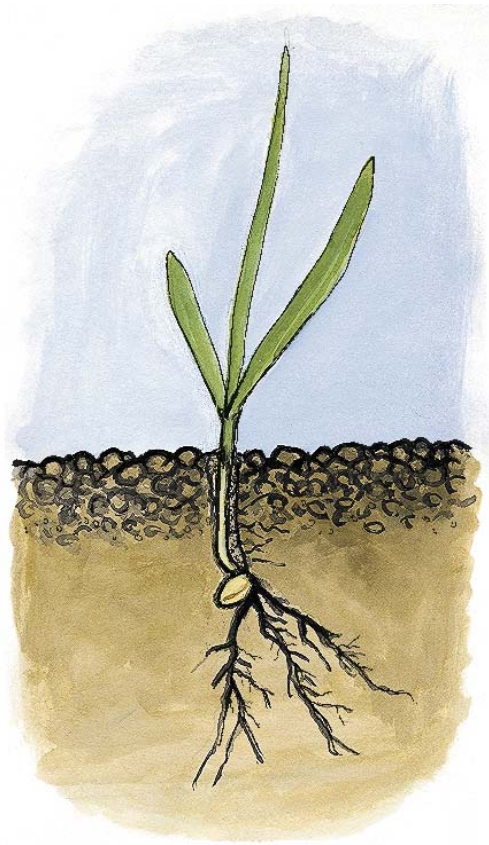


# ADAS Wheat Establishment Trial *2000/01*



Trial Co-ordinator: ADAS, Jock Willmott

## **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.
- Simba were marketing their 'Ecotillage' brand where farmers were encouraged to avoid ploughing at any time. Simba encouraged the use of heavy discs, or a tine/disc combination machine (Simba Solo or Mono) to produce a stale seedbed for weeds, and restore soil structure in one pass before spraying and drilling.
- 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. A subsoiler was recommended for soil structural repair, with ploughing generally retained within the rotation.
- Jock Willmott from ADAS was concerned that the increased reliance on non-inversion tillage could have a detrimental effect on grass weeds, particularly black-grass.
- This trial was initiated by ADAS to assess the effect of blackgrass control under a range of different crop establishment regimes.

## **METHOD**

- The trial was performed on a field scale, non-replicated over one year only.
- Wheat was planted into chopped straw following a 1<sup>st</sup> wheat crop.
- The host farmer was Mr John Errington, Bedfordshire.
- Soil type: Clay
- The host farmer prepared the plots according to ADAS criteria as follows:
  - 1) Plough and Press
  - 2) Disc and press x 2
  - 3) Simba Mono x 1, followed by Disc and press x 1
  - 4) Mono and press x 1
  - 5) Disc and press x 1
- Vaderstad Ltd provided a tractor, 6m system disc drill and operator to drill the plots.
- All plots were sown in wet conditions on the same day (4<sup>th</sup> October 2000).

