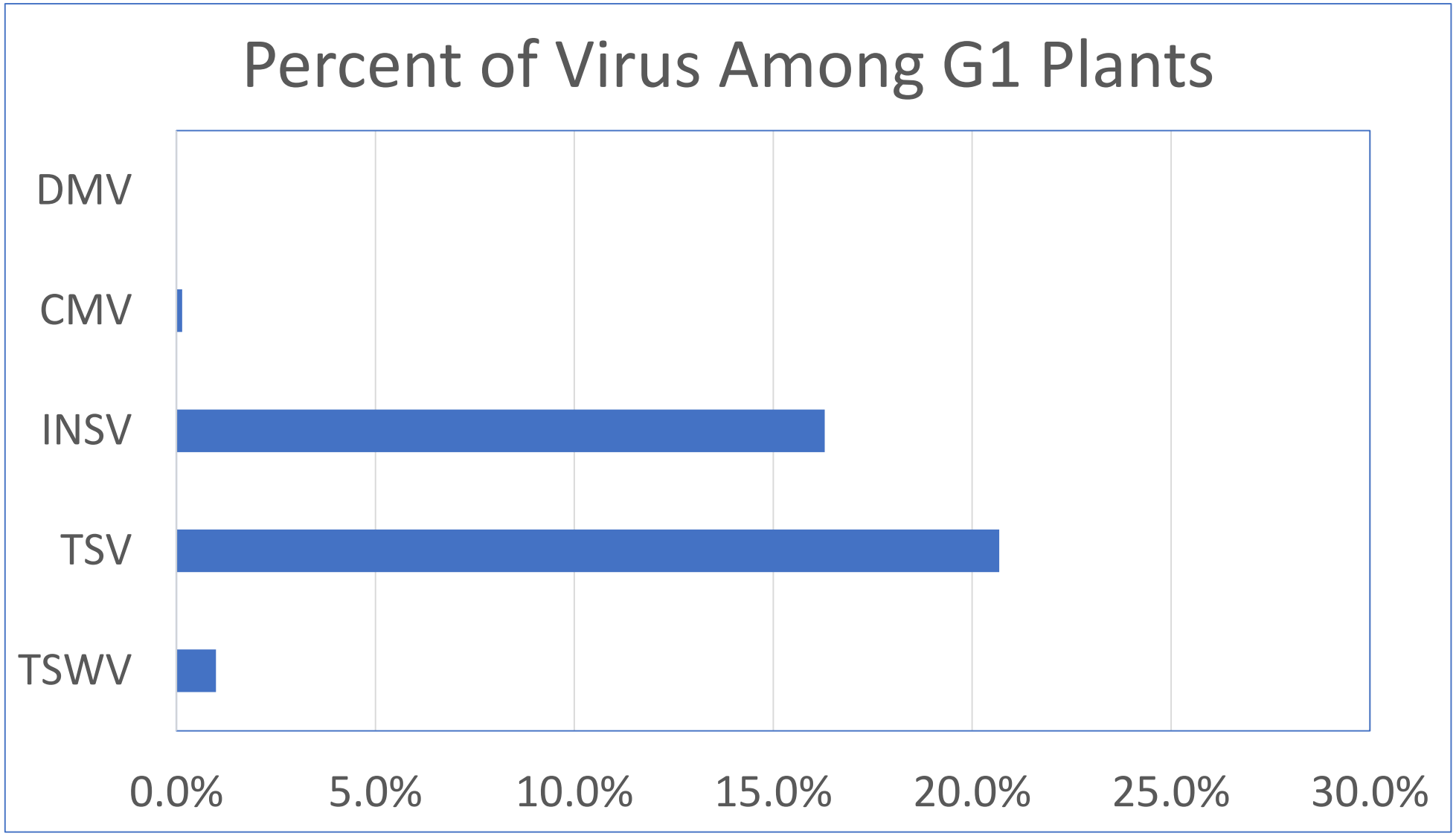
Summary of Virus Tests

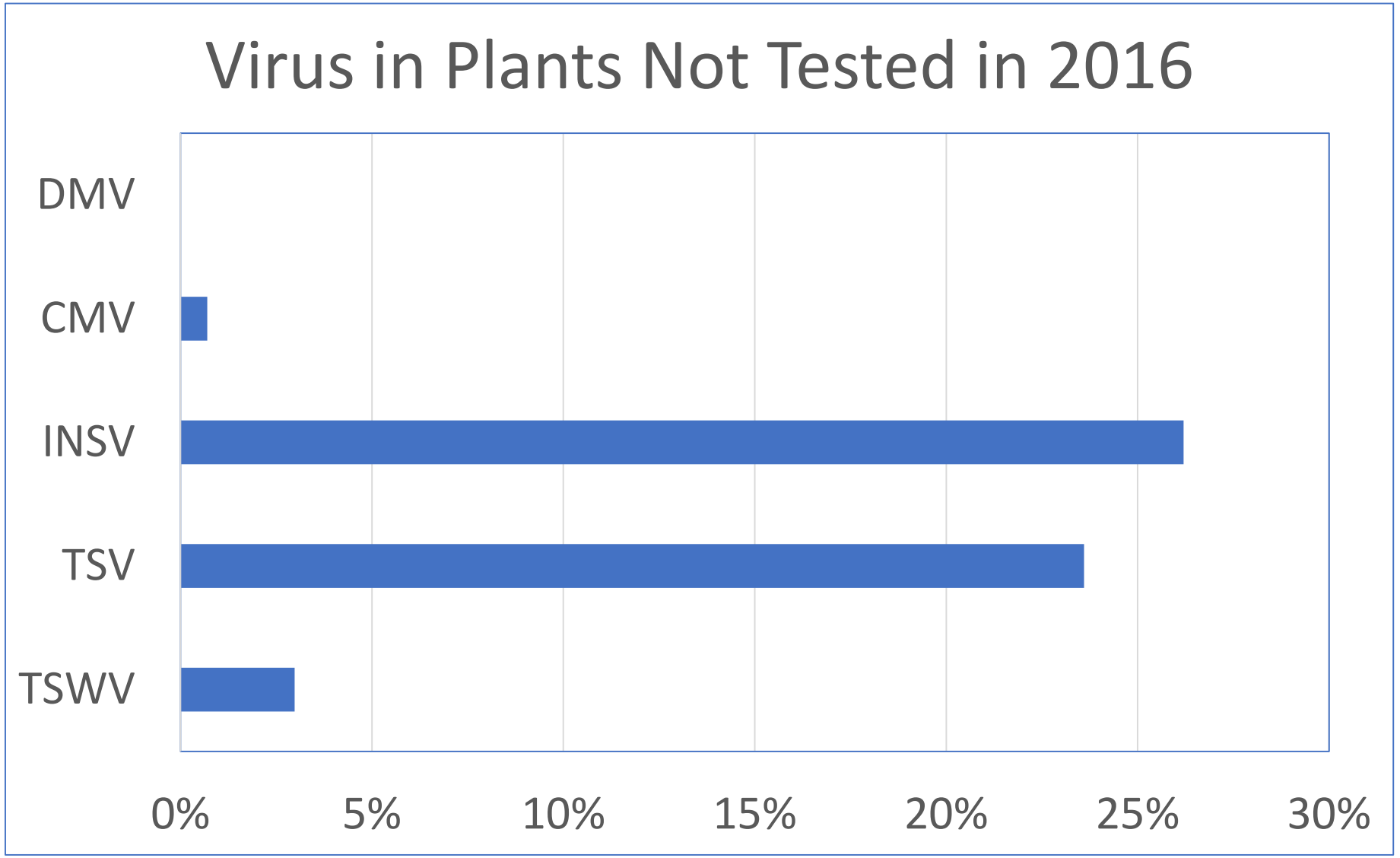
