

YARD & GARDEN REPORT

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A gardener's friend

You can always count on your rhubarb plant.

It is always there for you, sitting in the corner of the garden. The “pie plant” doesn’t get any special care. Maybe it doesn’t get ANY care. And yet every spring it produces rosy red stalks that make a great pie.

Rhubarb is technically not a fruit, but we use it like a fruit. It adds tart flavor to pies, sauces, jams and breads. It can be used in making wines and juices, too.

Rhubarb may be the easiest to grow, longest lived fruit in North Dakota. It thrives under our cold temperatures and rich prairie soils. It’s foolproof!

Give it a try yourself. Plant rhubarb in a sunny spot that has rich soil. It is a heavy feeder and responds well to compost or rotted manure. As long as the soil is well drained, the plant may live for decades.

Rhubarb comes in shades of green and red. Most gardeners prefer red varieties since they look more attractive. Red varieties are not sweeter than green types.

‘Canada Red’ is an excellent variety; it is productive and sweeter than most. ‘Valentine’ is popular because its stalks hold their deep red color when cooked.

You can start harvesting rhubarb in its second year. It will be one of the first crops you harvest every spring. Trim the leaves from the stalks immediately after cutting. The leaf tissue is toxic.



Figs. 1, 2. Rhubarb is one of the easiest dessert crops to grow. Strawberry rhubarb pie is a classic.

Harvest rhubarb until the Fourth of July. After that, let the new stalks alone. We need those stalks to produce energy that will replenish the crown for next year’s harvest. If you get a special craving for strawberry rhubarb pie, you can cut a few stalks in summer. These stalks will be less tender, but are still edible.

If you are looking for a foolproof crop to grow, prepare a spot for rhubarb in your garden this fall. It will

be a reliable friend in your garden for many years.

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Promising natural insecticides

The vegetables in our gardens look delicious to us—and to bugs. Beetles, caterpillars and other insects are threatening our crops now.

When we see bugs in the garden, our first inclination is to apply an insecticide. This makes sense, but none of us enjoy eating vegetables recently treated with *poisonous chemicals* (Fig. 3).

It would be nice if we could find insecticides that are both *effective* and *practically non-toxic*.

Organic growers have used *Bacillus thuringiensis* for decades, but its most common strain (*kurstaki*) only kills caterpillars (armyworms, earworms and cabbage worms) (Table 1). Today we have several more choices of insecticides and can control many more insect pests in the garden through low-toxic, natural products.

Neem oil, derived from a tree in Asia, has been used to control insect pests for thousands of years. Its most effective chemical, azadirachtin, repels insects and reduces their ability to feed. It disrupts the hormones of insects, preventing them from developing normally and reproducing.

Neem works against almost all insect pests in the garden. As a bonus, it will prevent powdery mildew and many other fungal diseases.

Neem has limitations. It does not kill on contact. Insect feeding is reduced but will not stop. Since it disrupts insect development, it is most effective when used against insects *before* they mature. Neem can burn stressed and wilted plants as well as the petals of such tender flowers as hibiscus and rose.

Spinosad was discovered from soil in a Caribbean rum distillery. It



Fig. 3. Synthetic carbaryl dust is a very popular insecticide. Safer, natural alternatives are becoming more widely available today.

is deadly when it is *eaten* by the bug. A pest that eats the treated foliage/fruit will stop eating and die 1–2 days later. Spinosad does a poor job controlling pests that *suck* sap out of plants. This includes aphids, cucumber beetles and leafhoppers.

If you are looking for a quick kill, pyrethrum is an option. Derived from chrysanthemum flowers, it acts as a nerve poison. Its chemical, pyrethrin, is effective against a wide variety of insect pests (Table 1).

All of these natural products have slight or very low toxicities to humans. They all have very short lives in the environment, which reduces the likelihood of killing beneficial insects.

The bottom line is we have natural choices to fight insect pests in our garden. Read pesticide labels carefully and follow directions. Used properly, we can protect our crops and enjoy a safe, abundant harvest.

Table 1. Effectiveness and toxicity of natural pesticides and synthetic carbaryl in home vegetable production.

