# ARC Wheat Establishment Trial *2000/01*


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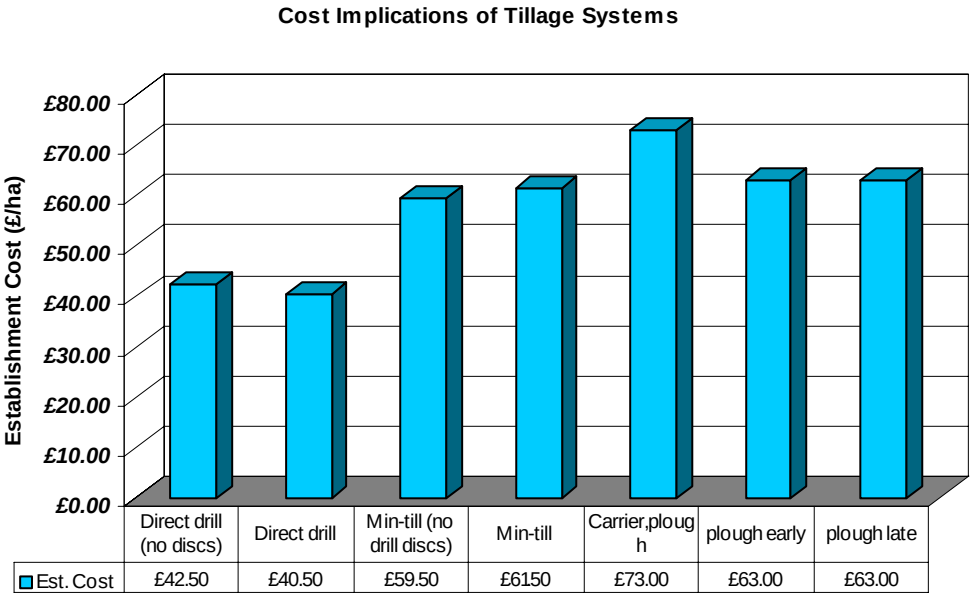
## BACKGROUND

- At the time of this trial, non-inversion tillage was growing in popularity, as UK farmers sought ways to reduce the cost of crop establishment.
- Vaderstad had recently launched the 'Carrier' and were suggesting farmers could work at shallow depths, perhaps with 2 or 3 passes to gain an effective stale seedbed.
- Vaderstad commissioned this trial to evaluate the usefulness of the Carrier for crop establishment.
- ARC formatted and coordinated the trial for Vaderstad.

## METHOD

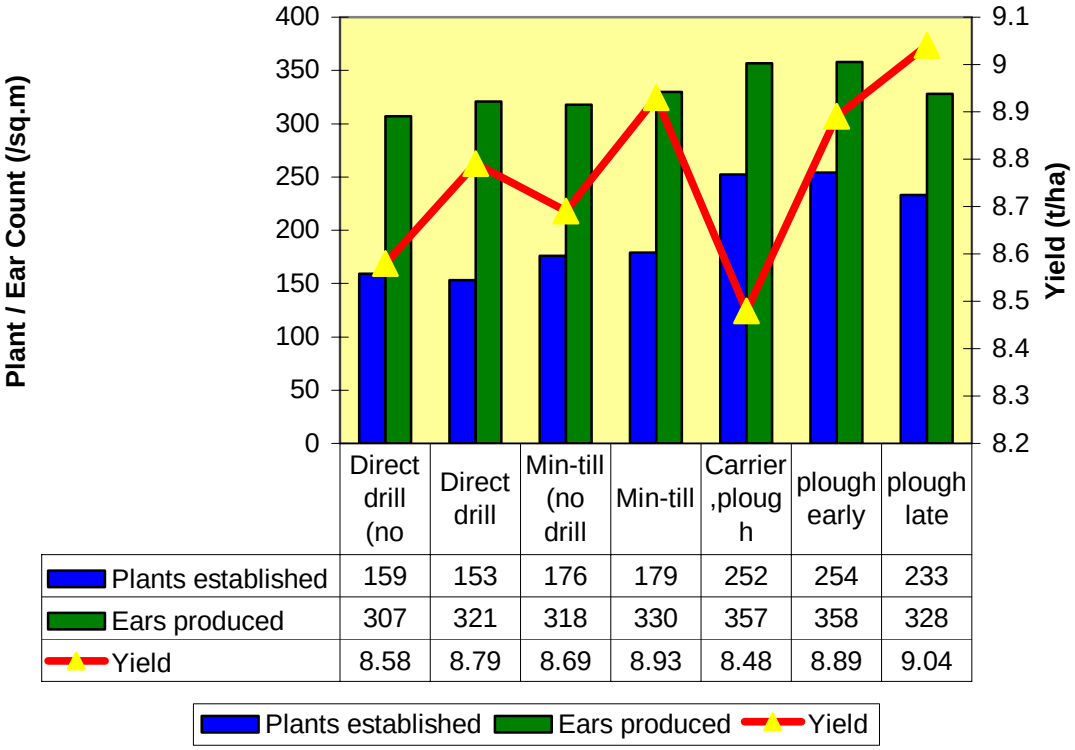
- The trial was performed in replicated plots over one year only.
- Soil type: light land/ chalk
- Seedrate: 350 seeds per sq.m
- Sowing Date: 17-10-01
- Vaderstad provided machinery and operators for the drill and Carrier.
- A wheat price of £75/tonne was used for all financial calculations.
- Replicated plots were set up with treatments as follows:
  1. Direct drill (with front discs out of work)
  2. Direct drill (front discs used)
  3. Min-till (with front discs out of work)
  4. Min-till (front discs used)
  5. Carrier followed by plough
  6. Plough only (early)
  7. Plough only (late)



