

— **Mesclun - An Alternative Salad Crop - Part II**

Dr. Richard G. Snyder, Vegetable
Specialist

{editor's note -- This is a continuation from Part I which was in the December issue of Vegetable Press; this article is adopted from the National Garden Bureau's fact sheet on mesclun.}

GROWING MESCLUN

Since mesclun is harvested when the leaves are small, young, and tender, soil preparation prior to sowing seed is perhaps the most important factor for raising this crop. A constant supply of soil moisture is extremely important when growing salad crops, including mesclun mixes. It is very important to time supplemental waterings so that the soil stays constantly moist but not soggy.

Mesclun greens will not be at their tender and tasty best if they are subjected to wet soil/dry soil extremes. Soil extremes encourage bolting and bitterness as lettuces begin to mature. These extremes also discourage the rapid growth that is a key to taste and texture in leafy crops.

Since harvest takes place when the plants are young, small, and tender, you do not have to thin crowded seedlings as you

might when growing lettuces and other greens in the usual way. Instead, begin cutting the leaves as soon as the plants are about two inches tall.

HARVEST

Mesclun is at its crispy peak when picked early in the morning before the sun is strong. Heat causes the leafy plants to wilt. If you must harvest mesclun during the heat of the day, be sure to allow time to crisp the leaves in cool water before serving.

Use scissors to harvest mesclun greens, beginning when they are only a couple of inches high and never let them get more than six inches tall. When you do this, the crop will continue to grow. Cut-and-come-again crops like mesclun and leaf lettuces are rare. Mesclun will make an attractive border to a perennial bed and, if you harvest with scissors rather than pulling the plants, they will regrow quickly. Cut leaves just above the growing crowns. Since some of the greens grow more quickly than others, the exact proportions of your mesclun salads will vary from harvest to harvest. Also harvest the mild and piquant mescluns separately. Blend according to taste in the kitchen or even at the table.

While mescluns are best suited to cool weather, they can be kept growing during hot summer weather by frequent planting and prompt harvest. The hotter it is, the more shade should be provided, especially in the afternoon when the heat is at its maximum.

To enjoy long harvests with each crop of mesclun, be sure to keep it cut and watered. Planting a crop of mesclun every ten days to two weeks also will extend the season.

STORAGE

Once mesclun is harvested, rinse the leaves in cool water to remove any dust or dirt. Then examine the greens for weeds or insects and drain on towels or pat dry. If you spin-dry the greens, be sure to use them immediately since this process bruises the leaves and they will go limp quickly. Mesclun and other greens are best when used right away. If you can't serve mesclun at once, wrap the leaves gently in slightly damp towels, seal in a plastic bag, and place in the refrigerator. If carefully handled and stored properly, greens should stay tasty and fresh for several days. If recently harvested mesclun becomes slightly wilted, it will take up moisture and revive in cool water. Crisping will take ten to fifteen minutes.

EATING QUALITY

The taste of mesclun will depend upon the mix of plants in the blend, since mesclun is, in a sense, a salad stew that may include the mildest of lettuces as well as the most peppery of cresses. It is possible for each mouthful of mesclun to have a different taste. Mesclun textures will be tender and smooth to slightly crunchy.

Most Americans prefer using mild light dressings on mescluns so as not to hide the delicate flavors of the greens. Some seed houses mix the seeds according to the season rather than the flavor. Thus, there may be mesclun mixes for hot weather, for

mild seasons, and for cool seasons. Study the different catalogs to see which you prefer.

BOLTING

During warm weather when days are long, lettuce and other leafy salad plants tend to develop seed stalks, and the leaves get progressively bitter and tough. The key to good mesclun is to begin to harvest when the plants are two inches tall, and harvest all leaves before they get much bigger than a couple of inches. Obviously, this eliminates the problem of bolting. If plants do bolt, remove them from the garden.

Make successive plantings and harvest young plants. Wide row planting and sowing small areas rather than single rows of plants also will reduce tendencies that the plants may have to bolt - the thickly growing plants shade the ground, keeping the roots cool.

