

| Northeastern IPM Center - Tree Fruit IPM Working Group   |                       |             |             |             |             |             |
|--|-----------------------|-------------|-------------|-------------|-------------|-------------|
| Ranking of Research and Extension Priorities: 6-Year Comparison                                  |                       |             |             |             |             |             |
| New England, NY, Canadian Fruit IPM Workshop, Burlington, VT - Oct. 24-25, 2017 (27 respondents) |                       |             |             |             |             |             |
|  | Percent Weighted Rank |             |             |             |             |             |
| <b>Pome Fruit Diseases</b>   | <b>2017</b>           | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| Apple scab   | 26.2                  | 24.3        | 26.8        | 29.5        | 29.0        | 29.0        |
| Fire blight  | 29.0                  | 32.3        | 29.0        | 30.8        | 25.1        | 27.9        |
| Powdery mildew   | 3.3                   | 6.4         | 9.6         | 12.9        | 12.3        | 10.3        |
| Sooty Blotch/Flyspeck  | 4.6                   | 5.2         | 6.8         | 8.3         | 10.7        | 15.5        |
| Fruit Rots   | 11.1                  | 12.0        | 14.6        | 11.7        | 10.7        | 9.7         |
| Rust diseases  | 3.3                   | 4.0         | 2.6         | 1.8         | 4.6         | 2.9         |
| Replant disease  | 2.8                   | 0.8         | 2.6         | 1.2         | 4.4         | -           |
| Anthracnose  | 0.0                   | 1.6         | 0.0         | 0.0         | 1.6         | 0.4         |
| Cankers  | 3.1                   | 3.6         | 4.4         | 3.4         | 0.9         | 2.7         |
| Root rots  | 2.1                   | 3.2         | 2.2         | 0.6         | 0.7         | 1.7         |
| Fabreaea leaf spot   | 1.8                   | 0.0         | 1.5         | 0.9         | -           | -           |
| Phytophthora   | 2.6                   | 1.6         | -           | -           | -           | -           |
| Storage rots/pre-harvest sprays  | 1.8                   | 5.2         | -           | -           | -           | -           |
| Tree stress (>black stem borer/SAD)  | 8.0                   | -           | -           | -           | -           | -           |
| Scald  | 0.3                   | -           | -           | -           | -           | -           |
| <b>Direct (Fruit-attacking) Pome Fruit Insect Pests</b>  | <b>2017</b>           | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| Internal leps (Codling moth, OFM, Lesser appleworm)  | 22.3                  | 23.8        | 24.2        | 24.7        | 24.0        | 25.0        |
| Plum curculio  | 20.8                  | 25.9        | 20.8        | 22.4        | 19.2        | 20.6        |
| Apple maggot   | 17.4                  | 19.2        | 16.9        | 21.8        | 18.0        | 17.6        |
| Stink bugs   | 17.4                  | 17.2        | 15.9        | 18.4        | 15.1        | 11.0        |
| Obliquebanded leafroller   | 4.9                   | 7.1         | 10.0        | 6.0         | 9.4         | 17.6        |
| Spotted wing Drosophila  | 6.9                   | 2.5         | 2.9         | 2.9         | 8.4         | 1.6         |
| European apple sawfly  | 1.8                   | 2.5         | 3.7         | 3.2         | 4.1         | 1.8         |
| Tarnished plant bug (2015: Plant bugs)   | 1.5                   | 1.3         | 5.7         | 2.3         | 1.7         | 5.0         |
| Spotted lanternfly   | 0.3                   | 0.4         | -           | -           | -           | -           |
| Scales   | 3.6                   | -           | -           | -           | -           | -           |
| Japanese beetle  | 2.8                   | -           | -           | -           | -           | -           |
| (write-in) gypsy moth  | 0.3                   | -           | -           | -           | -           | -           |
| <b>Pome Fruit Indirect Arthropod Pests/ Beneficial species</b>                                   | <b>2017</b>           | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| European red mite/Two spotted spider mite  | 11.7                  | 18.0        | 17.8        | 24.9        | 24.4        | 25.6        |
