

EMPIRE COTTON GROWING CORPORATION.

INCORPORATED BY ROYAL CHARTER.

OFFICES:

KING'S BUILDINGS,
DEAN STANLEY STREET,
MILBANK, S.W. 1.

CABLES: "EMCOTTON LONDON."

Cotton Experiment Station
Box 95. Barberton
Transvaal
13th October 1936

DMD/deM

Ref.R.19W.G.Cochran Esq
Rothamsted Experimental Station
Harpenden. Herts.

Dear Mr Cochran,

I am enclosing the data from two uniformity trials as promised in my letter of 25th June 1936. The trial on field B.2.a. was planted with rows 3'6" apart, the interplant spacing in the row being 2'. Adequate guard rows were discarded, the rows divided up into 40' units and harvested separately, the yields being given in grammes of seed cotton.

In field B.5.b. the spacing was 3'6" between rows with 18" spacing in the row, the trial being harvested in units of 30' length of row. In both trials 8' were discarded at both ends of each row to obviate any edge effect.

Actual yields were low for the following reasons:-

1. Planting date 6 to 8 weeks later than optimum planting time due to late rains.
2. Severe damage by aphids unevenly distributed over the two fields, and further lowering of the yield by severe drought during February and March.
3. Both the above fields represent the extreme variation in soil fertility present on the Station and are not truly representative of the average soil fertility conditions.

In future Seasons I hope to have a series of trials on more uniform fields, and will forward the data when the crop is reaped. I shall be very pleased to hear the conclusions you have drawn when you have analysed the above data.

I enclose a plan of the lay out of the two trials.

Yours Sincerely

D. Mc Donald

EMPIRE COTTON GROWING CORPORATION.

Yield in Gms.

Uniformity Trial 1935-36. Field B.2.A

| | Series. A | | Series B | | Series C | | Series D |
|-----------|-------------|--|-------------|-----|-------------|--|-----------------|
| Row. No., | | | | | | | |
| 1 | 360 | | 390 | | 370 | | 300 |
| 2 | 460 | | 380 | | 520 | | 390 317 |
| 3 | 470 | | 380 | 185 | 500 250 | | 390 |
| 624 4 | 310 188 | | 340 | | 530 | | 410 201 333 |
| 5 | 280 | | 360 | | 580 | | 520 |
| 6 | 220 | | 590 | | 700 | | 440 369 |
| 7 | 240 | | 400 | | 640 | | 640 |
| 1046 8 | 160 136 250 | | 530 254 337 | | 650 312 449 | | 690 378 344 395 |
| 9 | 270 | | 550 | | 650 | | 810 1444 |
| 10 | 470 | | 470 | | 480 | | 860 456 |
| 11 | 360 | | 310 | | 400 | | 1020 |
| 12 | 230 | | 360 | | 490 | | 890 406 |
| 1118 13 | 460 179 | | 380 177 | | 580 330 | | 650 |
| 14 | 430 | | 420 | | 830 | | 900 424 465 |
| 15 | 310 | | 300 | | 1000 | | 780 |
| 16 | 330 286 | | 340 313 | | 940 537 | | 980 689 498 |
| 17 | 350 | | 600 | | 690 | | 1090 1825 |
| 1309 18 | 310 155 | | 320 216 | | 1030 | | 850 524 |
| 19 | 310 | | 480 | | 930 459 | | 920 479 |
| 20 | 250 | | 420 | | 1000 | | 950 526 |
| 4289 21 | 210 658 | | 590 832 | | 800 1351 | | 720 1448 |
| 22 | 240 | | 480 | | 720 | | 750 451 |
| 23 | 350 | | 510 | | 680 | | 770 |
| 24 | 250 227 | | 600 400 | | 590 644 | | 760 681 451 |
| 25 | 300 | | 700 | | 630 | | 800 1952 |
| 26 | 410 | | 590 | | 660 | | 710 480 |
| 27 | 370 | | 630 | | 750 | | 690 |
| 28 | 400 | | 620 | | 640 | | 600 470 |
| 29 | 210 | | 720 | | 790 | | 670 |
| 30 | 220 | | 550 | | 810 | | 740 471 |
| 31 | 320 | | 570 | | 570 | | 520 |
| 32 | 380 261 | | 550 493 | | 970 582 | | 640 537 452 |
| 33 | 310 | | 550 | | 910 | | 630 1873 |
| | 1024 | | 1543 | | 2212 | | 2285 7664 |

Yield in Gms.

