

# April Integrated Pest Management



**EASTERN TENT CATERPILLAR**

ULARLY CHERRY (PRUNUS) AND APPLE (MALUS), ASH, AND BIRCH.

**ORGANIC:** PYRETHRINS + PBO, BACILLUS THURINGIENSIS (Bt), SPINOSAN

FIND EGG MASSES ON BRANCHES (LEFT)

**CHEMICAL:** AVERMECTIN B1, CARBARYL, GAMMACYHALOTHRIN, LAMBDA-CYHALOTHRIN, MALATHION, METHOXYFENOZIDE, PERMETHRIN, TEBUFENOZIDE, AZADIRACTIN, CARBARYL & MALATHION, PIPERONYL BUTOXIDE & PYRETHRINS, TETRAMETHRIN & PHENOTHRIN

APPLY FULL COVERAGE SPRAY TO THE ENTIRE TREE



TREAT IN EARLY SPRING AS NEW GROWTH IS DEVELOPING AND WHEN CATERPILLARS ARE SMALL. CATERPILLARS LEAVE THE NESTS TO FEED ON THE FOLIAGE DURING THE DAY.

THE MOTHS OVIPOSIT ALMOST EXCLUSIVELY ON THE PLANT FAMILY ROSACEA, PARTICULARLY CHERRY (PRUNUS) AND APPLE (MALUS), SOMETIMES FOUND ON POPLAR, WILLOW,



**LEAFHOPPER**

CHECK PLANTS AS SOON AS LEAF BUDS OPEN IN SPRING AND THROUGH EARLY SUMMER.

**ORGANIC:** AZADIRACTIN, BEAUVERIA BASSIANA, CANOLA OIL, MINERAL OIL, NEEM OIL, POTASSIUM LAURATE, TALL OIL SOAPS, PYRETHRINS & NEEM OIL

**CHEMICAL:** ACEPHATE, ACETAMIPRID, BIFENTHRIN, BUPROFEZIN, CARBARYL, CLOTHIANIDIN, CYPERMETHRIN, DELTAMETHRIN, DIMETHOATE, ESFENVALERATE, FENPROPANATE, FLONIAMID, IMIDACLOPRID, INOXACARB, LAMBDA-CYHALOTHRIN, LANNATE, MALATHION, PERMETHRIN, THIACTOPRID, THIAMETHOXAM



**MEALYBUGS**

**ORGANIC:** AZADIRACTIN BEAUVERIA BASSIANA, CANOLA OIL, LIME SULFUR, NEEM OIL, PARAFFIN OIL, POTASSIUM LAURATE, PYRETHRINS, SOYBEAN OIL, TALL OIL SOAPS, AVERMECTIN B1 & THIAMETHOXAM, PARAFFIN OIL & LIME SULFUR, TETRAMETHRIN & PHENOTHRIN, HORTICULTURAL OIL (TREAT IN LATE SPRING), INSECTICIDAL SOAP, LACEWINGS

**CHEMICAL:** ACEPHATE, ACETAMIPRID, BIFENTHRIN, BUPROFEZIN, CARBARYL, CLOTHIANIDIN, DELTAMETHRIN, DIMETHOATE, FENPYROXIMATE, FLONICAMID, FLUVALINATE, GAMMACYHALOTHRIN, IMIDACLOPRID, LAMBDA-CYHALOTHRIN, MALATHION, NYLAR, PERMETHRIN, SKINOPRENE, SPIROTETRAMAT, THIAMETHOXAM



**EMERALD ASH BORER**

APRIL OR MAY WITH **SYSTEMIC INSECTICIDES**, (MUST BE APPLIED BEFORE TREES SHOW SIGNS OF INFESTATION):

IMIDACLOPRID, ACEPHATE, BIDRIN, DINOTEFURAN, EMAMECTIN BENZOATE

EARLY MAY AND EARLY JUNE WITH **CONTACT INSECTICIDES**:

PERMETHRIN, BIFENTHRIN, CARBARYL, CYFLUTHRIN



**JAPANESE BEETLES**

TREAT WITH IMIDACLOPRID IN SPRING WHEN NEW GROWTH STARTS.

