



University of Minnesota Agricultural Extension Service, University Farm, St. Paul

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Crop Varieties Recommended for 1953

W. M. MYERS*

For 1953 planting, buy seed on quality, not price. Good seed is essential for successful crop production.

Production and marketing of good seed costs money so you must pay more for it than for average or poor seed. But the small additional cost will be repaid many fold by the superior crop produced.

Don't be misled by "cheap" seed and by the common statement that "it's just as good as" the more expensive. Farmers have found by costly experience that "cheap" seed is not good economy—it may cost the failure of the crop, reduced yields, or introduction of noxious weeds to the farm.

On the other hand, don't be taken in by seed that is overpriced. Overpriced seed is usually handled by "get rich quick" artists. Almost never is a new variety that much better than the varieties which are available at a reasonable price.

What is "Good" Seed?

How can one be certain of obtaining good seed? First, we must consider what we mean by "good" seed. Usually two things are meant. One is the combination of characteristics that distinguish one variety from another; such things as yielding ability, lodging resistance, maturity, and resistance to specific diseases. This is what you obtain when you buy certified seed of recommended varieties.

By "good" seed we also mean factors of seed quality measurable in the seed laboratory, such as germination and freedom from weed seeds, other crop seeds, dirt, and trash.

Both concepts of good seed are important. In laying in your seed supply for 1953 planting, you cannot afford to neglect either. Fortunately it is not



W. M. Myers

difficult to make sure of both. All you have to do is follow some simple rules:

- (1) Buy seed early while the supply is still adequate.
- (2) Buy certified seed of varieties recommended by the Minnesota Agricultural Experiment Station.
- (3) Buy seed from a reputable seed dealer or from a producer of certified seed.
- (4) Read the seed tag carefully before you buy—not after.

It might be well to elaborate briefly on these rules. Generally speaking, there is an adequate supply of seed of most of the recommended varieties. Despite this, local shortages may develop due to faulty distribution. If you order early, you have better assurance that there will be a supply on hand and, if not, your dealer will have time to order it for you.

Station Tests Varieties

The Minnesota Agricultural Experiment Station conducts extensive tests of varieties developed in its own breed-

ing program and those coming in from other sources. This is your testing program, carried out by your impartial scientists. Sometimes they make mistakes but in general Minnesota farmers have benefited by following their Station's recommendations. Unless you can afford to run your own experiments, don't take varieties not recommended by the Station.

You can be sure of obtaining true seed of a variety if you buy certified seed. Seed lots tend to "run out" due to natural crossing, mechanical mixtures, and other causes. Name tags on common seed lots are easily changed either accidentally or deliberately. The Minnesota Crop Improvement Association provides you with a means for insuring that you do get seed of the variety that you intend to buy. Again, let me emphasize, buy certified seed whenever possible.

Reliable seed dealers are an important cog in providing good seed to Minnesota farmers. Avoid the "fly by night" operator and the seed peddler. Seed handled by reliable dealers will have the qualities of germination, freedom from weed seeds, and purity. The reliable dealer's business is handling good seed for regular customers. Seed he handles must and does conform to Minnesota's rigid and protective seed law. And here the seed tag comes in. The law requires that such factors as germination, purity, and weed and other crop seed content, as determined by a reliable laboratory, must be shown on the seed tag.

Recommended Varieties

Varieties recommended by the Minnesota Agricultural Experiment Station are listed and described in "Improved Varieties of Farm Crops," University of Minnesota Extension Folder 22, 1952. The recommended list of varieties is determined each winter at the Experiment Station Crops and Soils Confer-

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MINNESOTA FEED SERVICE

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ence. Few changes in the list are in prospect for the next planting season.

Oats. The recommended varieties are Andrew, Clinton, Bonda, Mindo, Shelby, Ajax, Branch, and James, a hull-less variety. Of these, all except Ajax are resistant to smut. Andrew, Ajax, and Branch are resistant to race 7 of stem rust while Bonda, Clinton, Mindo, Shelby, and James are resistant to race 8. Branch and Ajax have moderate resistance to race 45 of crown rust, to which the others are susceptible. Branch, Ajax, and Shelby are high yielding but are later and lodge more than the others.

Two new varieties, not yet on Minnesota's recommended list, are receiving considerable publicity this winter. These are Clintafe from Iowa and Missouri 0-205 from Missouri. Little seed of either will be available for planting next spring.

