

# Southwest Region 4 Referee 2020

## Survey on Substrata Used on 10 Vegetable Seed Species

# Vegetable Seed Species Used and Recommended Substrata by AOSA Rules, Vol. 1, Table 6A

- eggplant – *Solanum melongena* ( P, TB, RB, T )
- field/garden pea – *Pisum sativum* ( B, T, S, TCS )
- garden cress – *Lepidium sativum* ( T, B, P )
- garden/field bean – *Phaseolus vulgaris* ( B, T, S, TC, TCS, O )
- gourd (small/large seeded) – *Cucurbita* spp. ( TB, B, T )
- lima bean – *Phaseolus lunatus* ( B, T, C, S )
- onion – *Allium cepa* ( B, T, PP )
- pepper – *Capsicum* spp. ( T, B, TB, RB, P )
- tomato – *Solanum lycopersicum* var. *lycopersicum* ( T, B, P, RB, A )
- watermelon – *Citrullus lanatus* var. *lanatus* ( B, T, S )

# Questions Asked in Substrata Survey of the 10 Vegetable Species

1. Does your lab test the vegetable species that is asked about?
2. How many samples of that vegetable species do you test a year?
3. What germination substratum do you use for testing that vegetable species?

# Answered Questions for eggplant – *Solanum melongena*

1. Does your lab test eggplant? 43 participants

Yes: 81%

No: 19%

2. How many samples tested a year? 38 participants

1-10: 39%

11-100: 53%

Over 100: 8%

3. What germination substratum used? 38 participants

top blotters (TB): 15%

paper toweling (T): 66%

covered petri dishes or rigid transparent containers (P): 17%

blotters and raised covers (RB): 2%

# Answered Questions for field/garden pea – *Pisum sativum*

1. Does your lab test field/garden pea? 38 participants

Yes: 95%

No: 5%

2. How many samples tested a year? 36 participants

1-10: 22%

11-100: 45%

over 100: 33%

3. What germination substratum used? 36 participants

between blotters (B): 0%

paper toweling (T): 92%

sand (S): 8%

on top creped cellulose paper and covered with layer of sand (TCS): 0%

# Answered Questions for garden cress – *Lepidium sativum*

1. Does your lab test garden cress? 38 participants

Yes: 45%

No: 55%

2. How many samples tested a year? 25 participants

1-10: 76%

11-100: 24%

over 100: 0%

3. What germination substratum used? 22 participants

paper toweling (T): 27%

between blotters (B): 23%

covered petri dishes or rigid transparent containers (P): 45%

other (did not specify): 5%

# Answered Questions for garden/field bean – *Phaseolus vulgaris*

1. Does your lab test field/garden bean? 42 participants

Yes: 93%

No: 7%

2. How many samples tested a year? 39 participants

1-10: 15%

11-100: 49%

over 100: 36%

3. What germination substratum used? 39 participants

between blotters (B): 0%

paper toweling (T): 82%

sand (S): 10%

on top of creped cellulose paper (TC): 0%

on top creped cellulose paper and covered with layer of sand (TCS): 8%

organic growing media (O): 0%

# Answered Questions for gourd (small/large seeded) – *Cucurbita* spp.

1. Does your lab test gourds? 43 participants

Yes: 88%

No: 12%

2. How many samples a year? 39 participants

1-10: 23%

11-100: 51%

over 100: 26%

3. What germination substratum used? 39 participants

top blotters (TB): 0%

between blotters (B): 8%

paper toweling (T): 87%

other (did not specify): 5%



# Answered Questions for lima bean – *Phaseolus lunatus*

1. Does your lab test lima bean? 45 participants

Yes: 70%

No: 30%

2. How many samples in a year? 35 participants

1-10: 51%

11-100: 46%

over 100: 3%

3. What germination substratum used? 35 participants

between blotters (B): 0%

paper toweling (T): 82%

creped cellulose paper wadding covered with blotter through which holes are punched (C): 2%

sand (S): 11%

other (did not specify): 5%

# Answered Questions for onion – *Allium cepa*

1. Does your lab test onions? 38 participants

Yes: 95%

No: 5%

2. How many samples tested a year? 38 participants

1-10: 24%

11-100: 42%

over 100: 34%

3. What germination substratum used? 38 participants

between blotters (B): 16%

paper toweling (T): 79%

pleated paper (PP): 5%

# Answered Questions for pepper – *Capsicum* spp.

1. Does your lab test pepper? 43 participants

Yes: 93%

No: 7%

2. How many samples tested a year? 42 participants

1-10: 26%

11-100: 33%

over 100: 41%

3. What germination substratum used? 42 participants

paper toweling (T): 72%

between blotters (B): 2%

top blotters (TB): 7%

covered petri dishes or other rigid transparent containers (P): 19%

# Answered Questions for tomato – *Solanum lycopersicum* var. *lycopersicum*

1. Does your lab test tomato? 43 participants

Yes: 95%

No: 5%

2. How many samples tested a year? 42 participants

1-10: 19%

11-100: 36%

over 100: 45%

3. What germination substratum used? 42 participants

paper toweling (T): 65%

between blotters (B): 10%

covered petri dishes or other rigid transparent containers (P): 21%

blotters and raised covers (RB): 2%

top of agar (A): 2%

# Answered Questions for watermelon – *Citrullus lanatus* var. *lanatus*

1. Does your lab test watermelon? 38 participants

Yes: 97%

No: 3%

2. How many samples tested a year? 38 participants

1-10: 21%

11-100: 42%

over 100: 37%

3. What germination substratum used? 37 participants

paper toweling (T): 90%

between blotters (B): 5%

sand (S): 0%

other (did not specify): 5%

# Conclusion

1. Of the vegetable species surveyed ( 9 out of 10 ), the preferred substratum to use was paper toweling (T) by analysts.
2. Some of the vegetable species surveyed have up to 6 substrata choices by analysts to use like garden/field bean (*Phaseolus vulgaris*).
3. The survey indicates that not all substrata choices of some of the vegetable species are used by analysts.
  - (a) field/garden pea (*Pisum sativum*) – between blotters (B) and on top of creped cellulose paper and covered with layer of sand (TCS)
  - (b) garden/field bean (*Phaseolus vulgaris*) – between blotters (B), on top of creped cellulose paper (TC) and organic growing media (O)
  - (c) gourds (*Cucurbita* spp.) – top of blotters (TB)
  - (d) lima bean (*Phaseolus lunatus*) – between blotters (B)
  - (e) pepper (*Capsicum* spp.) – blotter and raised covers (RB)
  - (f) watermelon (*Citrullus lanatus* var. *lanatus*) – sand (S)
4. What Next? Should Changes be Made?