**ORGANIC:** PYRETHRIN, SPINOSAN, HAND PICK

**CHEMICAL:** BIFENTHRIN, MALATHION, ESFENVALERATE, IMIDACLOPRID, PERMETHRIN, CLOTHIANIDIN, DELTAMETHRIN, LAMBDA-CYHALOTHRIN, GAMMACYHALOTHRIN, THIAMETHOXAM, ZETA-CYPERMETHRIN, ACETAMIPRID, BIFENTHRIN & CLOTHIANIDIN, IMIDACLOPRID & CYFLUTHRIN, PIPERONYL BUTOXIDE & PYRETHRINS, LAMBDA-CYHALOTHRIN & THIAMETHOXAM, GAMMACYHALOTHRIN & SPINOSYN A



**APHIDS**

ROSES, VIBURNUM, HONEYSUCKLE, PYRACANTHA, GARDENIA, CAMELLIA, OLEANDER.

**ORGANIC:** AZADIRACTIN, BEAUVERIA BASSIANA, CANOLA OIL, CAPSAICIN, CHENOPODIUM AMBROSIODES ESSENTIAL OIL EXTRACT, LIME SULFUR, LIMONENE, MINERAL SEAL OIL, NEEM OIL, POTASSIUM LAURATE, PYRETHRINS, SOYBEAN OIL, SUCROSE OCTANOATE, TALL OIL SOAPS, BACILLUS FIRMUS STRAIN & CLOTHIANIDIN, FENBUTATINOXIDE & ACEPHATE, GAMMACYHALOTHRIN & SPINOSYN A, LAMBDA-CYHALOTHRIN & CHLORANTRANILIPROLE, MALATHION & QUINTOZENE SYNTHRIN & PARAFFIN OIL

**CHEMICAL:** ABAMECTIN, ACEPHATE, ACETAMIPRID, BETA-CYFLUTHRIN, BIFENTHRIN, DIBROMFOS, CHLORANTRANILIPROLE, CLOTHIANIDIN, CYFLUTHRIN, CYPERMETHRIN, DELTAMETHRIN, DIMETHOATE, ESFENVALERATE, FENOXYCARB, FENPROPATHRIN, FLONICAMID, FLUVALINATE, IMIDACLOPRID, LAMBDA-CYHALOTHRIN, LANNATE, MALATHION, NYLAR,

SPRING: SPIREA, WILLOW TWIG, WHITE PINE.

OTHERS BUILD UP MID-SUMMER: DELPHINIUM, CRAPE MYRTLE DOGWOOD, DOUGLAS FIR, ELM, DAHLIA, CAMELLIA, BEGONIA, AZALEA, ASTER, PEONY, OAK, CHERRY-LAUREL, PERIVINKLE (VINCA), LANTANA, GARDENIA, CAMELLIA, OLEANDER.



**ZIMMERMAN PINE MOTH**

TREAT IN EARLY TO MID-APRIL WHEN CATERPILLARS EMERGE AND IN EARLY AUGUST WHEN MOTHS EMERGE. LATE JUNE/EARLY JULY LOOK FOR PALE YELLOW, POPCORN-LIKE MASSES OF SAP AT WOUNDS, TYPICALLY IN CROTCHES OF TREE.

PREFERS PINES: SCOTCH, JAPANESE, RED, JACK, WHITE, AUSTRIAN & MUGHO.

**CHEMICAL:** ACEPHATE, BIFENTHRIN, DIMETHOATE, METHOXYFENOZIDE, PERMETHRIN, TEBUFENOZIDE - APPLY AS FULL COVERAGE SPRAY TO THE POINT OF RUNOFF. PRUNE AND DESTROY AFFECTED LIMBS.



