

# Effect of Steam Applications on Weeds in Strawberries

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# Strawberry Experiment Methods



- The four treatments were applied at 3 different time periods each.

- Steam
- Mechanical
- Hand weeding
- Untreated

- Plot size was 2 feet by 15 feet (30 square feet).
- Application dates
  - April 22, 2002
  - May 4, 2002
  - May 20, 2002
- Each treatment had 3 replicates
- Weed size at first application
  - Kochia was 2 to 4 inches tall.
  - Dandelion was 3 to 4 inches in size.
  - Downy brome was 3 to 6 inches in size.

# Sioux Weed Blaster Steamer Weed Control Device



- Uses diesel as a fuel source.
- Applies 2 gallons of water per minute which produces 320 degree F saturated steam at 250 psi.
- Holds 125 gallons of water.

# Steam Application Timings



- The first steam application was applied on April 22, 2002. Each plot was treated for 60 seconds.
- The second steam application was applied on May 4, 2002. Each plot was treated for 60 seconds.
- The third steam application was applied on May 20, 2002. Treatment time was increased to 120 seconds.

# Steam Application Timings



- Minutes after application of steam on May 20, 2002.



# Nine Days After Three Steam Applications



The Untreated Check showing kochia, dandelion and cheat grass along the strawberry beds.



The steam treatments gave poor control of kochia, fair control of dandelion and good control of cheat grass.