| San Jose Scale   | 13.7                  | 15.9        | 23.3        | 23.5        | 17.2        | 11.2        |
| Predator mites   | 7.1                   | 10.5        | 10.1        | 12.5        | 13.2        | 14.2        |
| Borers/Ambrosia beetles  | 22.4                  | 19.7        | 18.0        | 18.0        | 12.7        | 4.3         |
| Woolly apple aphid   | 9.6                   | 6.3         | 10.8        | 8.7         | 8.7         | 17.6        |
| Potato/White apple leafhoppers   | 4.9                   | 3.3         | 5.1         | 3.5         | 8.5         | 6.1         |
| Leafminers   | 2.2                   | 1.7         | 3.8         | 1.2         | 5.2         | 6.7         |
| Pear psylla  | 6.6                   | 4.2         | 7.6         | 7.8         | 5.0         | 6.5         |
| Rosy apple aphid   | 2.7                   | 2.9         | 3.2         | 3.5         | 4.7         | 7.1         |
| Mealybugs  | 0.0                   | 0.0         | 0.4         | 0.0         | 0.2         | 0.6         |
| Predator conservation  | 16.7                  | 15.9        | -           | -           | -           | -           |
| Apple leafcurling midge  | 1.6                   | 1.3         | -           | -           | -           | -           |
| Rust mites   | 0.8                   | 0.4         | -           | -           | -           | -           |
| <b>Cherry Arthropod Pests</b>  | <b>2017</b>           | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| Spotted wing Drosophila  | 34.5                  | 28.7        | 19.3        | 26.8        | 24.3        | 29.1        |
| Plum curculio  | 14.9                  | 13.0        | 16.0        | 23.2        | 20.7        | 22.7        |
| Cherry fruit flies   | 16.1                  | 24.3        | 15.1        | 18.6        | 20.7        | 14.4        |
| Japanese beetle  | 12.2                  | 13.0        | 12.3        | 15.9        | 13.6        | 12.7        |
| Peachtree borers   | 10.2                  | 7.8         | 6.6         | 9.1         | 9.3         | 4.2         |
| Brown marmorated stink bug   | 5.9                   | 2.6         | 8.5         | 3.6         | 5.7         | 12.5        |

| <b>Cherry Arthropod Pests (cont.)</b>              | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| Aphids   | 2.7         | 3.5         | 9.9         | 0.5         | 5.0         | 3.6         |
| American plum borer                                | 1.2         | 6.1         | 4.2         | 0.0         | 0.7         | 0.6         |
| Scales   | 2.4         | 0.9         | 8.0         | 4.1         | 0.0         | 0.3         |
| <b>Cherry Diseases/Disorders</b>                   | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| Brown rot  | 28.8        | 33.0        | 31.5        | 32.8        | 32.9        | 29.9        |
| Bacterial canker                                   | 25.5        | 24.5        | 24.7        | 27.3        | 20.6        | 24.1        |
| Leaf spot  | 10.9        | 5.3         | 4.9         | 7.6         | 11.2        | 10.5        |
| X-disease  | 5.2         | 20.2        | 5.6         | 4.0         | 2.9         | 4.7         |
| Fruit cracking                                     | 16.9        | 5.3         | 21.0        | 16.2        | 18.8        | 17.8        |
| Black knot   | 8.6         | 5.3         | 3.7         | 7.6         | 4.7         | 3.4         |
| Viruses  | 2.2         | 3.2         | 4.9         | 4.0         | 0.6         | 5.5         |
| Phytophthora                                       | 1.1         | 3.2         | 1.9         | 1.5         | 1.8         | 1.8         |
| Powdery mildew                                     | 0.7         | 0.0         | 1.9         | 2.0         | 6.5         | 2.1         |
| <b>Peach Direct (fruit-attacking) Insect Pests</b> | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| Brown marmorated & other stink bugs                | 28.4        | 29.6        | 25.9        | 33.6        | 25.9        | 26.7        |
| Plum curculio                                      | 15.1        | 16.0        | 16.3        | 19.9        | 22.4        | 18.2        |
| Oriental fruit moth                                | 19.4        | 20.0        | 20.1        | 24.1        | 20.5        | 20.3        |
| Spotted wing Drosophila                            | 14.0        | 11.2        | 13.7        | 12.4        | 17.5        | 19.1        |