Uniformity Trial 1935-36. B2A Cont.

| Row. No. | Series A. | Series B. | Series C. | Series D | |
|----------|-----------|-----------|-----------|----------|-----|
| 34 | 300 | 440 | 780 | 550 | 447 |
| 35 | 500 | 760 | 700 | 560 | |
| 36 | 450 | 660 | 740 | 420 | 479 |
| 37 | 720 | 760 | 520 | 540 | |
| 38 | 440 | 550 | 470 | 380 | 438 |
| 39 | 640 | 590 | 580 | 540 | |
| 40 | 450 381 | 530 484 | 560 526 | 570 419 | 446 |
| 41 | 440 | 610 | 380 | 580 | |
| 42 | 300 | 500 | 430 | 570 | 381 |
| 43 | 400 | 450 | 380 | 530 | |
| 44 | 430 | 560 | 490 | 680 | 392 |
| 45 | 560 | 400 | 300 | 680 | |
| 46 | 480 | 560 | 490 | 620 | 409 |
| 47 | 650 | 540 | 570 | 600 | |
| 48 | 400 366 | 620 424 | 610 365 | 750 501 | 474 |
| 49 | 480 | 530 | 410 | 650 | |
| 50 | 310 | 540 | 340 | 540 | 380 |
| 51 | 410 | 560 | 290 | 500 | |
| 52 | 460 | 580 | 340 | 570 | 371 |
| 53 | 580 | 500 | 410 | 640 | |
| 54 | 500 | 420 | 600 | 510 | 416 |
| 55 | 480 | 470 | 610 | 630 | |
| 56 | 570 379 | 420 402 | 550 355 | 460 450 | 419 |
| 57 | 550 | 570 | 500 | 610 | |
| 58 | 630 | 480 | 400 | 580 | 432 |
| 59 | 550 | 550 | 390 | 570 | |
| 60 | 290 | 540 | 370 | 410 | 367 |
| 61 | 450 | 470 | 450 | 350 | |
| 62 | 520 | 510 | 320 | 400 | 347 |
| 63 | 470 | 470 | 300 | 230 | |
| 64 | 440 390 | 590 418 | 380 311 | 230 338 | 311 |
| 65 | 430 | 640 | 460 | 300 | |
| 66 | 470 | 520 | 410 | 270 | 350 |

Yield in Gms.

Uniformity Trial 1935-36 B.2.A Cont.

| Row No. | Series A. | Series B | Series C | Series D | |
|---------|-----------|----------|----------|----------|-----|
| 67 | 530 | 670 | 470 | 320 | |
| 68 | 490 | 600 | 480 | 530 | 409 |
| 69 | 450 | 650 | 380 | 370 | |
| 70 | 510 | 330 | 510 | 480 | 368 |
| 71 | 420 | 630 | 540 | 430 | |
| 72 | 540 384 | 510 455 | 530 378 | 150 285 | 375 |
| 73 | 330 | 550 | 400 | 250 | |
| 74 | 320 | 410 | 460 | 320 | 304 |
| 75 | 300 | 540 | 520 | 300 | |
| 76 | 400 | 460 | 450 | 450 | 342 |
| 77 | 400 | 380 | 680 | 420 | |
| 78 | 490 | 490 | 640 | 460 | 396 |
| 79 | 340 | 430 | 570 | 460 | |
| 80 | 560 314 | 580 384 | 640 436 | 350 301 | 393 |
| 81 | 440 | 620 | 550 | 430 | |
| 82 | 370 | 600 | 650 | 490 | 415 |
| 83 | 550 | 530 | 450 | 340 | |
| 84 | 460 | 840 | 440 | 300 | 391 |
| 85 | 470 | 620 | 440 | 440 | |
| 86 | 400 | 620 | 530 | 410 | 393 |
| 87 | 550 | 590 | 600 | 380 | |
| 88 | 450 369 | 650 507 | 320 398 | 370 316 | 391 |
| 89 | 390 | 530 | 390 | 300 | |
| 90 | 370 | 740 | 470 | 490 | 368 |
| 91 | 420 | 660 | 460 | 640 | |
| 92 | 390 | 780 | 540 | 710 | 460 |
| 93 | 360 | 760 | 590 | 610 | |
| 94 | 550 | 1080 | 510 | 560 | 502 |
| 95 | 570 | 930 | 490 | 450 | |
| 96 | 500 355 | 730 621 | 660 411 | 550 431 | 488 |
| 97 | 610 | 500 | 620 | 630 | |
| 98 | 730 | 590 | 570 | 640 | 489 |
| 99 | 730 | 590 | 460 | 470 | |

EMPIRE COTTON GROWING CORPORATION.