NUTRITION

Looseleaf lettuces, a major constituent of most mescluns, are loaded with vitamin A and also are high in potassium, yet they contain a negligible number of calories. An average portion (100 grams) contains 1,900 international units of vitamin A and 264 milligrams of potassium. A portion also contains 18 milligrams of ascorbic acid (vitamin C).

Chicory greens, another common ingredient in mesclun seed mixes, also are low in calories and high in nutritional value. An average portion

(100 grams) contains only 20 calories but has 4,000 international units of vitamin A, 420 milligrams of potassium and 22 milligrams of ascorbic acid.

Mesclun greens also contain appreciable amounts of calcium and phosphorus. A water content of over 90 percent plus low calories and high nutritional values make mesclun a tasty salad treat that more than meets the requirements of even the most health-conscious individuals. Freshly picked mesclun will be at its tastiest and will contain the most nutrients.

Leaf Miner Control

Dr. J. Pat Harris, Extension Entomologist

Leaf miners (serpentine and vegetable leaf miners) feed on a variety of vegetable crops, including tomatoes. Plants fed upon by leaf miners will have disfigured and damaged leaves caused by the larva (maggot) stage of this insect. Their feedings result in whitish blotches or blasted areas, or, in the case of the serpentine leaf miner, slender, white winding trails through the interior of the leaf. The mining areas serve as points of entrance for disease and decay.

The leaf-mining stage may last up to 12 days,

with less time during the warm summer months. A new generation is produced approximately every 23 days. Generally, there are at least five generations, with more under greenhouse conditions.

Adult leaf miners resemble fruit flies. They may be seen readily resting on the upper surface of leaves. Yellowish maggots emerge from eggs laid in the leaves; they begin to enlarge their tunnels as they feed between leaf surfaces. Larvae then pupate into round yellowish-orange, bullet-shaped pupae that may be seen on leaf surfaces or on the ground underneath plants. Sanitation is helpful in controlling them. It also is helpful to remove and destroy lower infested leaves. Plastic sheets placed on the potting surface help reduce its population.

Under heavy infestations, a combination of the two pesticides shown below may be applied at weekly intervals for 3 to 4 weeks.

Insecticide and Formulation	Amount of formulation	Minimum interval between last application and harvest	Precautions, remarks
Malathion (various) 10A 25 WP	1 lb/50,000 cu ft 4 lb/100 gal water	15 hours 1 day	For adult control. Keep ventilator closed for 2 hours.
Azatin EC	10 to 16 oz/100 gal water	12 hours	Use a foliar spray for control of larvae. When pest populations are

			high, use the higher rate. For best results, use a spreader-sticker. Full coverage is necessary for effective control.
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Greenhouse Tomato Disease Update: Target Spot and Powdery Mildew

Dr. Frank Killebrew, Extension Plant Pathologist

Disease situations in greenhouse tomatoes can change rapidly. The southern version of "El Niño" currently being experienced over most of the state, has meant that relative humidity levels in greenhouses have been difficult to maintain below 90% - conditions conducive to disease development.

Also, according to IPM Technician Andy Milling, target spot and Botrytis gray mold have been on the increase in south Mississippi greenhouse tomatoes. This isn't surprising since these fungus diseases develop under similar environmental conditions.

Gray mold management procedures were covered in the December 1997 issue of the "Vegetable Press." This month's article will cover target spot, a relatively new disease in the state and one some growers may not be familiar with.

Early symptoms of target spot first appear on foliage. Look for small, water-soaked spots on the upper surface of older leaves. Older leaves are more susceptible to invasion by the target spot fungus. Leaf spots enlarge to form circular light to dark brown lesions with concentric rings. The

concentric rings resemble the "target spot" symptoms associated with early blight, another fungus disease of greenhouse tomatoes. Target spot lesions are also formed on leaf petioles and stems.

Large numbers of fungus spores are produced on infected leaves and stems and some of these are deposited onto surfaces of young fruit which become infected during humid conditions. Within several days, fruit symptoms appear as sunken, pinpoint-sized brown lesions. These enlarge and develop into crater-like spots. Spots continue to enlarge and will crack open as fruit ripen.