| Tarnished plant bug                                | 7.6         | 8.0         | 13.1        | 11.6        | 9.9         | 12.7        |
| Obliquebanded leafroller                           | 0.4         | 2.4         | 2.9         | 2.5         | 3.8         | 1.8         |
| Western flower thrips                              | 2.5         | 2.4         | 1.9         | 0.0         | 0.0         | 1.2         |
| Japanese beetle                                    | 7.2         | 10.4        | 6.1         | -           | -           | -           |
| Wasps  | 0.7         | -           | -           | -           | -           | -           |
| White "peach" (Prunicola) scale                    | 4.7         | -           | -           | -           | -           | -           |
| <b>Peach Indirect Arthropod Pests</b>              | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| Japanese beetle                                    | 19.6        | 25.2        | 20.1        | 24.9        | 24.4        | 22.2        |
| Peachtree borers                                   | 33.3        | 31.9        | 31.1        | 33.2        | 33.8        | 35.8        |
| Mites  | 11.8        | 6.7         | 12.5        | 12.4        | 13.3        | 16.5        |
| Scales   | 17.6        | 16.8        | 17.4        | 14.5        | 11.6        | 6.3         |
| American plum borer                                | 6.7         | 9.2         | 5.3         | 2.5         | 1.8         | 8.5         |
| Green peach aphid                                  | 11.0        | 10.1        | 13.6        | 14.1        | 15.1        | 9.8         |
| <b>Peach Diseases</b>                              | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| Brown rot  | 29.9        | 31.9        | 32.7        | 38.3        | 30.7        | 32.0        |
| Bacterial spot                                     | 22.6        | 19.3        | 25.1        | 30.4        | 24.9        | 22.9        |
| Peach leaf curl                                    | 11.5        | 9.2         | 11.2        | 14.5        | 11.1        | 15.0        |
| Powdery mildew                                     | 6.6         | 4.2         | 4.8         | 8.9         | 10.0        | 7.0         |
| X-disease  | 5.2         | 8.4         | 10.8        | 7.5         | 8.4         | 6.5         |
| Perennial canker                                   | 10.1        | 8.4         | 8.8         | 7.5         | 5.7         | 4.7         |
| Peach scab   | 2.8         | 3.4         | 3.6         | 0.0         | 3.8         | 6.7         |
| Phytophthora rots                                  | 3.8         | 4.2         | 3.2         | 3.3         | 3.1         | 2.3         |
| Plum pox   | 0.0         | 2.5         | 1.6         | 6.1         | 2.3         | 2.9         |
| Winter kill  | 6.9         | 8.4         | -           | -           | -           | -           |
| Rusty spot   | 0.7         | 0.0         | -           | -           | -           | -           |
| <b>Vertebrate Pests</b>                            | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| Deer   | 25.1        | 30.7        | 28.9        | 35.8        | 28.8        | 31.8        |
| Voles  | 23.8        | 27.1        | 27.3        | 29.2        | 25.5        | 24.7        |
| Birds  | 23.5        | 17.4        | 17.9        | 23.3        | 23.6        | 21.3        |
| Rabbits  | 5.7         | 4.1         | 4.9         | 7.5         | 7.1         | 6.4         |
| Turkeys  | 7.0         | 6.0         | 6.1         | 6.0         | 5.8         | 8.0         |
| Groundhogs   | 5.0         | 3.7         | 8.6         | 3.5         | 5.5         | 5.2         |
| Canada geese                                       | 0.5         | 0.0         | 3.3         | 0.9         | 3.6         | 1.6         |
| Beavers  | 0.0         | 0.5         | 0.2         | 1.3         | 0.3         | 0.8         |
| Porcupines   | 2.3         | 0.5         | 2.3         | -           | -           | -           |

| <b>Vertebrate Pests (cont.)</b>                   | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
|---|-------------|-------------|-------------|-------------|-------------|-------------|
| Raccoons  | 0.0         | 0.5         | 0.5         | -           | -           | -           |