# Nine Days After The Third Weed Control Applications



Hand-weeded



Mechanical



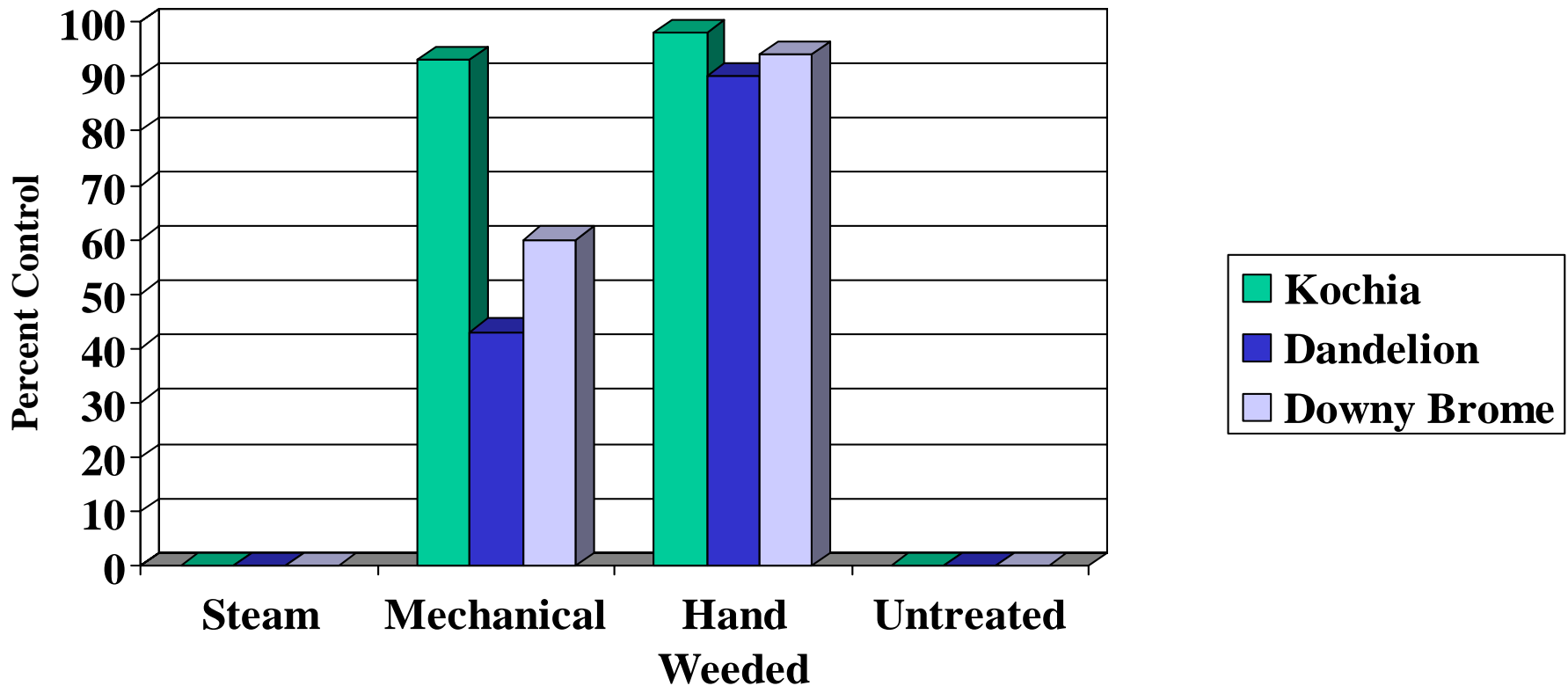
Steamed



Untreated

# Effect of One Treatment Application on Weeds Bordering