Yield in GmsUniformity Trial 1935-36 B.2.A.cont

| Row.No | Series A. | Series B. | Series.C | Series D. | |
|--------|-----------|-----------|----------|-----------|-----|
| 100 | 750 | 560 | 550 | 500 | 461 |
| 101 | 740 | 680 | 480 | 600 | |
| 102 | 680 | 430 | 480 | 600 | 469 |
| 103 | 520 | 500 | 500 | 600 | |
| 104 | 550 531 | 430 428 | 580 424 | 650 469 | 433 |
| 105 | 530 | 570 | 600 | 590 | |
| 106 | 550 | 420 | 410 | 450 | 412 |
| 107 | 670 | 500 | 440 | 460 | |
| 108 | 510 | 430 | 460 | 440 | 391 |
| 109 | 290 | 340 | 330 | 570 | |
| 110 | 410 | 460 | 420 | 520 | 334 |
| 111 | 580 | 650 | 390 | 550 | |
| 112 | 510 405 | 580 395 | 460 351 | 510 409 | 423 |
| 113 | 540 | 720 | 690 | 690 | |
| 114 | 600 | 710 | 600 | 660 | 521 |
| 115 | 640 | 560 | 510 | 580 | |
| 116 | 670 | 440 | 620 | 630 | 465 |
| 117 | 490 | 570 | 580 | 570 | |
| 118 | 510 | 670 | 930 | 530 | 485 |
| 119 | 620 | 660 | 710 | 760 | |
| 120 | 450 452 | 610 494 | 520 516 | 330 475 | 466 |
| 121 | 710 | 730 | 690 | 420 | |
| 122 | 650 | 580 | 610 | 460 | 485 |
| 123 | 640 | 740 | 430 | 550 | |
| 124 | 700 | 770 | 510 | 460 | 480 |
| 125 | 520 | 920 | 560 | 450 | |
| 126 | 600 | 740 | 600 | 570 | 496 |
| 127 | 610 | 690 | 660 | 460 | |
| 128 | 680 511 | 940 611 | 560 462 | 500 387 | 510 |
| 129 | 660 | 850 | 410 | 390 | |
| 130 | 850 | 690 | 480 | 400 | 473 |
| 131 | 610 | 730 | 430 | 350 | |
| 132 | 810 | 590 | 430 | 350 | 430 |

Yield in Gms.Uniformity Trial 1935-36. B.2.A Cont

| Row No. | Series A. | Series B. | Series C. | Series D. |
|---------|-----------|-----------|-----------|-------------|
| 133 | 610 | 510 | 340 | 400 |
| 134 | 570 | 610 | 440 | 510 399 |
| 135 | 560 | 550 | 650 | 560 |
| 136 | 520 519 | 320 485 | 630 381 | 600 356 439 |
| 137 | 460 | 250 | 500 | 550 |
| 138 | 530 | 340 | 480 | 680 379 |
| 139 | 670 | 350 | 580 | 650 |
| 140 | 460 | 240 | 340 | 500 379 |
| 141 | 560 | 320 | 410 | 390 |
| 142 | 470 | 340 | 420 | 510 342 |
| 143 | 310 | 240 | 330 | 550 |
| 144 | 480 394 | 460 254 | 390 345 | 510 434 327 |



Yield in Gms.

Uniformity Trial 1935-36. Field B 5 b.

Series A.

Series B.

Series C.

Series D.

Row No.

1 520

540

410

460

2 290

450

440

410

3 420

350

510

340

4 350

330

440

400

5 340

220

400

410

6 360

380

440

360

7 410

430

340

370

8 370

420

160

280

9 400

500

300

390

10 460

500

300

380

11 590

400

560

360

12 530

400

660

480

13 740

450

610

450

14 640

510

660

610

15 630

440

850

510

16 460

450

610

580

17 440

470

720

620

18 420

450

450

730

19 530

490

660

660

20 510

420

460

610

21 440

520

450

540

22 490

490

470

370

23 470

460

520

600

24 460

350

430

600

25 270

320

510

460

26 410

440

480

580

27 380

540

510

630

28 450

560

600

490

29 390

400

540

450

30 330

420

530

510

31 320

360

700

390

32 210

370

620

410

33 340

480

640

520

34 360

380

600

460

EMPIRE COTTON GROWING CORPORATION

Uniformity Trial 1935-36. Field B 5 b. (continued).

Yield in Gms.

Series A.

Row No.

35 470

36 500

37 530

38 470

39 490

40 600

41 430

42 490

43 440

44 290

45 360

46 320

47 260

48 400

49 390

50 600

51 480

52 620

53 550

54 600

55 520

56 550

57 560

58 380

59 410

60 390

61 370

62 270

63 450

64 440

65 450

66 500

67 530

68 300

69 420

Series B.