Farmers should wait for further tests and a better seed supply before planning to plant either variety. Beware particularly of seed of these varieties offered at exorbitant prices. They have not been, in tests to date, that much better than present varieties.

Spring Wheat. Lee, Mida, and Rival are recommended. Lee is resistant to leaf rust while the others are susceptible. All three are susceptible to race 15B of stem rust. In southwestern, west central, and northwestern Minnesota, Lee is superior in yield. Rival has been the best in yield in southern Minnesota. Mida is recommended for west central and northwestern Minnesota. Mida and Rival are taller than Lee. Rival tends to lodge more than the others.

Rushmore is a new variety. It has not been tested long enough in Minnesota to provide an adequate measure of its value but so far it has not been superior to the three recommended varieties. Henry has been the highest yielding variety in most areas but it

is not acceptable for milling. Farmers should plant it, if at all, only for feed production.

Durum Wheat. Carleton, Mindum, and Stewart are recommended. All are susceptible to race 15B of stem rust. Nugget, another variety sold in Minnesota, has been inferior in yield to the three recommended varieties in all tests except at Morris.

Winter Wheat. The recommended varieties are Minturki and Minter. Both are very winter hardy.

Seed buyers should avoid new varieties of wheat that are advertised as resistant to the new stem rust threat, race 15B. There just aren't any such varieties ready for distribution. We may have some in two or three years but not this winter.

Barley. Most of the barley planted in Minnesota is intended for malting. For this purpose there is really only one adapted variety, Kindred. About 90 per cent of the barley acreage in 1952 was planted to this variety. It has weak straw and only moderate resistance to spot blotch and loose smut. But until some better variety is available—and none is in prospect immediately—Kindred is the best bet.

Montcalm has excellent malting quality and good yield. It is not recommended, however, because of weak straw and susceptibility to scab, loose smut, spot blotch, and stem rust.

When planted strictly for feed, Vantage, Moore, and Peatland are recommended. These varieties are not acceptable for malting.

Flax. The varieties recommended are Redwing, Minerva, Koto, B5128, Redwood, and Marine. Redwood, B5128, and Marine are immune to rust. Redwood and Marine are resistant to wilt and have some resistance to pasmo, Marine being the most pasmo resistant variety available. B5128 is moderately susceptible to wilt and pasmo. Redwood and B5128 are late and must be planted early if their high yield potential is to be realized. Marine is early and shows up better in late planting than the other varieties. Koto and Redwing are susceptible to rust. Minerva produces well only under very favorable conditions.

Seed supply of Redwood should be reasonably good this winter but don't wait too late to buy it because the supply might not last. Marine is a new variety and little certified seed will be available this winter. Some registered seed, to be allocated by the county committees, will be available to certified seed growers.

Soybeans. Blackhawk, Monroe, Capital, Ottawa Mandarin, and Flambeau

are recommended. Maturity is a dominant factor in adaptation of soybean varieties. So be sure to buy the variety adapted to your particular area of the state. For advice on this point, consult your county agent or Extension Folder 22. In particular, beware of varieties that give high yields farther south. They might not mature in your area. And especially, you should not be misled by variety performance during the past summer. Even late varieties matured in the late, favorable fall.

Rye. Emerald and Imperial, the varieties recommended, are winter hardy and have exceeded other varieties in yield. Pierre, a new variety from South Dakota, has yielded almost as much as the recommended varieties. Dakold is inferior in yield and Balbo is not winter hardy enough for Minnesota.

Alfalfa. The recommended varieties are Ranger and Ladak. There will be an adequate supply of certified seed of Ranger this winter, at least for those who buy early. Ranger is winter hardy and wilt resistant. Most of the certified seed is produced in the southwest, especially California. Uncertified southwestern alfalfa seed is definitely not recommended in Minnesota. But certified seed of Ranger from California is just as satisfactory for planting in Minnesota as is certified seed of Ranger from any other area.

Ladak is well adapted to Minnesota but the supply of certified seed is short. Grimm is a good variety for short rotations but, because of its wilt susceptibility, it is not on the recommended list.

Two new varieties are being offered in Minnesota at high prices. These varieties, Rhizoma and Nomad, are not recommended. Rhizoma is winter hardy, yields about like Ranger and Ladak, but is susceptible to wilt. Its performance in Minnesota does not justify the price of seed. In tests to date, Nomad does not appear to be adapted in this state.

