

Nutsedge Control with Mechanical Barriers

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Organic production



Conventional: not controlled



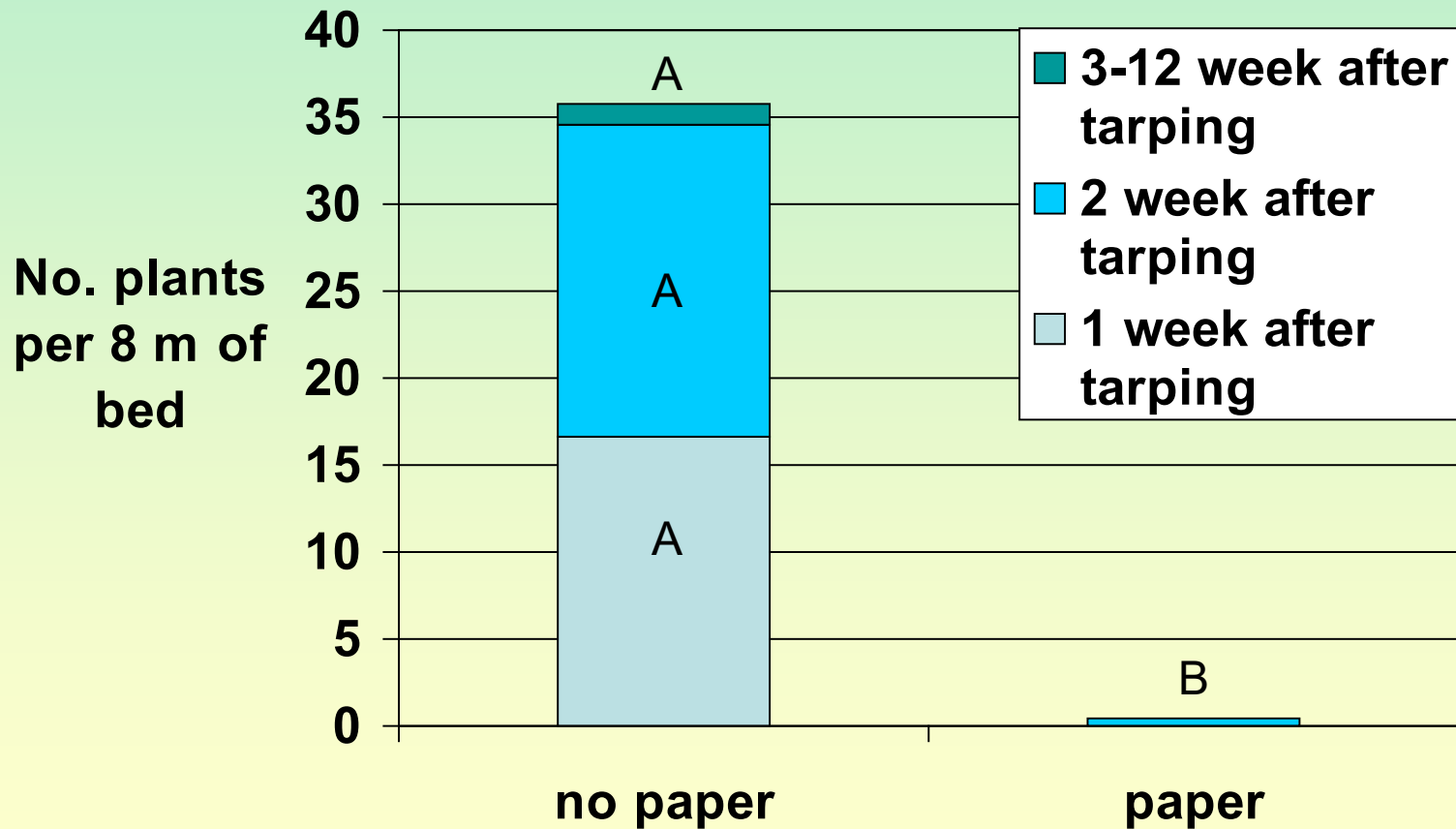
Yellow nutsedge (*Cyperus esculentus*)

- **Alternatives fumigants do not control it as well as MeBr**
- **Increase in Non-fumigated buffer zones and organic ground**
- **Spreads through the field and is not controlled by registered herbicides**
- **Increase in production in inland areas where Y.N. is established and proliferates**