ADS Spring Meeting 2018

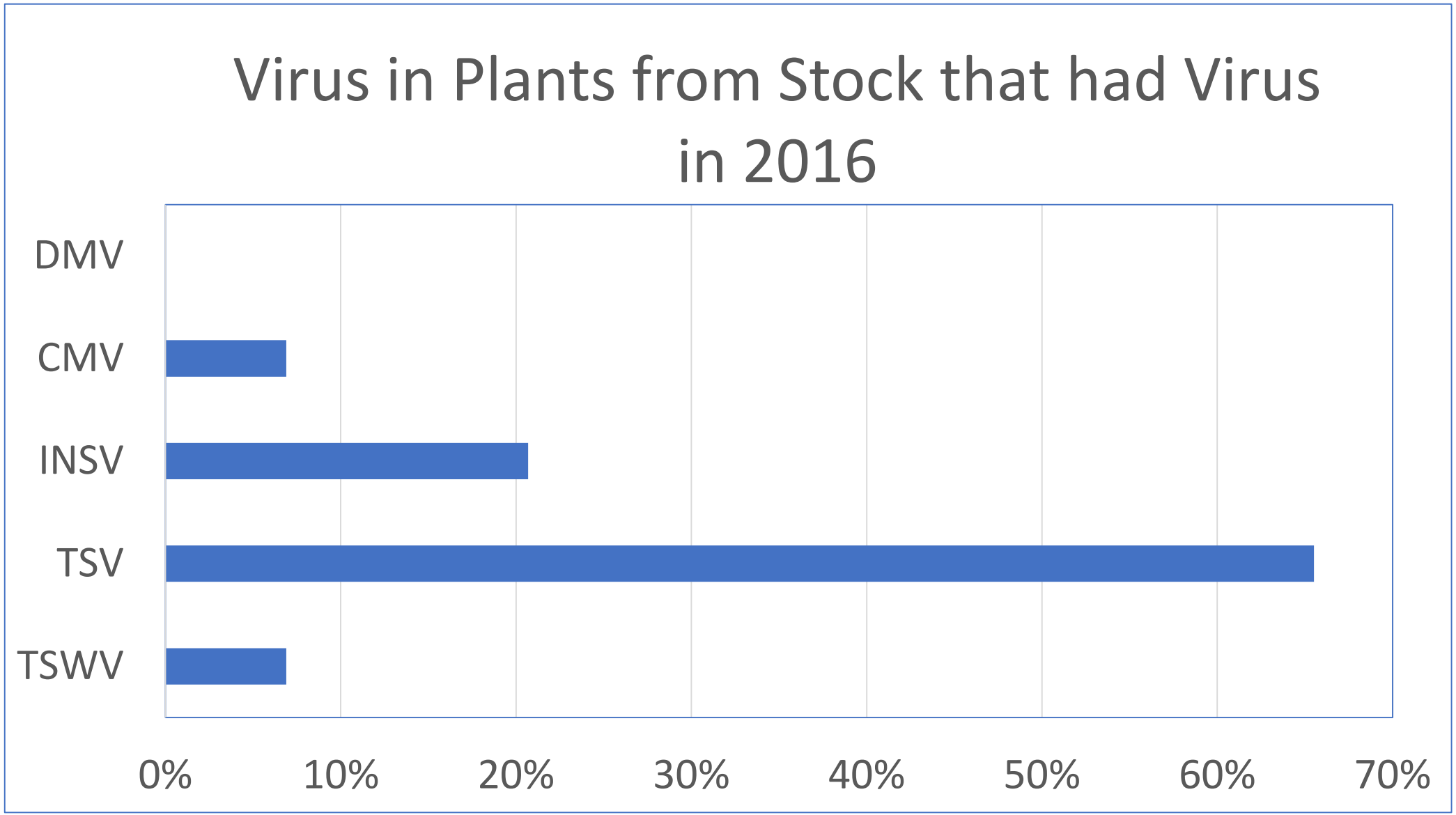
2017, A Watershed Year in Dahlia R&D.
Hanu Pappu Appointed to the Position of Chair,
Carl F. and James J. Chuey
Dahlia Research and Development at WSU