Brome grass. Lincoln, Achenbach, and Fisher varieties of southern brome grass are recommended. Seed supplies of these varieties probably will be limited so buy early.

Red Clover. Varieties recommended are Midland and Wegener. Seed supply of both varieties is very limited. The best supply of certified seed of red clover is of Kenland, which is not recommended in Minnesota.

Sweet Clover. Evergreen and Madrid are the recommended varieties. The seed supply of these varieties is relatively limited but the early buyer should be able to get some.

Dairy Cows Need Special Feed

H. R. SEARLES*

There are two kinds of dairy farmers buying feeds. One is the good dairyman who knows what he wants and why. The other—and it is the larger group (the one that needs selling)—needs help in selecting the feed that fits his need.

The first group will only discuss which one of the feeds that fits his need is the best buy at the time.

At least some of the second group are likely to select the lower cost feeds regardless of their nutrient value. For instance, a man may want to buy a 16 per cent feed when the need is for a 30 to 40 per cent concentrate. He needs to be shown that it is largely protein he needs with his corn-and-cob meal.

Some of these men may even be looking for a tonic or a mineral mix that will make a poor ration into a good one. Let's frankly tell this customer that tonics or minerals cannot replace proteins, carbohydrates, and fats. The first requirement is for these nutrients, then add a good high phosphorus mineral if it is needed.

Feeding dairy cows is different than feeding any other class of livestock.

1. Dairy cows come into production only because of calving. The urge to produce milk diminishes throughout the lactation. Feeding schedules can only take advantage of this lactation curve. With beef animals an increase in feed at any time increases gains.

2. Dairy cows must be fed individually, because a cow's need for nutrients varies through the lactation. They produce at different levels and they don't all freshen at once.

3. The roughage fed determines the make-up of the grain ration and the quantity needed. The source or kind of protein is not important to cows.

4. Roughages vary from region to region, from summer to winter, from farm to farm, even from week to week both summer and winter.

A dogmatic approach is impossible. Only by a sound understanding of the principles involved is a sound feeding program possible.

The kind and quality of the roughage fed is the determining factor in making up the grain ration for the herd. The quantity needed can be adjusted to individual cows according to production and the condition of the cow.

There's a Difference in Roughages

Winter roughages fall roughly into two classes, i.e., legume and nonlegume,

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high protein and low protein. Their quality is determined by time of cutting and curing methods which may at times run them rather close together. Legume hay may vary from 10 to 20 per cent in total crude protein. Nonlegume roughages will rarely go over 7 or 8 per cent.

For example, one day's feed of 20 pounds of hay will provide:

	Total crude protein
Average alfalfa hay 14.8 per cent total protein	2.96 lbs.
Average nonlegume 6.5 per cent total protein	1.30 lbs.
Daily difference	1.66 lbs.

Four pounds of a 42 per cent concentrate are needed to make up the 1.66 pound difference.

The high protein concentrate needed in the grain ration may vary from none with excellent alfalfa hay in quantity to 25 per cent where little or no legume hay is provided. Actually, there is so little excellent alfalfa hay that the practical variation is 10 to 25 per cent.

Rations Suggested for Brood Sows

H. G. ZAVORAL*

The value of a brood sow is measured by her ability to farrow and raise a large litter of strong, vigorous pigs. The principal factors which may influence these results are: first, inheritance; second, health; and third, feeding.

No matter how well a sow is fed or how healthy she is, if she comes from poor stock, it is hard to know what to expect. On the other hand a sow may come from a long line of proven ancestors and if she harbors parasites or is diseased or is not fed right, she is naturally less efficient. For success you just can't have one without the other.

Influence of Feed on Litter

If the sows have good inheritance and are in good health, then feeding will have an influence on the litter produced. A new born pig's chance for survival and becoming a profitable pork producer is greatly influenced by his birth weight. Pigs that weigh 2 pounds or less at farrowing time are poor risks—less than 50 per cent of such pigs live to normal weaning age. The bigger the

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How to Determine Protein Content

A rough guide is as follows:

With plenty of good legume hay use 12 per cent total protein in the grain mixture. For limited amounts of good legume or with average or below quality legume hay use a 16 per cent total protein mixture. When little or no legume hay is fed, the grain mixture should be 20 per cent total protein.

Grass and legume silage should be considered equal to hay from the same crop when allowance is made for the moisture. Three pounds of silage is equal to one of hay. Corn silage is low in protein, and when large amounts are fed, the protein in the grain mixture will need to be increased.