Paper from 'Novovita': recycled newspaper, gypsum



Yellow nutsedge germinated through plastic, Fall 2006

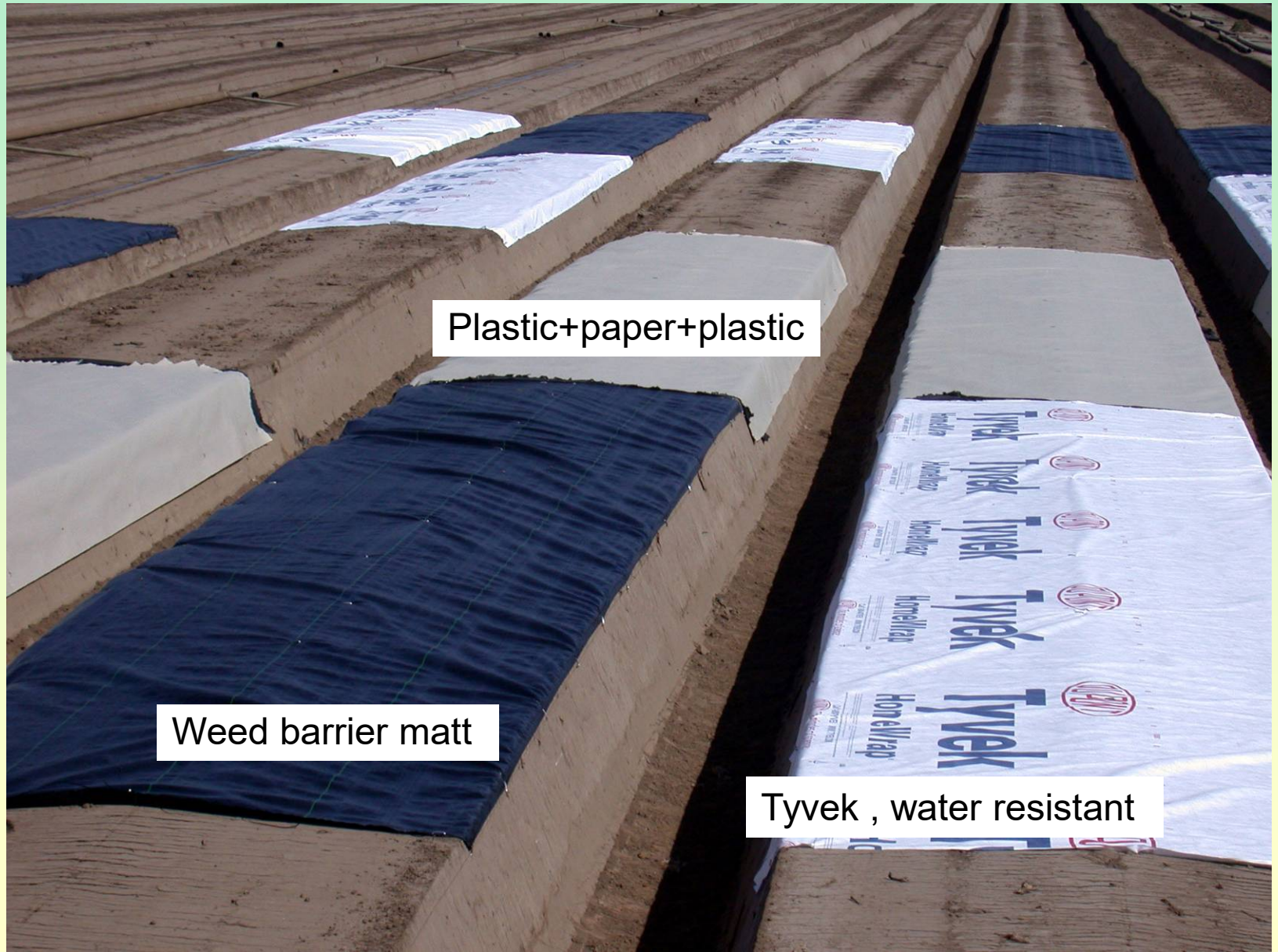


* No effect of paper on soil temp. or fruit yield