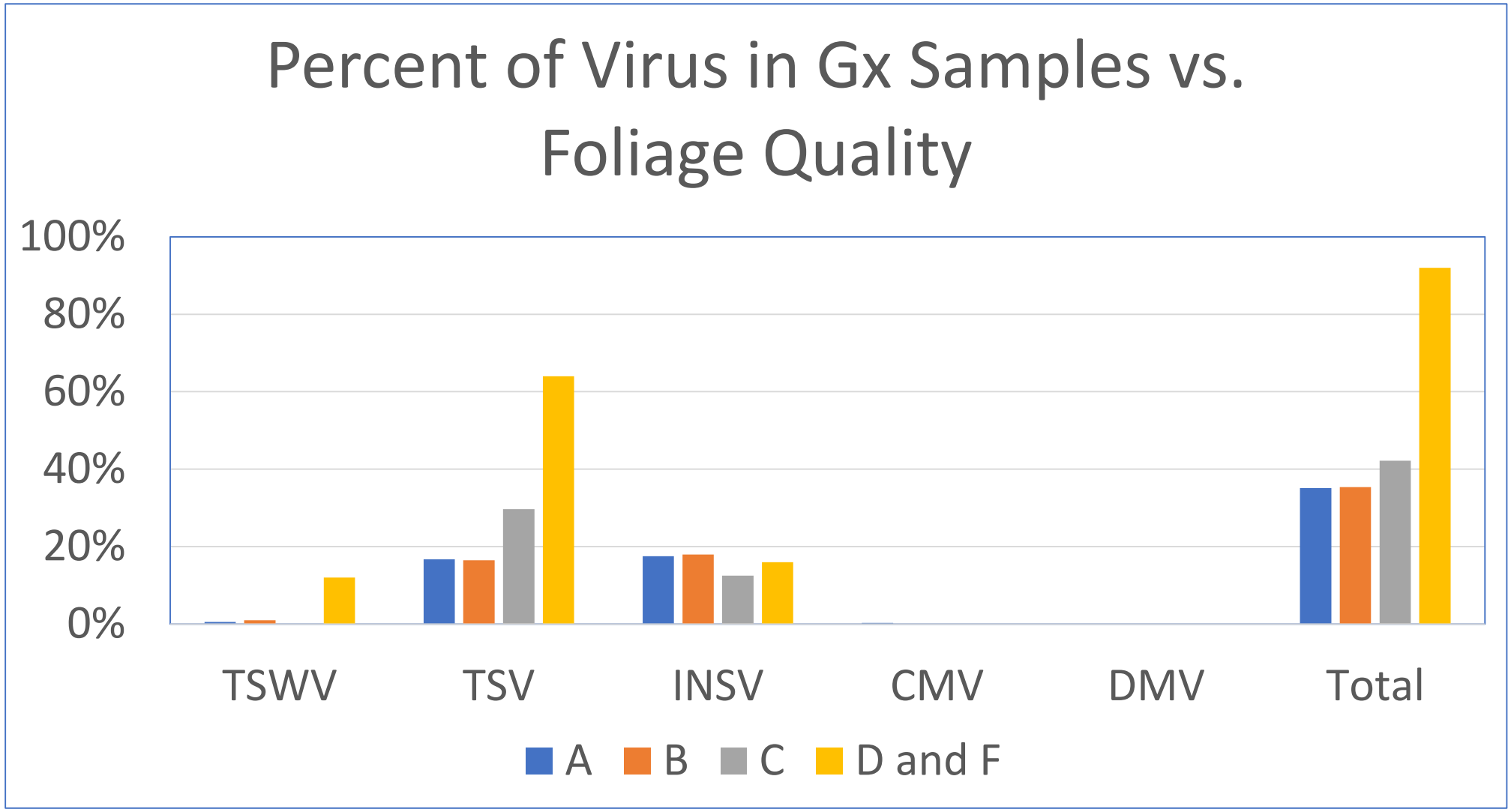
2017 Virus Results Overview

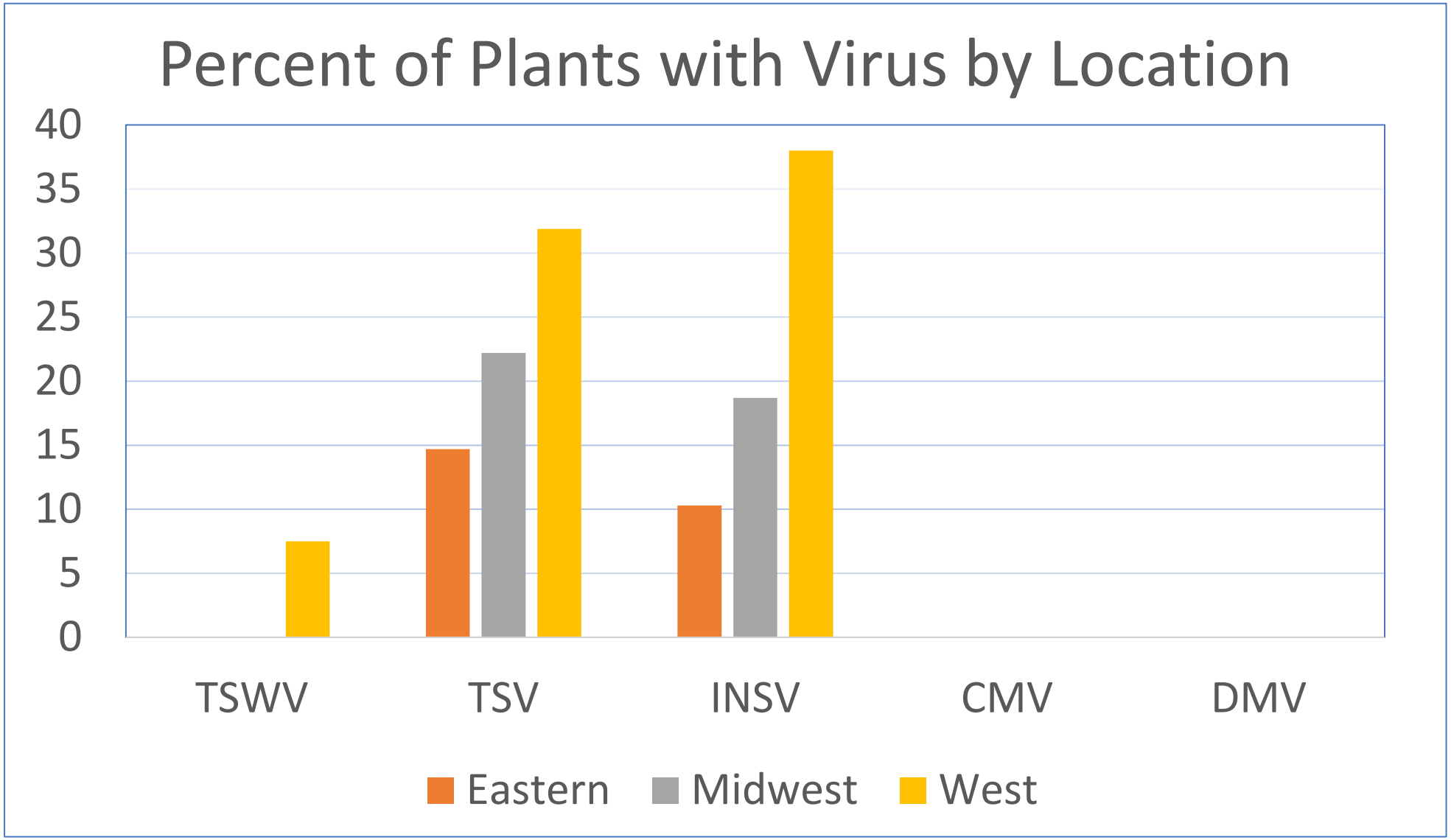
- 1665 Samples Analyzed from 27 Different Dahlia Gardens
- Each Sample Tested for Six Viruses
  - Impatiens Necrotic Spot Virus (INSV)
  - Cucumber Mosaic Virus (CMV)
  - Tomato Spotted Wilt Virus (TSWV)
  - Tobacco Streak Virus (TSV)
  - Dahlia Mosaic Virus/Dahlia Common Mosaic Virus (DMV)
- Emphasis on Plants from Clean 2016 Stock (“G1” Plants Tested Free)
- Foliage Rated by Grower

