The Breeding and Propagation of Intersectional Peonies:
A Pictorial Review of my 15 Year Intersectional Breeding Program

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Yellow Peonies and More

Smith Family Yellow (Smith, 2002)
Intersectional Hybrids are produced by crossing herbaceous peonies (mostly lactiflora varieties from section paeonia) with tree peonies (mostly lutea hybrids from section moutan).

Reverse cross (tree peony x herbaceous) remains exceedingly difficult.

- Long thought to be impossible, the cross was first successfully made by Toichi Itô around 1949 and the resulting hybrids were discovered around 1967 by Louis Smirnow.

- Sterile Triploids – 2 parts tree peony – 1 part herbaceous
- Tree peony flowers & foliage on mostly herbaceous plants
Three Types of Inter-sectional Peonies

Genus *Paeonia*

- **Herbaceous Peonies**
  - *Section Paeonia*
  - *American Herbaceous Peonies*
    - *Section Onæpia*
      - Type 2
      - Type 3
      - Type 1 = Itō type hybrids

- **Tree Peonies**
  - *Section Moutan*
Genus Paeonia

- Herbaceous Peonies
  - Section Paeonia
    - American Herbaceous Peonies
      - Section Onæpia
    - Dissectifoliae
  - Foliolatae

- Tree Peonies
  - Section Moutan
    - Delavayii
    - Vaginatae

- Itô Type hybrids
  - "lutea" hybrids
  - p. lactiflora
Intersectional Peonies and Seedless Watermelons?

Intersectional hybrids are rare in the plant world but triploids are not.

- Virtually all seedless fruits are sterile triploids
  - Seedless Oranges and other citrus fruits
  - Seedless Watermelon
  - Edible Bananas (non seedless bananas are inedible)
  - Etc.
This talk will emphasize the And More in Yellow Peonies and More

- Bright yellow intersectionals such as Bartzella & Garden Treasure are well known, expensive and are still highly sought after.

The non-yellows are far less known and greatly under-appreciated. These include:

• Beautiful Pinks
• Gorgeous Pink and Cream Blends
• Stunning Pink Picotees
• And more
Characteristics of the Pink and Yellow “Blends”

The “blends” mature quite handsomely

Pink and yellow “blends” are created by red overlaid on top of yellow – colors do not mix - most pronounced when first open

• Red pigment
  – Fades more quickly than yellow
  – Often the red remains on the outer most petals or the outer edge of all petals creating a “picotee” effect

• Yellow pigment matures in two different ways
  – In many cases, the yellow slowly fades to pale yellow, cream or white
  – In other cases, the yellow intensifies after opening

• Result: Ever-changing & often stunning combinations of pink and yellow or cream
## Seedling Identification Nomenclature

<table>
<thead>
<tr>
<th>Culivar Name</th>
<th>Seedling ID #</th>
<th>Garden Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith Family Jewel</td>
<td>IC-95-17</td>
<td>R2P23</td>
</tr>
<tr>
<td>Pink Double Dandy</td>
<td>IC-95-39</td>
<td>R4P8</td>
</tr>
<tr>
<td>Unnamed</td>
<td>IC-94-11</td>
<td></td>
</tr>
</tbody>
</table>

IC = Intersectional Cross, XX = Year plant first grew (cross made in previous year)
Flower Color Distribution

Distribution of my intersectional hybrids by flower color

- Bright Yellow = 49%
- Light Yellow = 15%
- Near Whites = 4%
- Pinks = 13%
- Pink and Yellow Blends = 17%

Total Sample = 82

Non-yellows make-up about 1/3 of the hybrids
Yellow Peonies and More

Smith Family Jewel (Smith, 2002)
Yellow Peonies and More

Smith Family Jewel [Smith, 2002]
Smith Family Jewel
Pretty to the Very End

Smith Family Jewel
First day flower

Smith Family Jewel
Same flower 4 days later
Yellow Peonies and More

Smith Family Jewel
Flower Color Variation with Time

Flower Form & Color Variations of Smith Family Jewel
Yellow Peonies and More

Yankee Doodle Dandy (Smith, 2002)
Pinks on Parade

Reverse cross hybrid from (Age of Gold x Martha W.)

Reverse Magic (Smith, 2002)
Pinks on Parade

Scrum-didley-umptious (Smith, 2002)
Pinks on Parade

Berry Garcia (Smith, 2004)
Pinks on Parade

Berry Garcia (Smith, 2004)
Pinks on Parade

Magical Mystery Tour (Smith, 2002)
Pinks on Parade

Magical Mystery Tour (Smith, 2002)
Pinks on Parade
Pinks on Parade

R₂P₇
Unnamed Seedlings
Unnamed Seedlings

R₃P₁₃
Unregistered Seedlings

Berry Nice
New 2004 Seedling

R5P17 (Martha W. x D-67)
Yellow Peonies and More

Impossible Dream (Smith, 2004)
(P. suffruiticosa x P. lactiflora)
Reverse Cross Intersectional Hybrid

Impossible Dream (Smith, 2004)
Yellow Peonies and More

Impossible Dream, semi-double form
Beautiful Buds & Opening Flowers

R3P13
Opening bud

R3P13
Opening flower
Flower Color Distribution

Distribution of my intersectional hybrids by flower color

- Bright Yellow = 49%
- Light Yellow = 15%
- Near Whites = 4%
- Pinks = 13%
- Pink and Yellow Blends = 17%

Total Sample = 82

Near Whites make-up less than 5% of the hybrids
Yellow Peonies and More