1. **Variety Trials** - 185 lines from France, Germany, Rutgers, N.J., Washington, and Canada being assessed
   - older trials harvested from third year on and detailed data records kept

2. **Individual Harvest Records** - made during harvest seasons of 1980 and 1981 on selected plants in the variety trials
   - recorded number and size of spears produced each day
   - provides information on plant growth and forms a basis for selecting high-yielding parents for breeding programme

3. **Genetic Bank** - superior individual plants collected from various sources, tissue cultured and retained in a plot at CRS, in the greenhouse, and as stock plants in tissue culture
   - these plants are available for further evaluation, for breeding, and for tissue culture as the need arises
   - includes 2 supermales from Rutgers, N.J.

4. **Seedbeds**
   - **Viking 2G** - planted 1975 and 1976 from selected Viking seed
     - seed harvested from 1978 on
   - **Viking-Lucullus** - planted 1980 from Viking 2G and German all-male Lucullus seed
     - Viking males are being rogued out to produce hybrid seed only
   - **Clonal Hybrids** - planted 1981 from tissue culture clones
     - selected Rutgers males and a variety of selected females
     - progeny should be more uniform and show hybrid vigour
   - **Jersey Centennial** - to be planted 1982 from tissue culture clones
     (one male and one female), selected plants from Rutgers, N.J.
   - **Harems** - 9 small seedbeds planted 1981 from tissue culture clones
     to produce hybrid seed for testing

5. **Tissue Culture** - a method of vegetative propagation to multiply individual plants selected for the breeding programme
   - have cloned over 100 selected individuals
   - some grow more readily than others in culture
   - takes 8 to 12 months from spear in field to soil-established young plants
   - 2700 rooted plants potted in soil this spring with over 80% survival
   - more selected individuals from the new variety trials are being cloned this summer
6. **Anther Culture** - many rooted plantlets produced from callus derived from anthers
   - these will be planted in the greenhouse for further testing to determine if a homozygous supermale or female has been produced

7. **Breeding Programme** - a few crosses made 1979 and progeny planted 1980
   - more crosses made 1980 in field and greenhouse, progeny planted 1980 and 1981
   - early observations indicate hybrids show greater vigour than Viking
   - will take at least 5 years for accurate assessment of progeny, including 3 years of harvest
   - superior crosses can be repeated from original parents or clones in genetic bank, and parents can be multiplied through tissue culture for a commercial seedbed

8. **Future Projects** - production of larger quantities of hybrid seed for testing across Canada
   - comparison of tissue culture plants vs. seedling transplants in establishing a new field
   - screening tissue culture plants for resistance to fusarium wilt