup>-1</sup> )	2.47 b	2.73 b	3.50 a	3.63 a	0.73
Economic yield (t ha <sup>-1</sup> )	2.20 d	2.87 c	3.27 b	3.83 a	0.40
Seed yield (t ha <sup>-1</sup> )	1.50 d	1.90 bc	2.13 b	2.40 a	0.25
Lint yield (t ha <sup>-1</sup> )	0.69 d	0.98 bc	1.18 b	1.43 a	0.22

<b>b)</b>	Control	Chemical mulch	Natural Mulch	<i>LSD</i>
Total yield (t ha <sup>-1</sup> )	4.76 b	6.15 a	6.33 a	1.03
Biomass yield (t ha <sup>-1</sup> )	2.42 b	3.08 a	3.15 a	0.52
Economic yield (t ha <sup>-1</sup> )	2.34 b	3.05 a	3.15 a	0.64
Seed yield (t ha <sup>-1</sup> )	1.52 b	2.00 a	2.05 a	0.39
Lint yield (t ha <sup>-1</sup> )	0.82 b	1.06 a	1.12 a	0.18

The treatment means with same letters are not statistically significant at 5% probability level.