Growers need to be aware of target spot because this disease may quickly move from foliage to fruit and cause a significant reduction in the yield of marketable fruit.

How do you go about handling target spot? If you already have extensive development of this disease in your greenhouse, the best course of action is to do everything possible to decrease relative humidity levels to the point infection of tissue by the target spot fungus is less likely to occur.

Since a 16 to 44 hour period of 90% and higher relative humidity is necessary for plant infection, growers who ventilate and apply fungicides can protect the crop and salvage harvestable fruit. For tips on humidity management refer to the last issue of the "Vegetable Press."

Along with relative humidity management, growers who are using Exotherm Termil on a 2-week application interval should change to weekly applications of this fungicide. It's important to realize that an integrated management approach is necessary, since both relative humidity control and Exotherm Termil are needed to handle target spot.

SPECIAL NOTE ON POWDERY MILDEW: Some growers may be running into powdery mildew problems. Dr. Snyder reports extensive development of this fungus problem in a George County greenhouse. Powdery mildew is easily identified -- look for grayish-white patches of fungus growth on the tops of leaves near the bottoms of plants. Symptoms, however, are not confined to this area, since the powdery mildew fungus produces abundant inoculum and fungus movement up plants can occur rapidly. Mildew symptoms (to my knowledge) have not been reported on fruit.

Growers with any level of powdery mildew should attempt management of this disease, since the disease weakens plants and decreases the possibility of obtaining normal fruit yield.

At best, Exotherm Termil is a suppressive fungicide for powdery mildew. Growers might want to consider the application of oil plus baking soda plus water. According to grower reports from other states, this combination provides fair control (better than Exotherm Termil) of powdery mildew.

If you use this approach, *I strongly recommend that you try it on a limited number of plants to evaluate the potential for plant injury before using over the entire greenhouse.* The recipe is 1.3 lbs. of baking soda and 1.3 pints of Sun Ultrafine Oil mixed with 100 gals. of water. Any amount of spray mixture can be prepared provided this ratio of ingredients is used. Also, it's important to use this type of ultrafine oil, since other grades could cause plant injury. Check with your chemical supply dealer for this particular brand.

Calendar of Coming Events _

Dr. Richard G. Snyder, Vegetable Specialist

February 10-12 - New York State Vegetable Conference, at Four Points ITT/Sheraton Hotel, Liverpool, NY (near Syracuse). **Includes a half day workshop on greenhouse tomatoes.** For information, contact Jean Warholic (607-539-7648) or Steve Reiners (315-787-2311).

February 12 - Colorado Produce Convention & Trade Show; at Two Rivers Convention Center, Grand Junction, CO. For information, call Wayne Cooley at (970) 249-3935.

Feb. 17-20 - Mid-Atlantic Direct Marketing Conference & Trade Show, at Lancaster, PA. For Trade Show information, call 609-935-5698; for Registration & Program, call 717-334-6271.

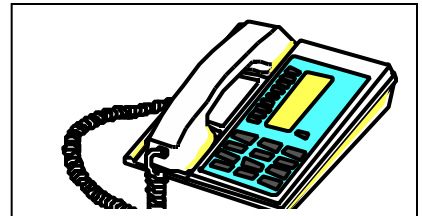
February 18-21 - American Society for Plasticulture Congress and Tours; at Tucson, AZ. For information, contact Pat Heuser, Executive Secretary, at 526 Brittany Drive, State College PA 16803, or call (814) 238-7045.



February 21-23 - United Fresh Fruit and Vegetable Association's 94th annual convention, in Dallas, Texas Convention Center. For information, call (703) 836-3410.

February 27 - Northern Piedmont North Carolina Specialty Crops School, at Ramada Inn, Oxford, N.C. For information, contact Carl Cantaluppi at (919) 603-1350.

March 11-13 - Farm Women's Symposium, at McCamly Plaza Hotel, Battle Creek, Michigan. For information, contact Rebecca Finneran at (616) 336-3265.



March 12-14 - Greenhouse Tomato Short Course, at Mississippi Agriculture & Forestry Museum, 1150 Lakeland Drive, Jackson, MS. For information, call (601) 892-3731 or your local Mississippi County Extension Office.



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