## RESULTS

1. The crop yields were less varied than expected.
2. The highest yield was 9.04 t/ha and was produced by the late ploughed plots. However, this did not produce the best financial return in terms of margin over cost of crop establishment.
3. The best financial return was achieved by the direct drilled plot where the system disc was used at the time of drilling.
4. Use of the Carrier pre-ploughing gave the least economical performance of all, and actually appeared to have a detrimental effect on final crop yield.

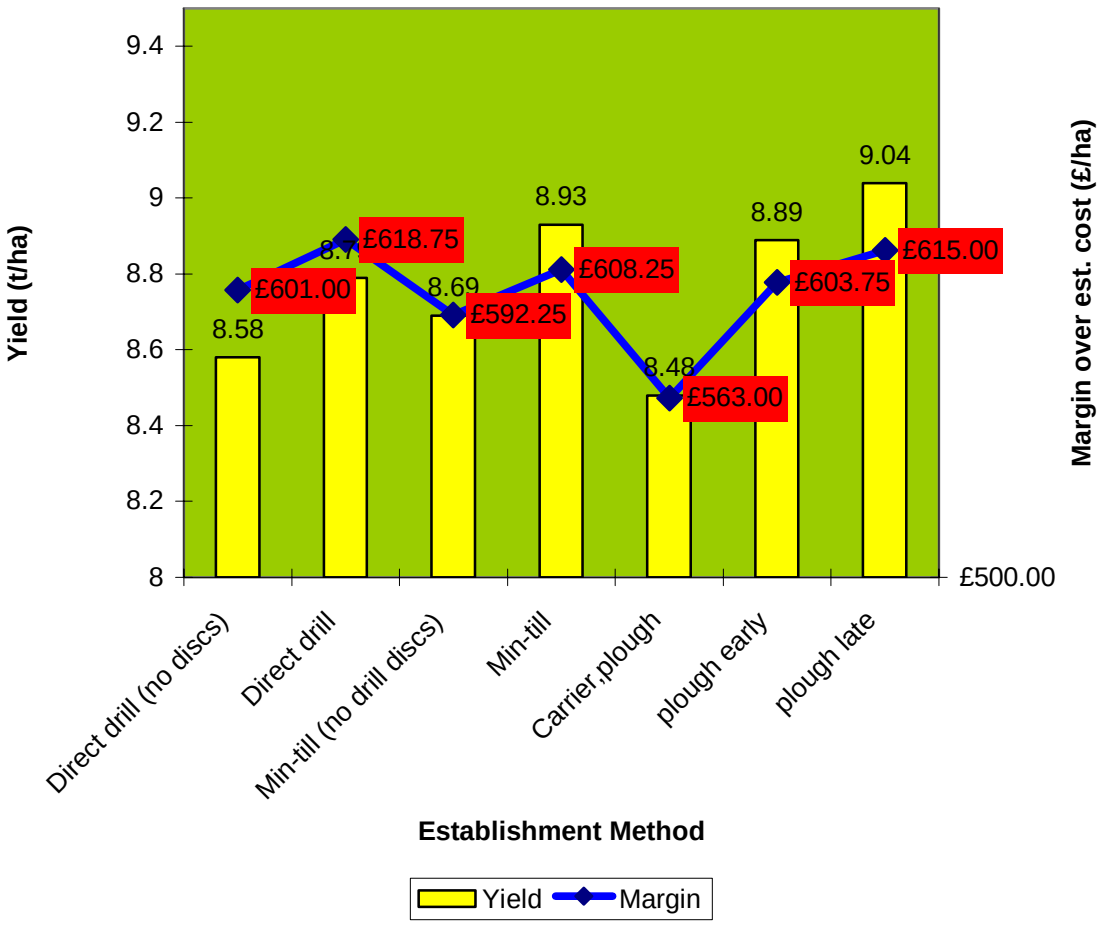
**Plant Establishment and Resultant Yield from ARC Trial 2000-01**




| | Direct drill (no | Direct drill | Min-till (no drill | Min-till | Carrier ,plough | plough early | plough late |
|---|---|---|---|---|---|---|---|
| Plants established | 159 | 153 | 176 | 179 | 252 | 254 | 233 |
| Ears produced | 307 | 321 | 318 | 330 | 357 | 358 | 328 |
| Yield | 8.58 | 8.79 | 8.69 | 8.93 | 8.48 | 8.89 | 9.04 |

# 2nd Wheat Yield Variations according to Establishment Method

*(Results from ARC replicated trials 2001)*




## CONCLUSIONS

1. It should not be assumed that reduced cultivations give a reduced crop yield.
2. Sometimes reducing the cultivation level can actually improve final crop yield.
3. The highest yielding crop is not always the most financially rewarding crop.