Yellow nutsedge germinated through plastic and paper+plastic, Spring 2006



2007- 2008: near 100% control season-long

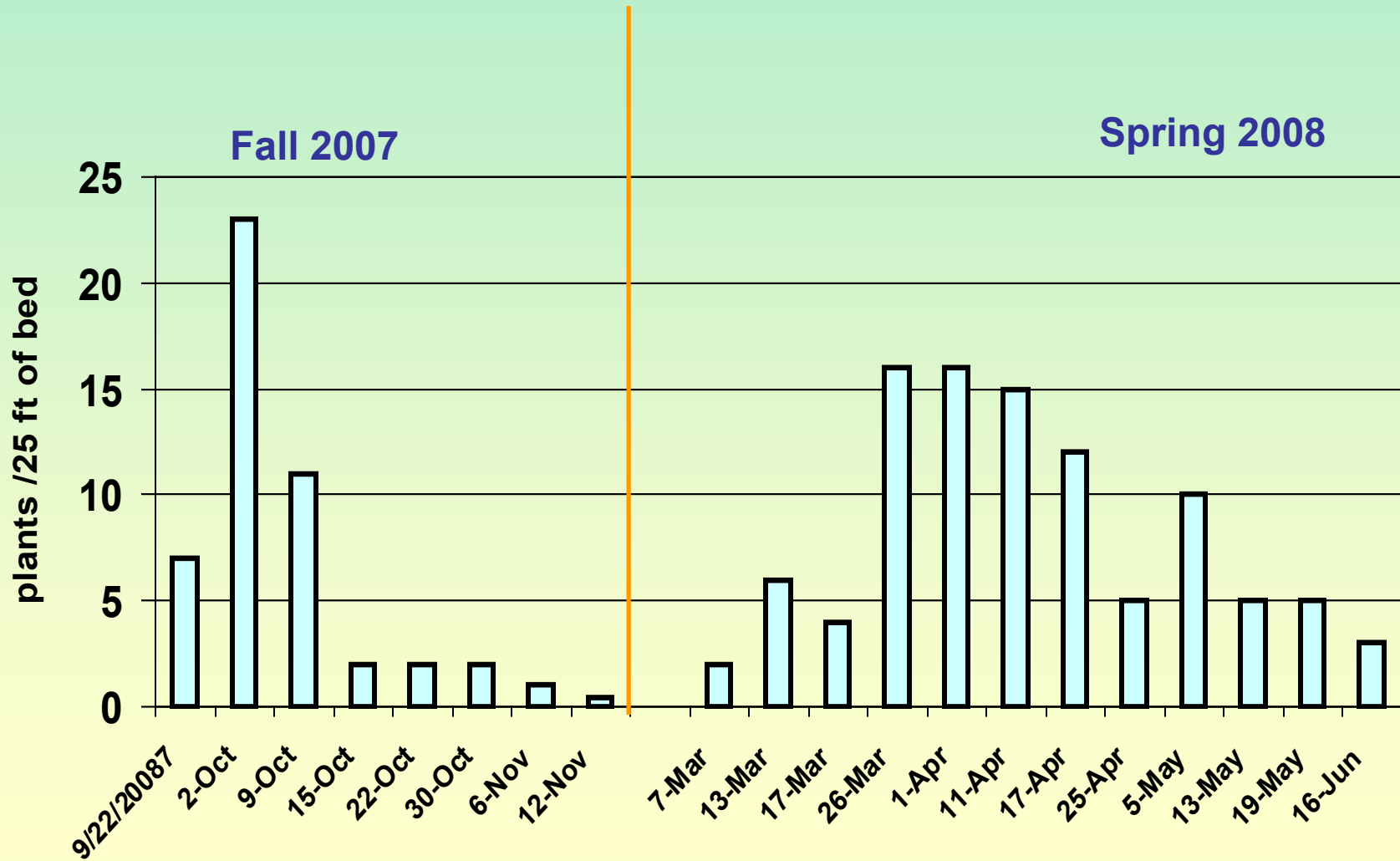


Plastic+paper+plastic

