



CORN TALK NEWS

PENNSYLVANIA MASTER CORN GROWERS ASSOC., INC.

Considerations for selecting corn hybrids in Pennsylvania

Selecting the best corn hybrids can be a significant factor in the profitability of a corn production enterprise. The differences in performance among commercially available corn hybrids of the same maturity generally exceed 15 bushels per acre and frequently reach 50 bushels per acre. As a result, improving corn yields by an average of 5 to 10 bushels per acre through careful attention to hybrid selection is not unrealistic.

CHARACTERISTICS TO CONSIDER

An effective hybrid selection strategy involves considering a number of hybrid characteristics that are important for performance under your system and then using various sources of information to choose the most appropriate hybrids.

MATURITY

Maturity is of primary importance in the hybrid selection process because it is critical to choose hybrids that can use as much of the available growing season and still have a minimal risk of being frosted before maturity. Hybrids that are too early will have a reduced yield potential and those that are too late may result in poor quality grain or silage. Corn hybrids are rated in one of two systems: the relative maturity system and/or the growing degree day system.

Of the two systems, the relative maturity system is more popular. In the relative maturity (RM) system, hybrids are assigned a days-to-maturity rating based on the grain moisture at harvest compared to other hybrids. As a result, a hybrid with a lower RM rating should have lower grain moisture levels at time of harvest than one with a higher RM rating. The rating is not a measure of the actual days required for maturity, since it is not uncommon for a 105-day hybrid to require 150 days from the date it is planted to reach maturity. The ratings also vary somewhat among companies, this makes comparisons of maturity more difficult. One way to overcome the differences among the companies is to compare moisture contents of specific hybrids in performance trials where they appeared together—lower moisture contents translate into an earlier rating.

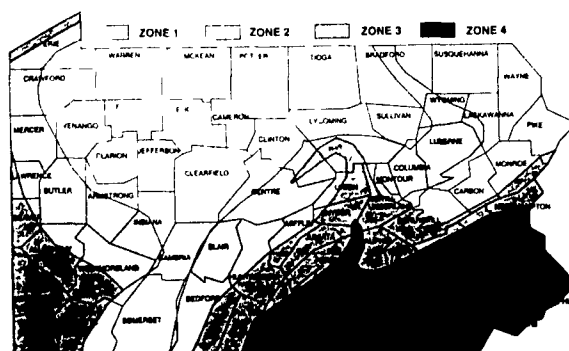
The second system is the growing degree day system. In this system, the number of growing degree days is calculated between dates of planting and black layer or maturity. The advantage of the growing degree day system is that it provides a link between hybrid maturity and local weather information. Disadvantages of this system are 1) GDD ratings are not necessarily indicative of differences in grain moisture, because hybrids may differ in dry-down rates after black layer, and 2) growing degree day requirements of hybrids may change somewhat with location and season. Hybrids in Pennsylvania frequently do not require as many growing degree days as they will use in the Midwest states. Also, growing degree day requirements of specific hybrids may be lower in cool seasons and late plantings.

A good rule of thumb is that corn for grain should reach maturity one to two weeks before the first killing frost in the fall. Other factors, such as harvest method, marketing plans, and timeliness considerations may also have a bearing on maturity selection. The need for a field dry-down period with ear corn and dry shelled corn means that maturity should not be pushed with these systems. Where high-moisture corn harvest is planned, slightly longer season hybrids can be used. Even longer season (5 to 10 days) hybrids can be utilized for silage production provided wet soils will not interfere with harvest. Earlier hybrids may provide some advantages for early corn markets or more timely harvesting. If you consider this approach, be sure to monitor yields of these earlier maturing hybrids to make sure this strategy is economical for your system.

A key to managing maturities in an area as diverse as Pennsylvania is to monitor crop development each year and use this information in selecting hybrid maturities for future years.

Appropriate maturities for grain production in Pennsylvania are shown in Figure 1 and Table 1.

Figure 1. Pennsylvania corn maturity zones.



DISEASE RESISTANCE

Hybrid selection is the main avenue for control of the most predominant corn diseases in Pennsylvania. Stalk rot, one of the most serious and common corn diseases, is favored by environments where stress occurs during August. If stalk rot appears to be a persistent problem in your system, consider placing more importance on standability and stalk rot resistance in your hybrid selection. Gray leaf spot, northern leaf spot, and northern leaf blight are also common in Pennsylvania.