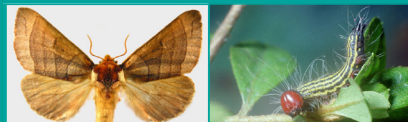
**JUNIPER SCALE**

TREAT CRAWLERS APRIL 5-20 AND JUNE 5-20. TREAT ADULTS APRIL 10-15 AND/OR JUNE 10-15 - DATES VARY BASED ON TEMPERATURE.

FEEDS ON JUNIPER, CYPRESS, CEDAR, ARBORVITAE, CRYPERIATOMERIA

**ORGANIC:** LACEWINGS, LIME SULPHUR, MINERAL OIL, PARAFFIN OIL

**CHEMICAL:** MALATHION



**AZALEA CATERPILLAR**

APRIL - START MONITORING PLANTS AFTER THEY HAVE THEIR FIRST TRUE LEAVES UNTIL AFTER HARVEST. BRASSICAS, AZALEA, APPLE, BLUEBERRY AND RED OAK.

**ORGANIC:** BACILLUS THURINGIENSIS, AZADIRACTIN, POTASSIUM LAURATE

**CHEMICAL:** ACEPHATE, CLOTHIANIDIN, DIMETHOATE, IMIDACLOPRID, LAMBDA-CYHALOTHRIN, PERMETHRIN, THIAMETHOXAM, PIPERONYL BUTOXIDE & PYRETHRINS, MIXTURES OF IMIDACLOPRID & BIFENTHRIN OR CYFLUTHRIN



**CABBAGEWORM**

APRIL - FIRST TRUE LEAVES UNTIL AFTER HARVEST. CABBAGE, COLLARDS, KALE, MUSTARD, RADISHES, RUTABAGA AND TURNIPS.

**ORGANIC:** INSECT GROWTH REGULATORS, SPINOSAN BACILLUS THURINGIENSIS, HAND PICK

**CHEMICAL:** BACTUR, DIPEL, SOK-BT, THURICIDE, ESFENVALERATE, PERMETHRIN, BIFENTHRIN



**BOXWOOD PSYLLID**

LATE APRIL OR EARLY MAY AS NEW GROWTH DEVELOPS ON BOXWOOD.

**ORGANIC:** NEEM OIL & POTASSIUM LAURATE & PYRETHRINS. PRUNE AFFECTED BRANCHES. DAMAGE IS COSMETIC AND WILL NOT KILL THE PLANT.

**CHEMICAL:** ACEPHATE, CARBARYL, DIMETHOATE



**SOUTHERN RED MITE**

SPIDER MITES: SPRING TO FALL. TREAT WHEN MITES FIRST APPEAR IN LATE APRIL. INFESTATIONS WORSEN AS WEATHER WARMS. FEED ON MOST CONIFERS, SPRUCE, ARBORVITAE, HEMLOCK, JUNIPER AND FRASER FIR. HOLLY, CAMELLIA AND AZALEA ARE FAVORITES OF THE SOUTHERN RED MITE.

**ORGANIC:** INSECTICIDAL SOAP, ROTENONE, HOT PEPPER WAX, LACEWINGS, LADY BEETLES, PREDATORY MITES, AZADIRACTIN, CANOLA OIL, CAPSAICIN, MINERAL OIL, NEEM OIL, POTASSIUM LAURATE, PYRETHRINS, SOYBEAN OIL, SULFUR

**CHEMICAL:** ACEPHATE, ACEQUINOCYL, AVERMECTIN B1, BIFENAZATE, BIFENTHRIN, COMITE, PROPARGITE, DELTAMETHRIN, DIMETHOATE, ETOXAZOLE, FENBUTATINOXIDE FENPYROXIMATE, GAMMACYHALOTHRIN, HEXYTHIAZOX, LAMBDA-CYHALOTHRIN, MALATHION, PERMETHRIN, PETROLEUM HYDROCARBONS

THOROUGHLY WET THE FOLIAGE AND STEMS WITH A FULL COVERAGE SPRAY.



**SPRUCE SPIDER MITE**