Weed barrier matt

Tyvek , water resistant

Nutsedge germination pattern in untreated control



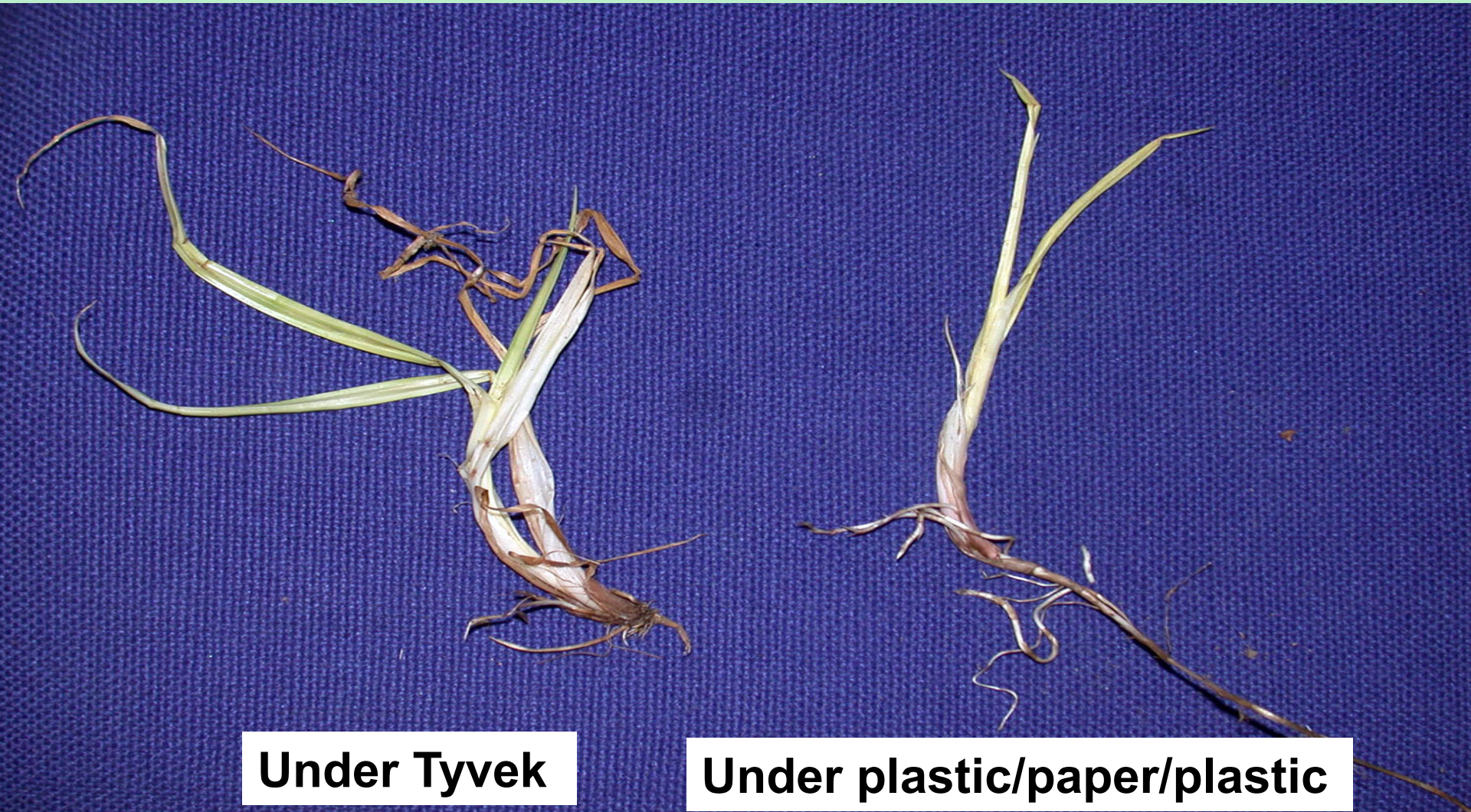
Fall

Untreated

Spring-summer



Nutsedge at the end of season