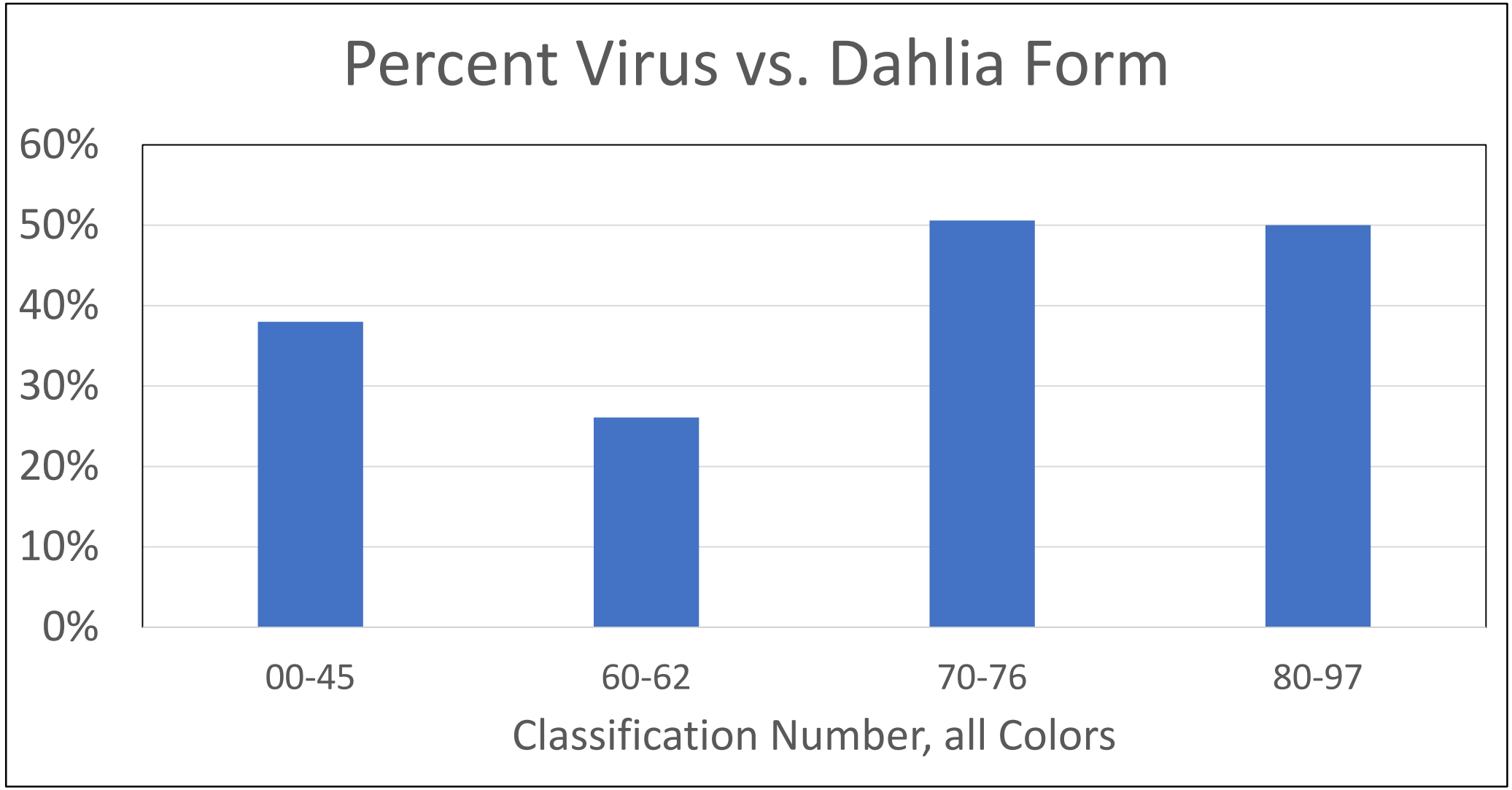

Percent of Virus Among G1 Plants
DMV
CMV
INSV
TSV
TSWV
0.0%
5.0%
10.0%
15.0%
20.0%
25.0%
30.0%