| Fishers   | 0.0         | 0.0         | -           | -           | -           | -           |
| Crows   | 7.0         | 6.9         | -           | -           | -           | -           |
| Foxes   | 0.0         | -           | -           | -           | -           | -           |
|   |             |             |             |             |             |             |
| <b>Postharvest Issues</b>                         | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| Post-harvest decay management                     | 17.9        | 24.6        | 18.5        | 28.1        | 29.2        | 28.1        |
| GAPS & Food safety (2015: & FSMA)                 | 20.2        | 16.9        | 19.3        | 22.2        | 17.7        | 18.1        |
| Post-harvest drench alternatives                  | 12.0        | 8.7         | 11.2        | 15.0        | 16.4        | 21.3        |
| Bin sanitation                                    | 6.2         | 8.2         | 9.8         | 7.2         | 9.1         | 16.8        |
| Scald   | 4.1         | 9.2         | 5.3         | 5.9         | 8.6         | 9.0         |
| Bitter Pit  | 18.2        | 16.4        | 22.4        | 15.7        | 6.2         | -           |
| Packing line sanitation                           | 0.9         | 4.1         | 4.2         | 0.0         | 5.6         | 6.6         |
| 1-MCP   | 5.6         | 5.6         | 4.8         | 5.6         | 5.1         | -           |
| CO2 Damage  | 0.9         | 1.5         | 4.5         | 2.3         | 2.1         | -           |
| Flesh browning                                    | 2.6         | 3.6         | -           | -           | -           | -           |
| Sanitation in storage facilities (new FSMA reqmt) | 8.5         | 1.0         | -           | -           | -           | -           |
| Canadian small bin controlled storages            | 0.0         | -           | -           | -           | -           | -           |
| (write-in) ultra-low oxygen                       | 1.5         | -           | -           | -           | -           | -           |
| (write-in) soft scald                             | 1.5         | -           | -           | -           | -           | -           |
|   |             |             |             |             |             |             |
| <b>Ground Cover Management</b>                    | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| Alternatives to herbicides, mulching, cultivation | 21.5        | 22.7        | 18.8        | 13.6        | 15.6        | 19.1        |
| Perennial weed management                         | 17.8        | 25.6        | 28.1        | 28.6        | 22.7        | 23.5        |
| Use of new herbicides                             | 9.9         | 6.7         | 12.6        | 17.3        | 16.4        | 19.1        |
| Herbicide resistance                              | 5.2         | 9.2         | 7.2         | 5.5         | 7.4         | 8.5         |
| Timing of control methods                         | 10.4        | 9.7         | 12.6        | 17.6        | 16.4        | 15.6        |
| Winter injury, etc. from glyphosate               | 4.2         | 13.4        | 6.5         | 7.8         | 7.1         | 8.1         |
| Weed biology & ID                                 | 2.5         | 5.0         | 9.1         | 5.5         | 7.4         | 3.3         |
| Nutrient competition                              | 2.2         | 5.0         | 3.5         | 1.4         | 6.0         | 2.3         |
| Best use of old herbicides                        | 2.5         | 0.4         | 1.6         | 2.0         | 1.1         | 0.6         |
| phytotoxicity and soil health of herbicides       | 5.7         | 2.1         | -           | -           | -           | -           |
| Under-tree ground covers                          | 9.4         | -           | -           | -           | -           | -           |
| Biological weed control                           | 3.2         | -           | -           | -           | -           | -           |
| soill health/carbon sequestration                 | 5.7         | -           | -           | -           | -           | -           |
|   |             |             |             |             |             |             |
| <b>Application Technology Issues</b>              | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| Spray coverage vs. control                        | 18.5        | 22.8        | 26.9        | 30.0        | 25.1        | 27.3        |