Under Tyvek

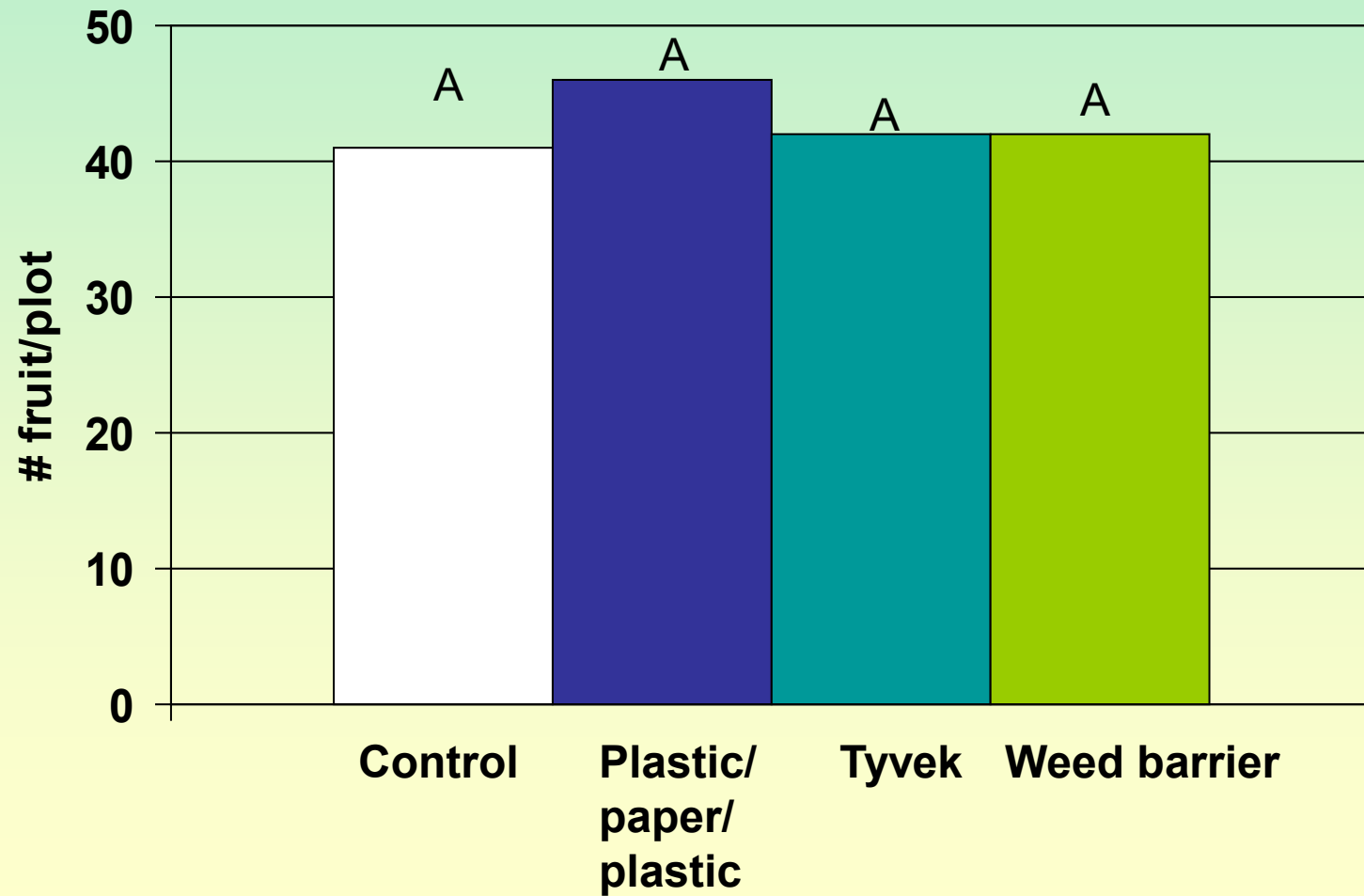
Under plastic/paper/plastic

Nutsedge at the end of season



Under regular plastic

Early strawberry yield (first 5 harvests)