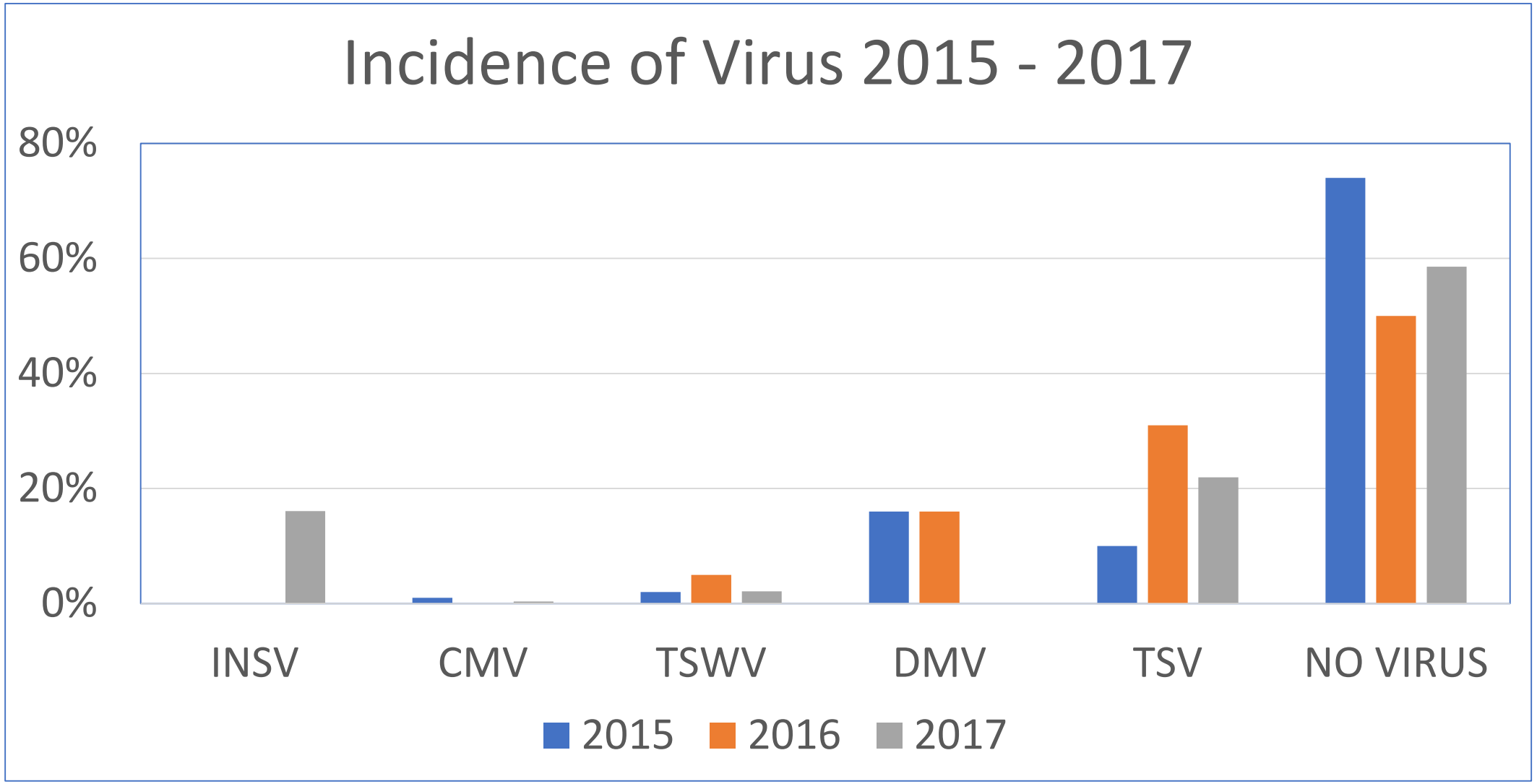

Virus in Plants Not Tested in 2016
DMV
CMV
INSV
TSV
TSWV
0%
5%
10%
15%
20%
25%
30%


Virus in Plants from Stock that had Virus in 2016
DMV
CMV
INSV
TSV
TSWV
0%
10%
20%
30%
40%
50%
60%
70%


Percent of Virus in Gx Samples vs. Foliage Quality
100%
80%
60%
40%
20%
0%
TSWV
TSV
INSV
CMV
DMV
Total
A
B
C
D and F


Percent of Plants with Virus by Location
40
35
30
25
20
15
10
5
0
TSWV
TSV
INSV
CMV
DMV
Eastern
Midwest
West


Percent Virus vs. Dahlia Form
60%
50%
40%
30%
20%
10%
0%
00-45
60-62
70-76
80-97
Classification Number, all Colors


Incidence of Virus 2015 - 2017
80%
60%
40%
20%
0%
INSV
CMV
TSWV
DMV
TSV
NO VIRUS
2015
2016
2017

Bottom Lines

- Virus was Detected in about 41% of the 2017 Samples
  - INSV was Detected for the First Time
  - No DMV was Detected
- Plants from Known Good Stock (G1) Had Less Virus than Other Plants
- Virtually All Plants from Bad Stock Had Virus
- Plants with Excellent Foliage Had Less Virus
- Plants with Very Poor Foliage Had Much More Virus
- Gardens in the West Had Higher Incidence of Virus than the East or Midwest Gardens

Plan for 2018

- Emphasis on Dahlia Vendor Tests
  - Free Tests Sponsored by the Scheetz-Chuey Foundation through the ADS
  - Confidential Results but with the Expectation that the Vendor Will Use the Results to Improve the Quality of his Stock
    - Results Known by Prof. Pappu and the Lab Team, Ron Miner and Brad Freeman
    - Results Coded for the Virus Team and the ADS
- Ongoing Public Tests at 30 Samples for $300
- Virus Team Projects Targeting Gx Samples, Controlled Environments, and Insect Vector Tests
- Laboratory Garden and Tests at WSU