Strawberry Beds

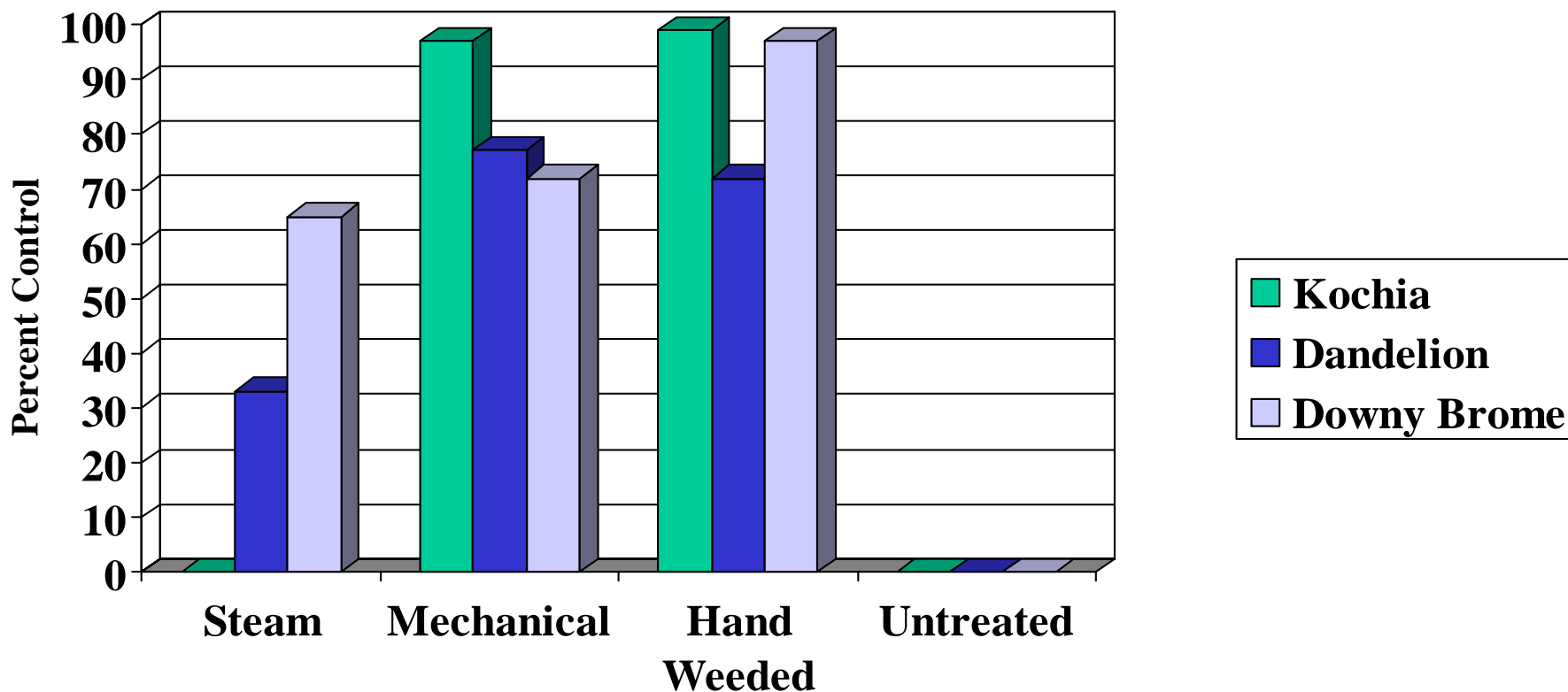
12 Days After the First Application





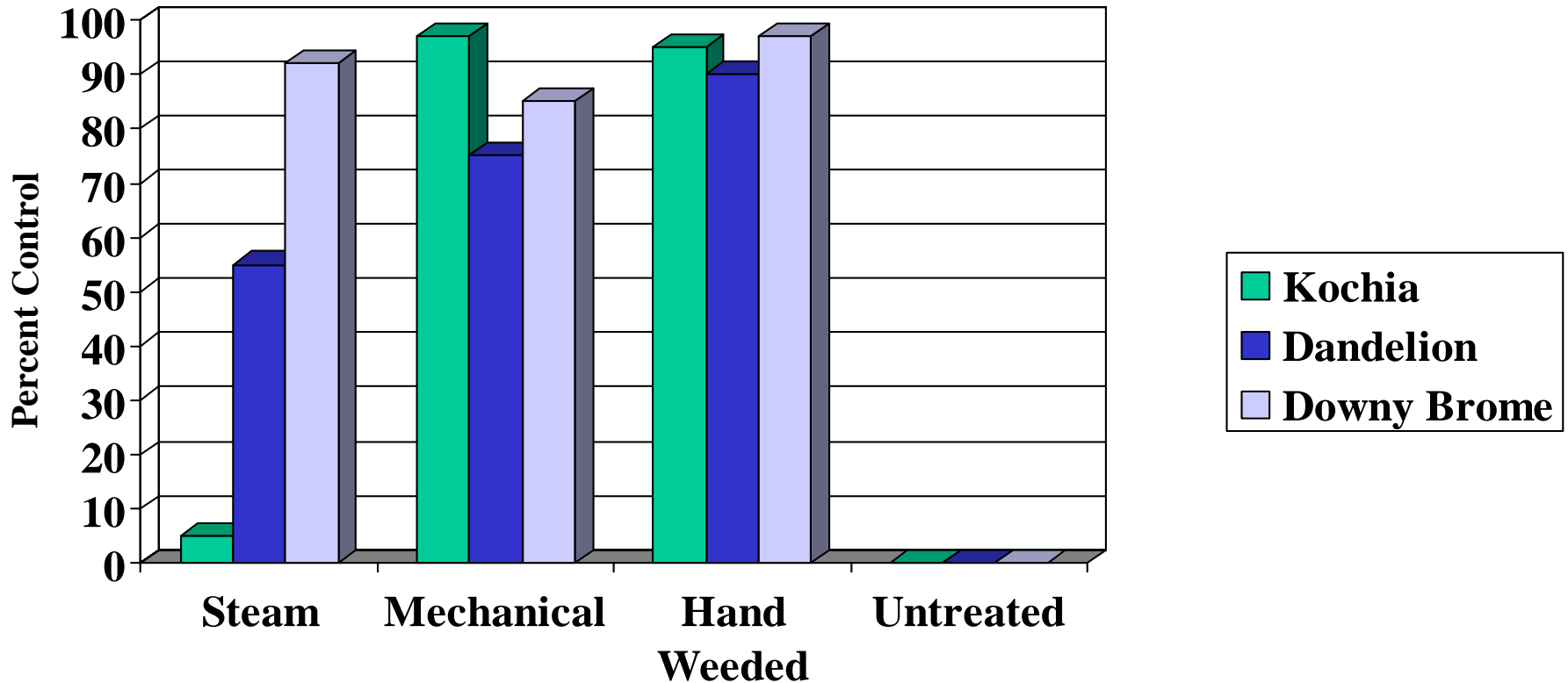
# Effect of Two Treatment Applications on Weeds Bordering Strawberry Beds