Weed barrier matt may limit crown expansion

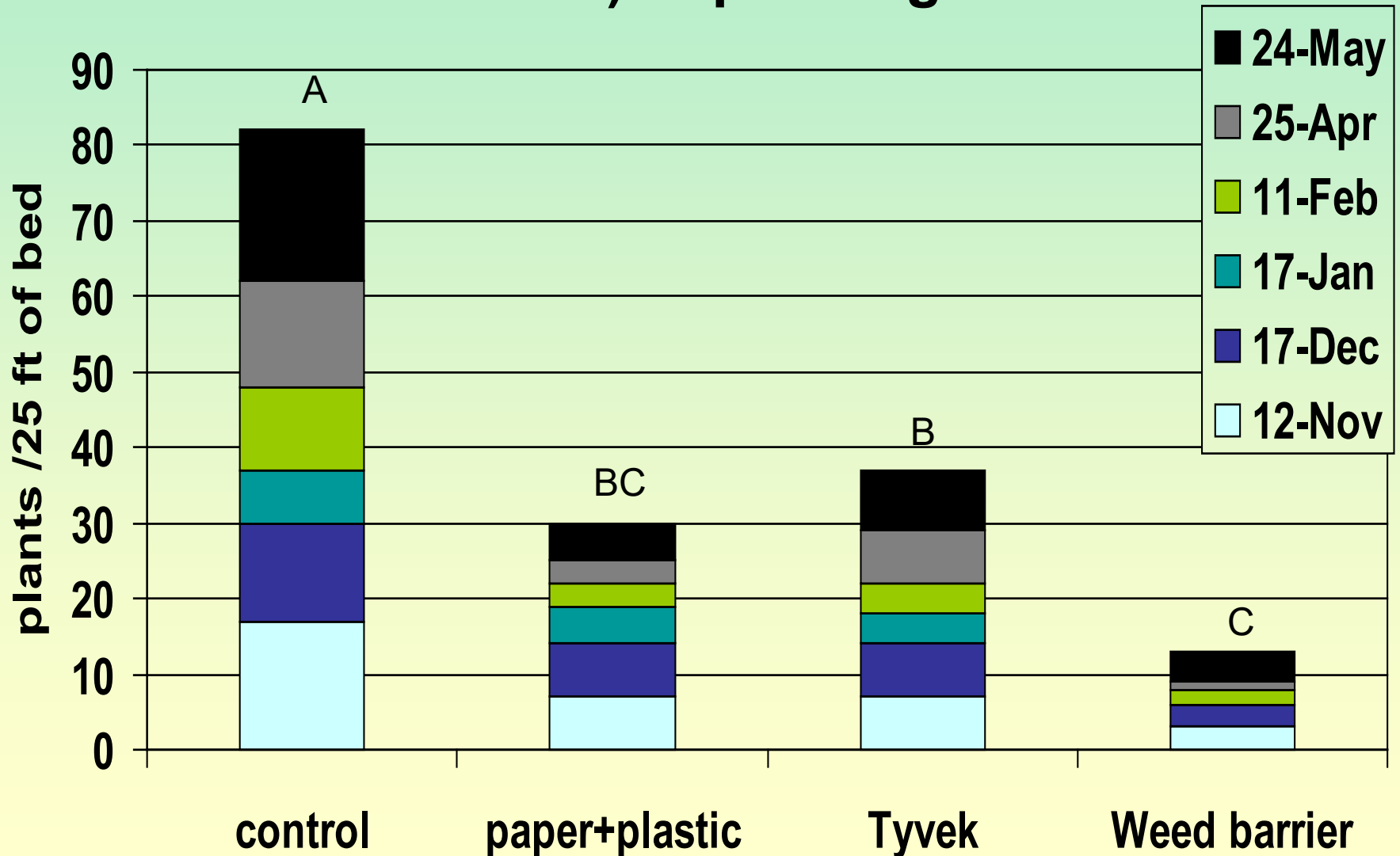


Weeding costs=\$**6,530**/acre (at 5 min/25 ft of bed and \$10/h x 18wks)

Nutsedge barriers	Costs, \$/acre
Paper+plastic+paper	500 (plastic) + 871 or 392 (paper) = 1,371 or 892
Weed barrier	4,356
Tyvek home wrap	4,709



Wind-dispersed weeds (groundsel, sowthistle and horseweed) in planting holes



Mechanical barriers

- Prevent nutsedge germination season-long
- No effect signif. on fruit yield or soil temp.
- Need to install them before or at tarping
- Weed barrier matt doesn't stretch: may limit space for crown division
- Buffer zones, organic production or other non-fumigated areas with heavy nutsedge
- Bonus: reduction in wind dispersed weeds in planting holes

Acknowledgements

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- Cal. Strawberry Commission