490

360

420

540

750

600

630

650

590

540

510

390

360

490

580

530

710

540

600

510

540

570

500

500

400

500

400

610

520

430

640

570

550

640

430

Series C.

580

650

370

410

570

440

470

360

450

280

500

220

370

280

370

360

480

470

630

560

850

760

810

700

920

630

690

690

510

510

640

540

380

500

500

Series D.

410

400

470

400

360

480

430

410

350

360

420

320

420

700

390

410

390

460

560

380

480

600

660

690

690

730

650

690

640

690

600

610

430

640

480

EMPIRE COTTON GROWING CORPORATION.

Yield In Gms.

Uniformity Trial 1935-36. Field B 5 b. (continued).

| Row No. | Series A. | Series B. | Series C. | Series D. |
|---------|-----------|-----------|-----------|-----------|
| 70 | 390 | 450 | 580 | 440 |
| 71 | 340 | 680 | 490 | 400 |
| 72 | 370 | 410 | 490 | 470 |
| 73 | 450 | 620 | 510 | 450 |
| 74 | 410 | 590 | 500 | 540 |
| 75 | 420 | 300 | 680 | 610 |
| 76 | 410 | 400 | 590 | 780 |
| 77 | 420 | 410 | 410 | 630 |
| 78 | 440 | 410 | 450 | 610 |
| 79 | 390 | 400 | 510 | 570 |
| 80 | 400 | 340 | 400 | 590 |
| 81 | 420 | 420 | 400 | 560 |
| 82 | 360 | 380 | 430 | 480 |
| 83 | 340 | 380 | 260 | 430 |
| 84 | 420 | 350 | 460 | 320 |
| 85 | 370 | 440 | 410 | 310 |
| 86 | 350 | 370 | 410 | 280 |
| 87 | 420 | 500 | 340 | 310 |
| 88 | 330 | 390 | 330 | 340 |
| 89 | 420 | 620 | 430 | 360 |
| 90 | 540 | 500 | 320 | 390 |
| 91 | 550 | 580 | 440 | 460 |
| 92 | 460 | 440 | 490 | 460 |
| 93 | 720 | 500 | 520 | 430 |
| 94 | 420 | 590 | 310 | 360 |
| 95 | 600 | 480 | 560 | 310 |
| 96 | 610 | 340 | 320 | 390 |
| 97 | 490 | 420 | 490 | 370 |
| 98 | 410 | 350 | 290 | 340 |
| 99 | 320 | 290 | 240 | 270 |
| 100 | 340 | 320 | 390 | 380 |
| 101 | 490 | 390 | 370 | 460 |
| 102 | 540 | 300 | 220 | 390 |
| 103 | 670 | 350 | 360 | 420 |
| 104 | 580 | 450 | 300 | 470 |

Yield in Gms. Uniformity Trial 1935-36. Field B 5 b. (continued).

| Row No. | Series A. | Series B. | Series C. | Series D. |
|---------|-----------|-----------|-----------|-----------|
| 105 | 560 | 430 | 370 | 450 |
| 106 | 690 | 470 | 290 | 430 |
| 107 | 660 | 430 | 410 | 300 |
| 108 | 910 | 410 | 470 | 320 |
| 109 | 740 | 480 | 370 | 420 |
| 110 | 630 | 430 | 360 | 500 |
| 111 | 710 | 490 | 410 | 540 |
| 112 | 590 | 420 | 440 | 410 |
| 113 | 570 | 190 | 300 | 580 |
| 114 | 490 | 340 | 270 | 530 |
| 115 | 620 | 440 | 220 | 430 |
| 116 | 430 | 400 | 260 | 370 |
| 117 | 450 | 430 | 280 | 300 |
| 118 | 390 | 410 | 250 | 350 |
| 119 | 350 | 340 | 220 | 410 |
| 120 | 200 | 370 | 260 | 270 |
| 121 | 310 | 400 | 350 | 420 |
| 122 | 160 | 380 | 280 | 410 |
| 123 | 270 | 320 | 390 | 460 |
| 124 | 310 | 490 | 650 | 490 |
| 125 | 460 | 460 | 500 | 450 |
| 126 | 410 | 540 | 480 | 500 |
| 127 | 380 | 420 | 650 | 540 |
| 128 | 390 | 510 | 640 | 570 |
| 129 | 440 | 600 | 750 | 670 |
| 130 | 450 | 480 | 630 | 590 |
| 131 | 440 | 520 | 620 | 510 |
| 132 | 620 | 350 | 440 | 370 |
| 133 | 620 | 400 | 520 | 480 |
| 134 | 540 | 570 | 390 | 370 |
| 135 | 750 | 590 | 400 | 380 |
| 136 | 690 | 650 | 420 | 360 |
| 137 | 450 | 560 | 540 | 300 |
| 138 | 640 | 550 | 550 | 380 |