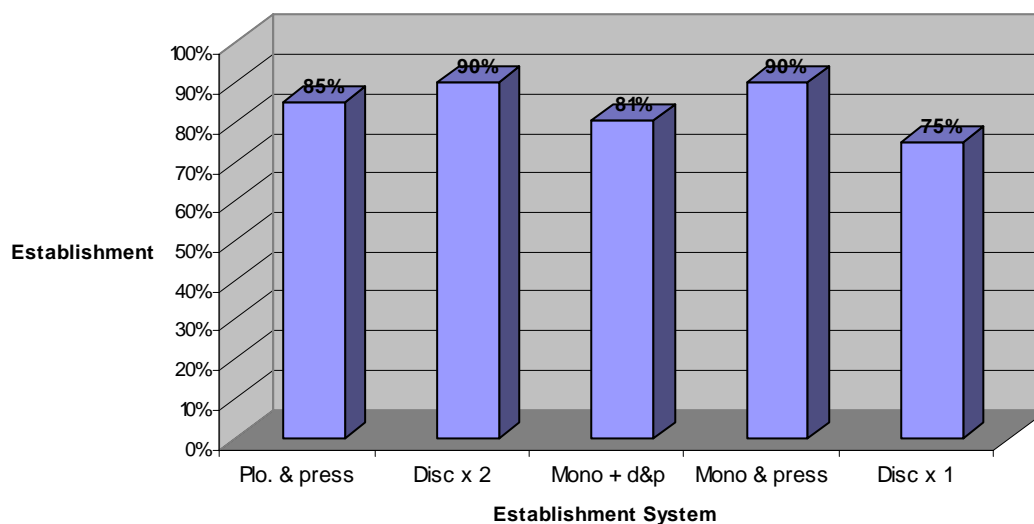
## **RESULTS**

### **1) Crop Establishment**

- The target plant population to be established was 180 plants per metre.
- A seedrate was chosen according to the anticipated established percentage.
- In all cases, the establishment was higher than expected by ADAS.
- Even the poorest establishment gave a plant population higher than the target.

	Seedrate (kg/ha)	Seed Number (per sq.m)	Target Population	Plants Established / m	Percentage Establishment
Plo. & press	110	244	180	208	85%
Disc x 2	120	266	180	240	90%
Mono + d&p	130	288	180	232	81%
Mono & press	120	266	180	240	90%
Disc x 1	140	310	180	232	75%

Plant Establishment under different Systems



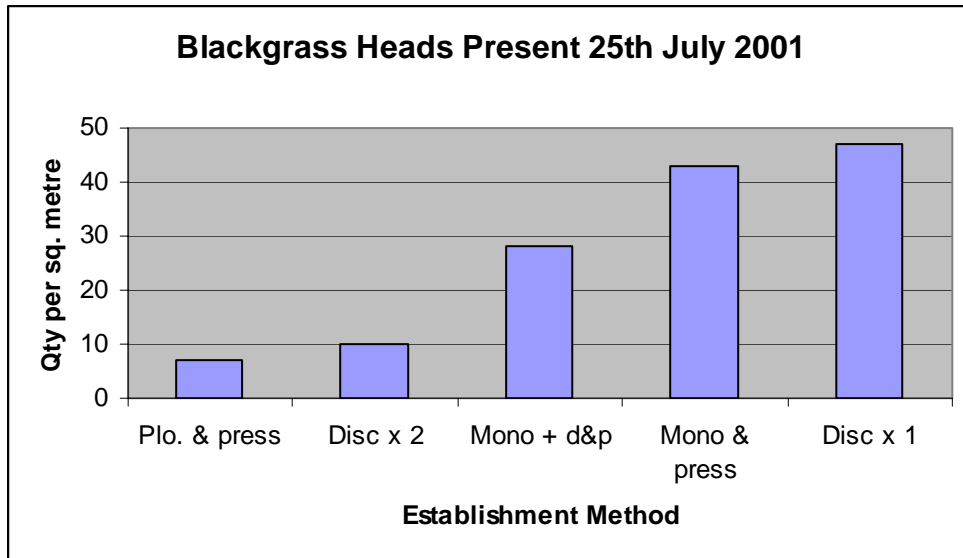
## 2) Blackgrass head counts M<sup>2</sup> Taken 25<sup>th</sup> July 2001

Count	Plough	Disc & Press x2	Mono fb Disc & Press	Mono	Shallow Disc x11
1	0	1	0	0	53
2	33	15	70	41	55
3	0	0	10	40	43
4	0	30	9	101	20
5	0	0	49	4	3
6	9	1	4	33	143
7	0	13	21	39	78
8	9	31	88	4	51
9	17	3	14	63	1
10	2	5	13	107	20
<b>Average/ M<sup>2</sup></b>	<b>7</b>	<b>10</b>	<b>28</b>	<b>43</b>	<b>47</b>

Comments:

- Not a replicated trial
- Even distribution of blackgrass across plots
- Resistance: RR Target Site : S/R EMR
- All plots sprayed off pre drilling

- Second Wheat drilled 4<sup>th</sup> October 2000
- Seed rate 110 – 130kg/ha
- All plots rolled and treated with Lexus 20g + Stomp 3.3l/ha
- All head counts taken properly by Shelly and not me!



## CONCLUSIONS

- 1) The method of crop establishment chosen can have an effect on grass weeds growing in the crop.
- 2) Sowing wheat into a poor quality seedbed with a Rapid drill can give higher-than-expected plant counts.
- 3) More work should be done before any recommendations can be made regarding crop establishment methods and their relationship to weed emergence and control.