

Asparagus Virus Survey

**Spring and Summer
2005**

Why are we interested in Viruses in Asparagus?

- Viruses do not cause visible symptoms on asparagus**
- Infection by two or more viruses can greatly increase asparagus's susceptibility to Fusarium Root and Crown Rot (Peter Falloon – 2005 Oceana Asparagus Day)**

**Under the direction of Dr.
Mary Hausbeck and with
the financial support of
the Michigan Vegetable
Council I undertook a
virus survey during the
2005 growing season**

**Initially we were
worried about two
viruses: Asparagus
Virus Type I (AVI) and
Asparagus Virus Type II
(AVII)**

**We Concentrated on
Asparagus Virus Type II
because there is an
ELISA test for this virus,
while Asparagus Virus
Type I must be bio-
assayed (expensive and
time consuming)**

Asparagus Virus Type II:

- **Often seed born because the virus is spread in the pollen by bees. If seed plants are produced by tissue culture and outside pollinators are excluded, infection by this route can be prevented.**
- **It can be mechanically spread, but this is unlikely in Michigan where we snap rather than cut asparagus.**

Procedure:

**Because of the danger of
spread by seed I
sampled fields from all
major seed companies
selling in Michigan**

Varieties Sampled:

- **Jersey Knight (Walker's) - 3**
- **Jersey Giant (Walker's) - 7**
- **Jersey Supreme (Walker's) - 1**
- **Tiessen (Canada) - 3**
- **Syn 4-56 (Nourse) - 5**
- **Franklim (Nunhem's) - 2**
- **Gijnlim (Nunhems) - 1**
- **Apollo (Benson) - 1**

**Results: Only 3 out of
the 23 samples taken
had Asparagus Virus
Type II**

Cucumber Mosaic Virus (CMV)

**At the XI International
Asparagus Symposium
we learned that CMV
has also been found on
asparagus**

Because CMV is so common and persistent in Michigan, we also decided to test for this virus. Using an Agdia virus kit I tested 22 more fields for this virus and found 0% infection.

Discussion of Results:

- **AVII is much less of a problem now than when MSU last tested (early 80s). We have gone from 100% infection to just about 13%.**
- **There was also no sign of spread of AVII between fields**
- **CMV does not seem to be a problem here**
- **AVI - ?**