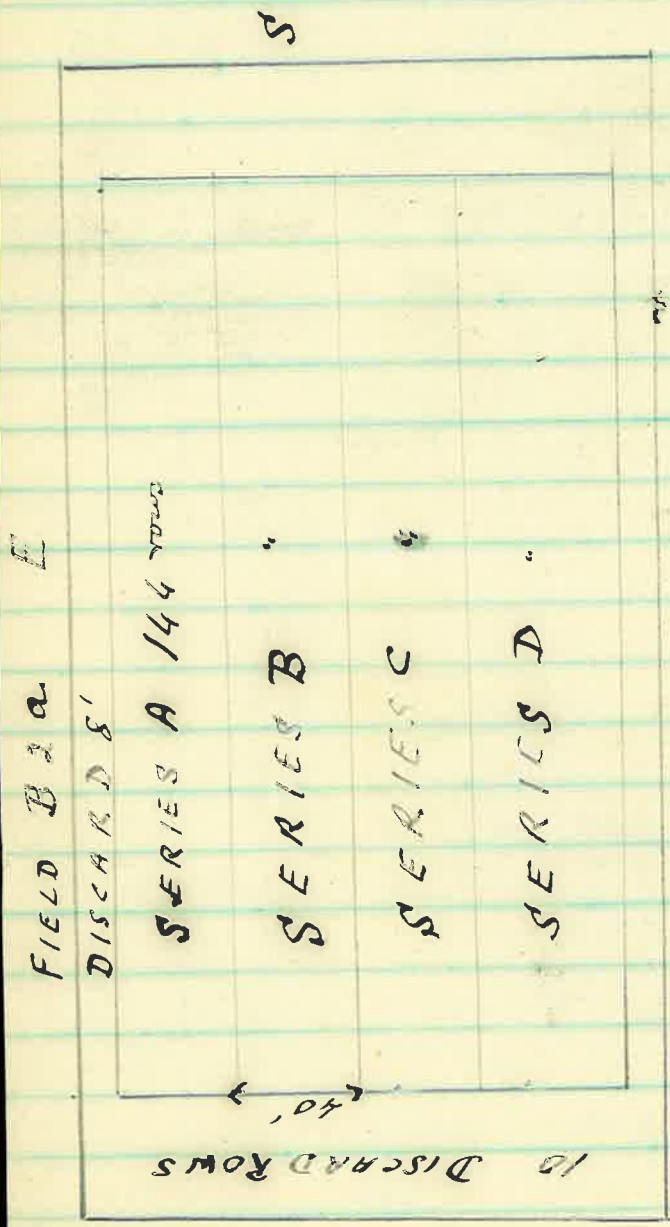
EMPIRE COTTON GROWING CORPORATION.

Uniformity Trial 1935-36. Field B 5 b. (continued).

Yield in Gms.

| | Series A. | Series B. | Series C. | Series D. |
|---------|-----------|-----------|-----------|-----------|
| Row No. | | | | |
| 139 | 710 | 640 | 430 | 380 |
| 140 | 660 | 490 | 580 | 380 |
| 141 | 630 | 600 | 490 | 360 |
| 142 | 650 | 600 | 450 | 390 |
| 143 | 690 | 610 | 380 | 610 |
| 144 | 540 | 580 | 530 | 560 |





FIELD B56 was divided up into
30' units in the same way as above
field B2a.

D. MacDonell



| | | | | |
|---------|----|---------|--------|--------------------|
| SS | 15 | 184,291 | 12,286 | SE = 110.8 = 41.3% |
| "cols." | 3 | 112,053 | | |
| Res. | 12 | 42,238 | 6,010 | SE = 74.6 = 28.9% |
| "rows." | 3 | 29,948 | | |
| Res. | 9 | 42,290 | 4,698 | SE = 68.5 = 25.5% |

Plots of 2 rows x 150'

| | | | | |
|----|--------|-------|----------|-------|
| 15 | 54,208 | 3,814 | SE 61.76 | 14.5% |
| 3 | 43,358 | | | |
| 12 | 13,850 | 1,154 | 33.97 = | 7.69% |

Plots of 8 rows x 40'

| | |
|----|---------|
| 15 | 343,042 |
| 3 | 43,358 |
| 12 | 329,684 |
| 3 | 267,142 |
| 9 | 52,542 |

2x4 best of the $\frac{1}{39}$ plots