Gray leaf spot is most severe in those fields of continuous, no-till corn where air drainage is poor. Fields that are along creeks and rivers are particularly vulnerable to gray leaf spot because of the extended periods of dew. The symptoms of the disease resemble a paper match—gray, rectangular shaped lesions that are restricted by the leaf veins. Where this disease is serious, gray leaf spot resis-

tance should be a primary consideration in your hybrid selection.

Both northern leaf spot and northern leaf blight occur most frequently in valley areas where heavy dews and early morning fog or mist are common. Northern leaf spot (race 3) symptoms are tan to brownish, linear, chain-like lesions. The northern leaf blight symptoms are elliptical, grayish green streaks that develop on the leaves and may extend the length of the leaves. Under severe infection, all leaves may die. Both diseases can cause early plant death. Resistant hybrids are the best means of control.

Learn to identify the major corn diseases in your area and select hybrids with specific resistance to these diseases. Be wary of hybrids advertised as having "good disease resistance"—instead ask your dealer about specific resistance to diseases that you know are common on your farm.

(Turn to Page 19)

Buy 10 Bags of Any



HYBRID CORN



RECEIVE ONE BAG OF
MULTIKING I, VIKING I
OR FORTRESS

ALFALFA FREE!

OR PURCHASE ONE OR MORE BAGS OF ANY
NORTHROP KING BRAND ALFALFA VARIETY
OR BLEND AND GET ONE BAG OF
MULTIKING I, VIKING I or FORTRESS
ALFALFA FREE!

For Details See Your
Participating Northrup King Dealer

AGRONOMY CENTER
Thompsontown, PA
717-535-5151

JOHN D. CASSEL & SONS
Hummelstown, PA
717-566-8022

HERBERT MYERS
Lewisberry, PA
717-697-8903

HYDRO-KIRBY
AGRI SERVICE
Richland, PA
717-866-5701

TWIN FIR FARM
Centre Hall, PA
814-364-9270

BEDFORD FARM BUREAU
Bedford, PA
814-623-6194

LYN-LEE FARMS
State College, PA
814-238-1233

OVERHOLTZER
DAIRY FARM
East Earl, PA
717-354-0832

MASTER FARMER
FERTILIZER
Lancaster, PA
717-397-5152

WALNUT BARN &
DAIRY EQUIP.
Port Royal, PA
717-436-9429

LARRY BOWER
Linden, PA
717-323-3546

SCOTT MELLOTT
Lancaster, PA
717-295-3470

RHOADS MILLS INC.
Selinsgrove, PA
717-374-8141

PHILLIP PITZER
Aspers, PA
717-677-7716

WARRIORS MARK
FEED CENTER
Warriors Mark, PA
814-632-5490

BROOKLAND MILLS, INC.
Mc Veytown, PA
717-899-6772

MENSINGER BROS.
Nescopeck, PA
717-379-3388

RICHARD H. KAUFFMAN
Columbia, PA
717-684-2683

JOHN SNOOK
Millinburg, PA
717-966-0957

WAYNE FEED SUPPLY
Dillsburg, PA
717-432-9623

BRUCE B. GAMBLE
& SONS
Concord, PA
717-349-2670

GENE MILLER
Calawissa, PA
717-799-5760

RONALD SHAFFER
& SONS
Dalmatia, PA
717-758-6345

STEPHEN SNYDER
Millersburg, PA
717-362-8735

WAYNE FEED SUPPLY
Chambersburg, PA
717-263-4121

HAKES FARM &
SEED SERVICE
Red Lion, PA
717-244-2754

RALPH MILLER
Womelsdorf, PA
215-589-2642

SCOTT SHIPMAN
Turbotville, PA
717-649-6133

SOMERSET MILLING CO.
Somerset, PA
814-445-7504

KENNETH ZURIN
Mt. Joy, PA
717-898-8736

ELWOOD HARER
Montgomery, PA
717-547-6133

MIKE WASCOK
Dunbar, PA
412-628-3993

STEVE SHIPMAN
District Sales Manager
717-726-6958

RICHARD STONER
Alverton, PA
412-887-8854

ERTH-RITE, INC.
Gap, PA
717-442-4171

EDWARD HESSONG
Greencastle, PA
717-597-9534

HORRACE HEINDEL & SON
York, PA
717-244-3780

HYDRO-KIRBY
AGRI-SERVICES
Lancaster, PA
717-299-2541

GORDON ISENBERG
Alexandria, PA
814-669-9323

ALAN HEFLIN
Keymar, MD
301-898-7942

JACK HEFLIN
Woodsboro, MD
301-898-5255

GORDON FLICKINGER
Union Bridge, MD
410-775-7394



NORTHROP KING