Ingredient ¹	Aphids	Caterpillars ²	Colo. potato beetle	Cucumber beetle	Cutworm	Flea beetle	Leafhoppers	Thrips	Whitefly	Oral LD ₅₀ ³	Acute oral toxicity ⁴	Days from use to harvest
<i>B. thuringiensis</i>		●								>5000	Very low	<1
Azadirachtin	●	●	●	●	●	●	●	●	●	>5000	Very low	<1
Spinosad		●	●			●		●		>5000	Very low	1–3
Pyrethrin	●	●	●	●		●	●	●	●	>2000	Slightly	<1
Carbaryl		●	●	●	●	●	●	●		590	Slightly	2–14

¹ Data from specimen labels and Material Safety Data Sheets for Dipel Dust, Azaguard, Entrust, PyGanic and Sevin, respectively.

² Armyworm, various cabbage worms, corn earworm, and leafroller.

³ Amount of pesticide (mg) per body weight (kg) required to kill 50 percent of rats. Lower values indicate greater toxicity.

⁴ Based on US EPA Acute Toxicity Ratings system: Highly (<50), Moderately (50–500), Slightly (500–5000), Very low to almost nontoxic (>5000).

Torches and pitchforks!

Break out the torches and pitchforks! Get out the axes! Let's attack!

Such has been the rallying cry of angry villagers since the Middle Ages. Everyone in town picked up a weapon and the mob gathered to attack their foe. A similar cry is used today by some gardeners when they see webworms in their trees.

To them I say: "Bring the pitchforks, but be careful with those torches. Leave the axes; we won't need them. On the other hand, maybe let's go back to bed and forget about it."

The common foe, fall webworm, is active now. You can find the caterpillars and their nests in the canopies of chokecherry, cherry, birch and elm trees (Fig. 4).

These nests look dramatic, but the damage is actually minimal. The caterpillars eat the leaves but cause little harm since the leaves are mostly done for the year. In most cases, people who see caterpillars in trees are suffering from more stress than the trees are.

If you can't sleep at night while worrying about your tree, you can use a pitchfork or other tool to pry the nests out of the tree. Then you can stomp on the nests, or perhaps even torch them on the ground.

Or, you can spray the caterpillars with insecticides. The caterpillars are an easy target inside their nests. Carbaryl and pyrethrin are widely available and kill caterpillars immediately. This approach appeals to many of us who seek revenge against bugs and enjoy watching them suffer and die. These are the "Clint Eastwood a.k.a. Dirty Harry" gardeners, which includes me.

Other gardeners are more sophisticated and enjoy having the pests suffer a slow and painful death.



Fig. 4. These nests are dramatic but actually cause minimal harm to the tree.

To these gardeners I recommend a group of safer insecticides such as *Bacillus thuringiensis*, neem or spinosad. These are most effective when the nests first appear and take a couple days or longer before the pests die.

Protecting a young tree from webworms is more justified than protecting a large, mature tree. Young trees don't have a lot of leaves to begin with. They need these leaves to overcome transplanting shock

and to prepare for winter. On the other hand, it's hard to justify spraying a big tree. It is under minimal stress, and you may put yourself at risk of taking a shower of toxic insecticide when you spray the tree.

Some gardeners attack the nests with propane torches or pruners. These strategies cause more harm to the tree than the caterpillars. The pests were only eating a few leaves. Torching or pruning trees will kill or remove entire branches.

Harmful fruit fly may be here to stay

The ND Dept of Agriculture reports spotted wing drosophila (SWD) has been detected in 4 new counties this year: LaMoure, Stutsman, Ward and Wells. The pest has been found in 11 of the 12 counties it was found in 2013: Burke, Burleigh, Cass, Cavalier, Grand Forks, Logan, McLean, Mercer, Morton, Pembina and Stark (Foster is the exception).

This Asian fruit fly, introduced in our state last year, lays eggs in soft-skinned fruits such as raspberry, cherry, chokecherry, and strawberry. The eggs hatch into tiny white larvae that spoil the fruit. It is significant because it invades



ripening fruit (other fruit flies invade only ripe or overripe fruit), which will lead to more frequent use of insecticides.

