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Garden Column

Waking Up The Garden
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The first sentence of the Notre Dame Victory March is: Cheer, cheer for old Notre Dame, wake up the echoes cheering her name. Warm spring temperatures are nature's call to wake up the garden and listen to the echos from last year even if the weather forecast is a little capricious. The four most important echoes in waking up a garden are: Have a garden plan, clean up the garden, fertilize the garden soil, and do some preemptive garden pest control.

First, the garden plan. Every good organization has a plan for what goes where. It's a good idea to sketch out the proposed vegetable garden on a piece of paper or, even better, in a garden note book. Things to consider when laying out a vegetable garden are: How much space will a planting take up? When does the vegetable mature or get harvested? What is the plant's shape or configuration? What is it's growth habit?

As an obvious example, carrots, or most other plants for that matter, should not be planted next to cucumbers, pumpkins, or squash. Carrots throw vertically, taking up a tidy compact space while the vines crops grow horizontally and sprawl over lot of space overgrowing neighboring plants. Carrots would nicely fit in a row next to onions, for example, since both plants tend to have a vertical rather than a horizontal growth pattern.

Radishes and peas mature relatively early in the summer so they should grow in an area to which access is readily available and not interfering with plantings of later maturing vegetables such as tomatoes, sweet corn, or zucchini. Other vegetables, such as lettuce and kale, are harvested throughout the growing season so the path to their location should also not intrude in the space of other vegetables.

The two perennial vegetables in northern Minnesota are rhubarb and asparagus (a good trivia quiz question). Plant new asparagus and rhubarb at the edge of the garden since these perennial vegetables can be harvested for several years without trampling on other garden space.

Flower planning is mostly common sense. Make sure you know the height of the flower, especially if they are perennials. Put the tallest flowers in the back, if it's a border garden, or in the center if the garden is oval or round in the middle of a yard. Of course the shorter plants, especially annuals, go in the front. Smaller border annuals such as marigolds and nasturtiums can do double duty by attracting beneficial insects and deterring some pests.

Cleaning up last year's overwintered plant material such as mulch and residue offers a number of choices: Throwing it in the garbage, composting, or working it into the soil. The visible fungi growing on the plant residue is sometimes unsettling to a fastidious gardener, erroneously causing them to destroy a valuable resource. Mulches and residues such as leaves, straw, or other plant debris left over from last summer are normally overgrown with saprophytic fungi doing nature's work. Some garden references state such residue should be thrown in the garbage because of the possibility of pathogenic fungi. My experience is this is unnecessary and that this residue can be safely composted with it's resident fungi aiding in the composting process. Another alternative to save time and effort is not to remove the plant material but just incorporate this residue in situ into the soil when applying fertilizer. During this latter process, pathogenic fungi, if present, are usually destroyed by soil microorganisms and the residues

broken down in a couple of weeks.

Perhaps the most important garden wake up item is fertilization and plant nutrition. A soil test is a good idea because soil types in the Grand Rapids area vary from spot to spot. The personnel at Bloomers can offer advice on how soils are tested. Plants require sixteen nutrients for optimum growth with most plentiful in soils, water, and air. However, nitrogen, phosphorus, and potassium are likely to be needed in most garden soils. To aid in deciding fertilizer requirements, become familiar with deficiency symptoms. Nitrogen deficiency is a general yellowing of older leaves, slow growth, and small leaves. Phosphorous deficiency causes blue-green leaves, sometimes with red or purple veins, and slow growth. Potassium deficiencies are margins of lower leaves are yellow and develop brown areas, and slow growth.

Phosphorous and potassium are relatively stable in the soil but nitrogen is readily leached from soils by water. Because gardens vary so much in size, the amount of fertilizer will vary. To simplify this, broadcast a balanced fertilizer such as a 10-10-10 or similar ratio, following the directions on the bag, and work into the soil before planting. A rule of thumb is an established vegetable garden will require about two pounds of balanced fertilizer per hundred square feet. Important, do not use lawn fertilizer! It may contain a herbicide.

If you prefer to use an organic fertilizer, 4 bushels of fresh cow manure or 1 bushel of chicken manure per 100 square feet will provide adequate nitrogen. Fresh manure should be worked into the soil and allowed to decompose for 2 to 3 weeks before planting. No waiting time is required if you apply already decomposed manure but it contains less nitrogen and potassium than fresh manure. If using decomposed manure before planting, a 3 to 4 inch layer of manure along with any amendments recommended in your soil test should be incorporated to a depth of 6 to 12 inches. Caution, working soil when it's too wet will compact the soil, making it more difficult for plants to grow. To determine if the soil is dry enough to work, pick up about half a cup of earth in your hand. Squeeze the soil so it forms a ball. If the ball can readily be shattered, it's dry enough to work. If it keeps its shape it's too wet.

Soil pH has a direct effect on nutrient availability. Any value above 7.0 is alkaline and below 7.0 is acidic. At a pH below 5.5 or above 7.5 several micronutrients and phosphorous become fixed in the soil and are not readily taken up by the plant. Vegetables and most flowers grow best in slightly acid soils at a pH between 6.0 to 7.0. Fortunately, most soils in northern Minnesota are likely to be slightly acidic; however to correct excessive acidity several types of liming materials can be used to raise soil pH. Kits to test for soil Ph are available at Bloomers.

Pest control can be done by removing items near the garden that pests hide under especially slugs or other "varmints" that can seriously damage young seedlings. Any weeds that appear in garden beds will be easiest to get rid of in the spring as their roots are shallow. Covering bare spots with 3 to 4 inches of mulch or ground cover will minimize the emergence of new weeds. Black plastic sheeting can cover soils before planting as another way to suppress emerging weeds. And if you flip the sheeting over once a week you may likely find slugs that have been hiding in the garden. Most insect problems will be those that overwintered in the soil. When the soil is worked up, most of the overwintered insects will be exposed to the air and dry up.

Some references suggest separating residue of diseased from healthy plants, a dubious and confusing solution. After a northern Minnesota winter, all plant material is usually overgrown with fungi that are mostly harmless saprophytes thereby masking any disease symptoms. Therefore, an easy and simple solution is to simply compost all plant material; the pathogenic fungi and bacteria will normally not survive the high temperatures of a proper

compost pile.

Some perennial flowers are perennially diseased, such as powdery mildew on bee balm, for example. Stems should be cut back to within 2 inches of the ground and composted to reduce disease inoculum in the form of overwintered spores on the stems and leaves. Other perennial flowers may have other diseases. Typically, a layer of 3 to 4 inches of mulch can be added once new growth begins to reduce weeds and disease inoculum but if mulch is applied too early it will shade the new plants and weaken them.