| Calibration                                       | 16.4        | 25.0        | 24.1        | 23.9        | 21.1        | 19.2        |
| Drift management                                  | 16.7        | 12.1        | 15.9        | 14.4        | 15.9        | 16.1        |
| Adjuvants w/ thinners (instead of oil)            | 5.7         | 3.6         | 8.9         | 8.1         | 11.0        | 9.8         |
| Phytotoxicity and fruit finish                    | 10.2        | 12.5        | 12.9        | 13.9        | 8.7         | -           |
| Canopy spray issues                               | 3.9         | 8.9         | 6.1         | 3.9         | 7.0         | 11.3        |
| Fixed spraying systems                            | 0.5         | 2.7         | 1.2         | 2.8         | 6.8         | 9.0         |
| Single-sided sprays in high density plantings     | 3.9         | 1.8         | 3.0         | 2.5         | 2.6         | 6.0         |
| Herbicide shields                                 | 3.7         | 5.4         | 1.2         | 0.6         | 1.9         | 1.3         |
| Tower sprayer options                             | 1.8         | 2.2         | -           | -           | -           | -           |
| Applic of growth regulators to canopy             | 2.9         | 1.8         | -           | -           | -           | -           |
| Tank mixes (synergistic or antagonistic effects)  | 10.2        | 1.3         | -           | -           | -           | -           |
| Crop-adapted spraying                             | 5.5         | -           | -           | -           | -           | -           |
|   |             |             |             |             |             |             |
| <b>Pest Management Education Issues</b>           | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| Workshops for advisors/growers                    | 17.6        | 18.5        | 20.3        | 27.8        | 22.4        | 22.7        |
| Orchard demos                                     | 12.1        | 15.8        | 9.3         | 14.2        | 14.8        | 17.7        |
| Production Guidelines publication                 | 14.1        | 17.6        | 15.7        | 20.6        | 13.4        | -           |
| Web-based delivery methods                        | 13.4        | 12.2        | 14.9        | 17.4        | 9.5         | 16.2        |
| Pesticide applicator workshops                    | 6.4         | 4.5         | 6.6         | 6.1         | 9.2         | 9.1         |

| <b>Pest Management Education Issues (cont.)</b>         | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
|---|-------------|-------------|-------------|-------------|-------------|-------------|
| Smart phone apps  | 5.4         | 6.8         | 10.9        | 5.8         | 7.5         | 8.7         |
| Consumer education                                      | 5.0         | 6.3         | 9.1         | 4.6         | 5.6         | 8.6         |
| Biocontrol demos  | 7.7         | 2.7         | 4.6         | 0.6         | 5.1         | 7.1         |
| Education for policy makers                             | 2.5         | 5.0         | 4.2         | 0.9         | 3.4         | 5.2         |
| Virtual IPM workshops based on plant growth simulations | 0.0         | 0.0         | 0.6         | -           | -           | -           |
| e-version of Guidelines; web or app                     | 9.4         | 7.7         | -           | -           | -           | -           |
| training for pstc applicator exams                      | 1.7         | 0.9         | -           | -           | -           | -           |
| Pesticide safety programs                               | 4.7         | 2.3         | 3.8         | 2.0         | 9.0         | 3.9         |
| <b>General IPM Issues</b>                               | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| Pesticide resistance                                    | 10.1        | 15.6        | 17.4        | 22.0        | 22.6        | 22.6        |
| Invasive/exotic species                                 | 10.6        | 18.7        | 19.6        | 24.6        | 15.6        | 25.5        |
| Weather/information delivery systems                    | 14.8        | 16.9        | 19.0        | 20.6        | 15.4        | 15.3        |