The pest can be monitored using a simple trap such as apple vinegar in a perforated cup. For more information, download NDSU publication *Integrated Pest Management of Spotted Wing Drosophila in North Dakota*.

Survey of problems found in North Dakota yards and gardens this week:

TREES AND SHRUBS



F6, 7. Aphids

Leaves curl. Pry open the leaf to reveal pests. The excrement is sticky and glistens. Damage is minor. Jet spray with water. Spray of systemic acephate may be justified for young trees.



F8. Powdery mildew

Gray blotches appear on leaves. Lilac, rose, honeysuckle are often affected, especially in shady spots with poor air circulation. Rake fallen leaves. Prune to increase sunlight and air movement.



F9. Canker on honeylocust

Fungus stops flow of water and nutrients, causing branches to die back. Discoloration often found where main branches connect to trunk. Prune out, going at least 6–8 inches below canker. Tree is usually removed.

LAWNS



F10. Rust disease

Orange powder. Get turf to outgrow it: fertilize and irrigate. Collect clippings. Fungicides (propiconazole, chlorothalonil) are helpful but rarely needed.



F11. Perennial weeds

Spray bindweed and other perennials in mid to late September. Weeds will channel the herbicide down into their roots as they prepare for winter. Products with dicamba recommended.



F12. Thin lawns

Now through mid September is best time to overseed. Ground is warm and seed germinates quickly. Disturb soil and scatter seed. Rake to cover seed. Keep moist for 3 weeks.

FRUITS



F13, 14. Codling moth

Frass on fruit. Slice the fruit to reveal tunnel and worm. Remove fallen fruits. Use traps in spring for monitoring. Spray insecticide after petal fall and 7–10 days later. Spray again, if needed.



F15. Russetting on apple

Some varieties ('Haralson', 'Regent', 'Chestnut') very susceptible. Caused by late frost and humid spring, excessive nitrogen, or pesticides applied under hot temps. Does not affect flavor.



F16, 17. Mystery fruits

Never eat any fruit unless you are sure what it is. Honeysuckle and black nightshade (shown) are toxic. Provide branch with fruits (or digital photos) to local Extension office for identification.

Survey of problems in North Dakota yards and gardens (continued)

VEGETABLES



F18. Blossom end rot

Initial fruit clusters are susceptible to this calcium deficiency. Keep soil evenly moist; mulching helps. Do not damage roots when cultivating. Occurs less frequently later as developing roots find calcium in soil.



F19. Cracking

Caused by rapid growth of fruits, often due to rains after period of drought. Cracks may become infected. Mulch plants to maintain uniform moisture conditions. Use resistant varieties.



F20. Septoria leaf spot

Small round lesions with light centers. Avoid getting foliage wet, especially at night. Remove badly infected leaves. Stake and mulch vines. Prevent spread with chlorothalonil, mancozeb or fixed copper.



F21. Smut

Tumor-like galls on ears. Remove galls from planting. Avoid wounding stalks when cultivating. Remove or bury diseased stalks. Some varieties are more susceptible than others.



F22. Poor pollination

Dry weather or silk-destroying insects can reduce pollination and fertilization of kernels. Plant corn in groups of short rows instead of long individual rows to concentrate pollen within plot.



F23. Powdery mildew

Lesions with gray powder appear on leaves. Avoid getting foliage wet. Protect with fungicides chlorothalonil (Daconil, Bravo), mancozeb (Dithane), or copper. Use resistant cultivars.

MISCELLANEOUS



F24. Crickets

Seal windows, doors and foundation. Reduce outdoor lighting. Remove debris near foundation. Insecticides may be sprayed near entries. Crickets die from frost; will not breed indoors.



F25. Hornets

If nest is in hazardous place, kill hornets before populations soar in fall. Shoot a knock-down spray in hole of nest. Spray at night; a cool night in the 50s is best. Nest will decompose.



F26. Barnyardgrass

Annual grass grows actively now. May reach 5 feet. Purple spikelets. Found in gardens and along roads. Will die from frost. Cultivate or mow regularly to prevent seed set.