11 Days After the Second Application



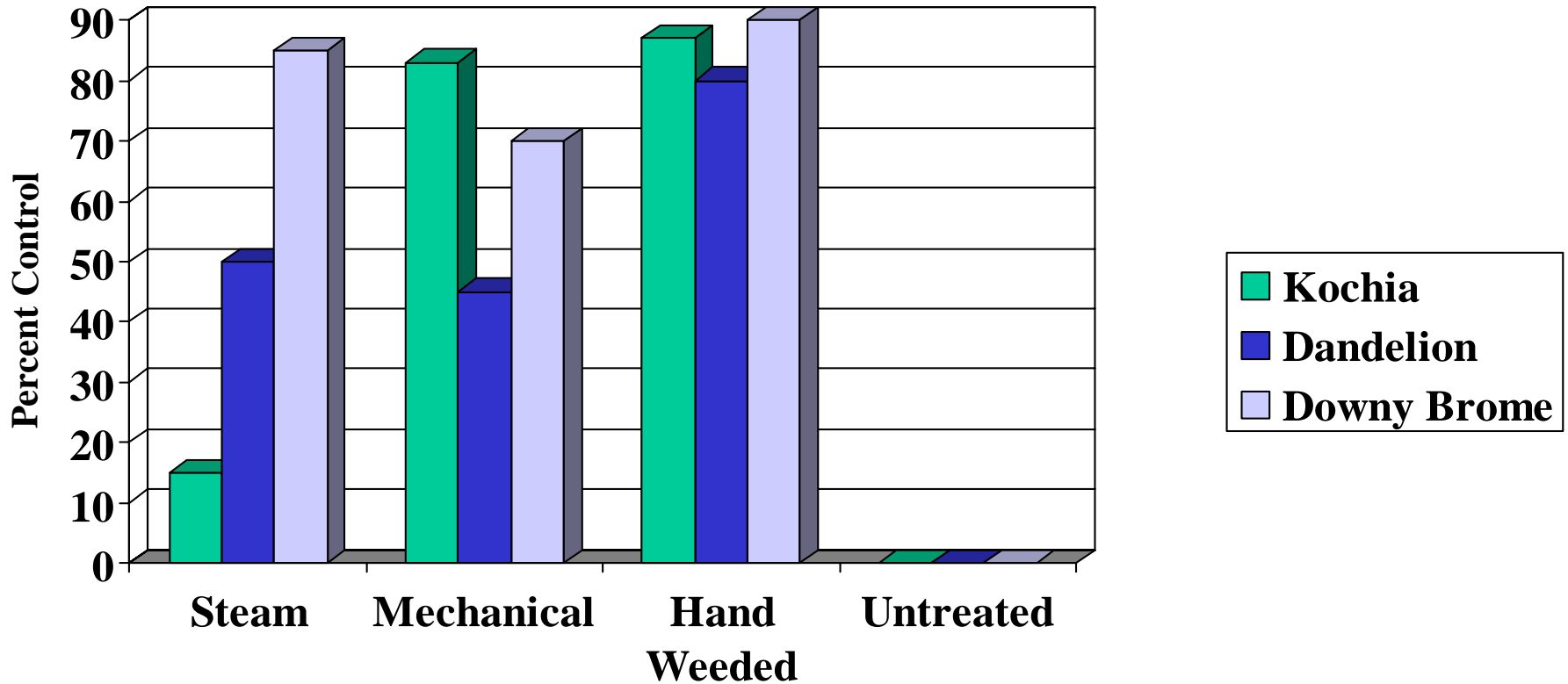
# Effect of Three Treatment Applications on Weeds Bordering Strawberry Beds

9 Days After the Third Application



# Effect of Three Treatment Applications on Weeds Bordering Strawberry Beds

25 Days After the Third Application



# Conclusion



• Steam treatments gave little to no control of kochia, fair control of dandelion and good control of downy brome 25 days following three steam applications.

- Hand-weeding three times gave the best control compared to all other treatments. It gave good to excellent control of kochia, dandelion and cheat grass.
- Twenty five days after three mechanical weedings, good control of kochia, dandelion and cheat grass was achieved.

# Steam Treatment After Application



Untreated



Treated  
With Steam

- Steamed plants showed a mild wilting effect immediately after application. The wilting symptoms disappeared within 2 hours of application.
- Kochia applied to be only mildly affected by the steam treatment. Dandelions were stunted and slowed the development of flowering. Cheat grass was significantly affected and caused early senesce.