| Cost reduction  | 3.7         | 7.1         | 6.8         | 7.7         | 10.3        | 13.9        |
| Pollinator conservation                                 | 9.6         | 15.1        | 8.2         | 10.3        | 9.8         | -           |
| Organic production                                      | 6.9         | 6.7         | 3.8         | 4.6         | 8.9         | 6.5         |
| Pheromone technology                                    | 3.2         | 5.3         | 10.4        | 4.0         | 6.8         | 7.9         |
| OP/carbamate replacements                               | 2.0         | 1.3         | 5.4         | 2.6         | 4.2         | 5.9         |
| Abandoned orchard impact                                | 1.7         | 0.9         | 1.6         | 0.9         | 3.3         | 2.2         |
| IFP certification                                       | 0.0         | 0.0         | 1.0         | 0.6         | 2.8         | 0.2         |
| Groundwater monitoring                                  | 1.0         | 0.0         | 0.8         | 0.0         | 0.5         | 0.0         |
| Metrics of IPM adoption                                 | 5.9         | 5.8         | 5.8         | 4.6         | -           | -           |
| Impacts of potential product losses on spray progs      | 2.0         | 2.2         | -           | -           | -           | -           |
| Drones for crop mgt                                     | 4.4         | 0.9         | -           | -           | -           | -           |
| Beneficial insects                                      | 5.9         | 1.3         | -           | -           | -           | -           |
| Pest monitoring & thresholds                            | 11.6        | 2.2         | -           | -           | -           | -           |
| Climate change adaptation                               | 6.4         | -           | -           | -           | -           | -           |
| <b>Regulatory Issues</b>                                | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> | <b>2012</b> |
| Pesticide registration procedures/restrictions          | 13.4        | 17.1        | 14.6        | 25.2        | 23.2        | 23.4        |
| Clarification of labels                                 | 9.4         | 8.8         | 13.8        | 18.2        | 15.8        | 13.7        |
| Harmonization of labels                                 | 12.7        | 9.3         | 8.3         | 15.7        | 14.8        | 12.4        |
| Invasive species  | 9.6         | 17.1        | 14.2        | 17.6        | 12.8        | 15.8        |
| Production standards for imports/exports (MRLs)         | 4.1         | 0.9         | 2.2         | 9.6         | 10.7        | 9.3         |
| Right-to-farm/drift issues                              | 6.6         | 4.6         | 5.9         | 8.0         | 7.9         | 13.0        |
| Smaller package sizes                                   | 8.4         | 6.0         | 5.5         | 4.8         | 3.8         | 3.8         |
| Use of "Generally Regarded As Safe" products            | 3.5         | 4.6         | 2.8         | 1.0         | 3.6         | 4.8         |
| Labor Regulations                                       | 8.9         | 4.6         | 9.5         | 1.9         | 2.5         | -           |
| Surface water regulations                               | 2.5         | 1.9         | 13.4        | 0.6         | 2.2         | 3.4         |
| Fast-track NYS label registrations                      | 1.5         | 2.3         | 0.4         | 0.3         | 1.6         | -           |
| Updates on WPS  | 1.5         | 7.9         | 2.8         | 0.3         | 1.1         | 0.4         |
| Pollinator protection                                   | 10.4        | 12.0        | 6.7         | -           | -           | -           |
| Spanish labels  | 3.8         | 2.8         | -           | -           | -           | -           |
| Container disposal                                      | 1.8         | -           | -           | -           | -           | -           |
| Cost containment  | 0.0         | -           | -           | -           | -           | -           |
| Food processing license fees                            | 0.8         | -           | -           | -           | -           | -           |
| (write-in) FSMA   | 1.3         | -           | -           | -           | -           | -           |