Weather Almanac for August 17–23, 2014

Site	TEMPERATURE				RAINFALL				GROWING DEGREE DAYS ^{1,2}			
	Week				Week				Week		2014	
	Avg	Norm	Max	Min	Total	Norm	Total	Norm	Total	Norm	Total	Norm
Bottineau	68	67	85	54	2.74	0.41	15.00	13.25	105	100	1540	1658
Bowman	67	68	88	54	2.83	0.20	14.42	11.66	98	111	1507	1703
Carrington	69	67	84	57	1.24	0.52	10.97	14.59	108	105	1570	1791
Crosby	66	65	87	51	0.88	0.33	11.40	11.39	89	94	1526	1530
Dickinson	67	67	87	56	2.55	0.32	14.83	12.59	99	105	1576	1683
Fargo	71	69	85	60	0.27	0.64	12.58	15.28	128	112	1909	1923
Grafton	69	69	84	57	0.70	0.59	15.64	14.60	117	114	1686	1935
Grand Forks	70	67	83	59	1.14	0.67	13.70	14.49	121	100	1779	1715
Hazen	69	69	88	53	2.09	0.36	16.11	12.66	105	115	1599	1854
Hillsboro	70	68	84	57	1.62	0.56	14.21	15.06	120	108	1755	1818
Jamestown	70	68	83	59	1.44	0.50	12.89	13.87	117	105	1666	1785
Langdon	67	64	84	54	1.93	0.57	9.96	14.25	103	86	1446	1427
Mandan	70	68	86	58	2.27	0.44	12.22	13.48	116	109	1674	1781
Minot	68	67	85	55	3.09	0.44	16.05	13.50	104	100	1591	1630
Mott	68	68	88	54	3.29	0.34	14.95	12.49	103	109	1571	1757
Rugby	69	66	86	56	2.24	0.45	12.59	14.63	111	97	1618	1654
Wahpeton	71	70	82	58	0.50	0.59	14.95	15.09	125	118	1824	2000
Watford City	68	67	90	55	0.81	0.31	9.10	11.27	101	103	1693	1707
Williston	68	70	91	54	1.43	0.36	8.92	10.81	98	121	1743	1918
Wishek	69	67	84	55	1.37	0.49	12.59	15.44	112	99	1574	1616

DAYLENGTH (August 23, McClusky)³

Sunrise: 6:48 AM | Daylength: 13h 53m
 Sunset: 8:41 PM | Change since Aug. 16: -22m

LONG-TERM OUTLOOKS⁴

6–10 Day: Temp: Normal; Precipitation: Above Normal
 8–14 Day: Temp: Below Normal; Precipitation: Above Normal

¹ GDDs for garden vegetables are not available. GDD data in this table are for corn, which responds to temperature as most vegetables grown in gardens. Data begin May 1 with base minimum and maximum temperatures of 50 and 86°F., respectively.

^{2,3,4} Sources: North Dakota Agricultural Weather Network, www.sunrisesunset.com, and National Weather Service, respectively.

Credits

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Tom Kalb, NDSU; 7, 8, 13. Whitney Cranshaw, Colorado St. Univ. Bugwood.org; 9. William Jacobi, Colorado St. Univ., Bugwood.org; 10. John Kaminski, www.flickr.com/photos/34058686@N04/3821548250/; 11. Colin Jacobs, www.flickr.com/photos/30854310@N02/3607546094/; 12. Timo Newton-Syms, www.flickr.com/photos/timo_w2s/8986743787/; 14. Eugene E. Nelson, Bugwood.org; 16. pverdonk, www.flickr.com/photos/7551546@N08/2105628957/; 17. OldManDancing, www.flickr.com/photos/oldmandancing/5231310634/; 18. Mark, www.flickr.com/photos/35387910@N04/6011378943/; 19. Ian Fuller, www.flickr.com/photos/ianfuller/211388757/; 21. Dave, www.flickr.com/photos/dandelion-and-burdock/4928106455/; 24. Martin LaBar, www.flickr.com/photos/martinlabar/4387287220/; 25. Linda Tanner, www.flickr.com/photos/15323831 @N05/4823635149/; 26. F. D. Richards, www.flickr.com/photos/50697352@N00/9597562045/.

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