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Proper Variety Selection -- Why and How

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This is the time to consider what varieties to grow next year. And, as there are literally scores of varieties available for most crops, selecting from among them may be difficult. Below are a few factors that may affect your choice of varieties and a few tips on how to select them.

Old and New Considerations

Lets briefly consider why proper variety selection is important before discussing tips on how to go about it. Profit may be the only word needed to describe the importance of variety selection. The success of your operation depends on your ability to meet the challenges provided by Mother Nature and competitive markets. Proper variety selection will help

you meet these challenges. Weve known for some time that high vigor, ability to withstand stress, disease and pests, and good marketable yield are desirable qualities in a variety. But, some contend that we may be entering an era when other criteria are added to this list or gain prominence. For example, nutritional or health value some day may be used to distinguish varieties. As we learn more about how our diet impacts our health, and as consumers select food items based on their perceived health value, crop and variety phytochemical content may become more important. Scientists have documented differences in the levels of minerals, vitamins, and other compounds among varieties of many vegetable crops, including broccoli, lettuce, onion, potato, tomato, red beet, and snap bean. It may be worth paying attention to whether varieties enriched in phytochemicals are developed and preferred in the marketplace.

Growth in food awareness is also fueling interest in how variety selection impacts profit. For example, consumers appreciation of the diversity of food -- ethnic or unusual dishes -- appears to be leading more of them to ask whats new? Will this intensify demand for varieties with unique qualities? The lettuce industry may be the most recent to witness major changes in consumption patterns as romaine and specialty types increase in importance and, therefore, acreage. Still other consumers prefer locally-produced

commodities, perhaps giving growers more latitude in choosing varieties as shipping quality becomes less important. Most agree that fruits and vegetables must win a beauty contest in order to be chosen by the consumer. Perhaps this contest will more often include flavor, texture, aroma, color or other sensory qualities. This point was made more clear to me in some of my recent research on cabbage, lettuce, radish, and sweet corn. In asking consumers to evaluate lettuce varieties, nearly all tasted them (plain!) when given the chance. Produce market and restaurant managers evaluating the same lettuce varieties also distinguished them based on sensory qualities. And, just as important, they indicated that they prefer to have available varieties comprising a range of sensory qualities so as to be able to match them to a particular use. Consumers displayed similar interests in the sensory qualities of cabbage and radish and the eating quality of sweet corn continues to interest consumers and people in the industry.

Production and market forces demand that growers establish identities in the marketplace, partly through supplying unique, high-quality products. For growers, changes in consumer preferences could mean an increased emphasis on using variety selection to distinguish themselves in the market. Doing so while not forgetting the importance of well-researched factors listed above (vigor, ability to withstand stress, etc.) will be important.

Variety Selection Tips

Numerous varieties are available for most vegetable crops. Profit potential depends partly on your selecting varieties suited to your operation. Some criteria used to select varieties will differ farm-to-farm but the process of selecting varieties may change less. Here I am talking about the difference between what varieties you choose and how you choose them. Lets take up the latter point now.

Figure 1. Local on-farm, seed company, or University variety trials can take some of the guesswork out of variety selection. Results from these trials can help determine if varieties are adapted to local production conditions. And, they may be an opportunity for farmers to learn whats new in varieties with no risk. Here, some lettuce varieties have bolted in trials run by The Ohio State University.

Know your market and be prepared to grow what they want.

Your market should be the first factor you consider when selecting varieties. Work with your market to clarify what they value and tolerate. Keep in mind that most markets tend to see yield as the growers concern and quality as theirs and they want the best. Therefore, varieties you prefer because they yield well may not

always be what the market wants. Staying informed about market trends that may not have hit your area is also important. Often times, early adopters stand to gain the most when capitalizing on or setting trends. Reading trade publications and participating in industry and University educational programs are good investments of your time.

Study and use reliable results from local performance tests, including on-farm trials, other growers experience, vegetable and seed trade literature, and University studies.

Farming is full of risk. One way to reduce the risk of selecting the wrong variety is to study the results from local variety performance tests. In doing so, ask yourself which variety(s) has the best blend of:

horticultural traits desired by your market,

maturity you need to manage your season, supply your market, and reduce the risk of weather-related crop failure,

high marketable yield potential, and

high resistance to diseases, insects, stress, and physiological disorders (e.g., blossom-end rot, tipburn).

Figure 2. Field performance of particular varieties may mean little if the market dislikes the product. Knowing what the market wants and being prepared to grow it is an important early step in successful farming. Here, consumers rate the quality of various lettuce varieties grown in The Ohio State University trials using a number of sensory criteria.

Of course, a number of varieties are needed to meet production requirements as few varieties have all the desired characteristics. Varying maturity and disease, insect, and stress resistance according to your typical production conditions is often best.

For example, if you irrigate or farm heavier soil with better water retention characteristics, drought tolerance may be less important.

Also, don't be bashful about discussing results of University and seed trade variety trials with the people who did them. What is printed in their handouts, reports, bulletins, etc. is often a condensed version of the information that was collected. Knowing more about the evaluation will make you better able to use the results from it to your advantage.

Keep accurate records of variety performance on your farm. Your own experience will help you select varieties that will be successful on your farm. But, to gain the most benefit from that experience you need to document it. Taking accurate yield and other data and writing it down for future reference is important but often overlooked. Guesses about yield or overall performance are usually not as accurate as actual measurements. And, memories are likely to fade before written or computerized notes. With good variety records, you will quickly recognize which varieties tend to perform best in which fields, seasons (early-mid-late), and other production conditions (e.g., climate, disease and insect pressure). These records will also help identify which new varieties may best fit your needs. The pedigree of new varieties often has elements in common with older or previous varieties. Accurate records regarding the performance of related varieties may help when selecting new ones.

Try something new. Following the maxim if it aint broke, dont fix it, growers sometimes identify and stick with favorite varieties. This approach is understandable but it shouldnt completely prevent you from trying new varieties. Variety selection may be an opportunity to expand your market or overcome certain production obstacles. When trying new varieties, do so on a small scale but give them the same care as your main crop ... make it a fair test. Whether new varieties work or not, you are likely to learn something in the process of testing them that helps in some other aspect of your operation.

Selecting varieties and buying seed is one of the first and most important steps you take to prepare for the next cropping cycle. Choosing varieties suited to your operation helps ensure some return on your investments in seed, sweat, and crop care.

Variety Selection Tips:

- know what the market wants and grow it
- study and use results from local variety performance tests
- keep accurate records of variety performance on your farm
- try new varieties

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What's New At The VegNet Web Site

See last week's newsletter for Pictures of cucumber beetle feeding on pumpkin rind. (VegNet #27, Sept. 13, 2000)

In Problem of The Week, see:

- * Bird Damage to Pumpkin Fruit

- * Fusarium Belly Rot

Coming Soon...

- * Gummy Stem Blight

- * Downy Mildew

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