Regionally there is a tremendous difference in the kind and amounts of feed that need to be purchased by dairymen. In the corn and grain areas the need is for high protein feeds to be mixed with home-grown corn, oats, and barley. In northeastern Minnesota almost all of the grain must be purchased. The ration can be a locally mixed feed or a complete formula feed that fits the roughage available as indicated above.

pigs at birth, the larger the weight at weaning and the higher the percentage saved. For this reason it is important to feed and care for the sows the best way we know how during gestation, the period when she is developing the pigs.

The feed requirements of a sow may be met when all the food nutrients—proteins, carbohydrates, fats, minerals, vitamins—and water are present in required amounts.

Protein Feed Important

A protein supplement should be purchased if a gallon of skim milk per day is not available for each sow. The ration will consist principally of corn, barley, oats, alfalfa.

The amount of grain to be fed depends on condition of the sows. On an average gilts will require 1.75 to 2.00 pounds of grain per each 100 pounds of live weight, mature sows about 20 per cent less. They should receive enough to keep them gaining.

Gilts not on pasture require about a 14 to 15 per cent protein ration while old sows will do pretty well on a 12 per cent protein ration. Protein feeds are extremely important. Most feed manufacturers employ nutrition specialists

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and supply well-formulated protein supplements.

Advise your customers to feed their sows some distance from the sleeping quarters to induce exercise. The water should not be too near the freezing point and should be available at all times.

These rations are recommended:

Ration No. 1 Self Fed

- 34 pounds ground shelled corn or barley
- 30 pounds ground oats
- 28 pounds ground good quality alfalfa hay
- 8 pounds of 38 per cent protein supplement
- 1/2 pound trace element salt
- 1/2 pound bone meal
- 1/2 milligram vitamin B₁₂

Ration No. 2 Self Fed

- 40 pounds ground oats
- 40 pounds ground good quality alfalfa hay
- 20 pounds 32-40 per cent protein supplement
- 1/2 pound trace element salt
- 1 pound mineral
- 1/2 milligram vitamin B₁₂
- Corn on cob or shelled corn hand fed according to condition desired

Ration No. 3 Hand Fed

Feed 1 to 1 1/2 pounds of ration No. 2 and 1 pound of corn per hundred pounds live weight per day per sow.

Ration No. 4 Hand Fed

- Feed 2 pounds per hundred pounds live weight of the following:
- 42 pounds ground corn or barley or both
- 42 pounds ground oats
- 16 pounds ground alfalfa hay
- 1/2 to 1 gallon skim milk or buttermilk per day per sow
- Minerals self fed

Help Poultrymen Use Mash Wisely

CORA COOKE*

As a feed dealer you no doubt aim to give farmers as good a mash as is in keeping with going costs. Each mixture carries a specific amount of protein, with minerals and vitamins to fit. You may feel you can stand back of the mixture, but are you sure you are giving the poultryman the information he needs to make best use of the mixture?

Whether your favorite mixture is a 16 per cent or a 38 per cent, the way in which it is fed, the amounts of grain fed with it, and the adjustments that are sometimes needed—depending on conditions of weather, of the flock, and even of the house—make the difference between really good results and results that are just so-so.

Proportion of Grain to Mash

Take a 20 per cent laying mash, for example. Do your customers know that it requires, for best production, about equal amounts by weight of grain? Do they know that birds will quite regularly eat more grain than this, if it is given to them? Do they know that total consumption goes up with production, while the proportion of grain to mash should remain about the same? Do they realize that, for these reasons, they need to make a frequent check on

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the amount of mash being eaten in order to keep the grain in balance?

Proportions of grain to mash are important, whatever the system of feeding, and the protein content of mash is the determining factor in deciding the proportion. The table below may serve as a guide.

Do your customers fully realize that when they "throw in another sack of grain" they are almost surely dropping the protein content, and the vitamins and minerals as well, below the point that makes for economical production?

Check Condition of Birds

Then, of course, the condition of the birds always deserves attention. Do your customers know that if pullets tend to lose weight in the early winter, it is a good idea to feed grain a little more heavily until the situation is corrected? Sometimes, however, the same result is accomplished by feeding a small quantity of moist mash daily. This is for occasions when birds go off feed. Its purpose is to pep up the appetites.

Don't forget, too, that the best of feed will fall short of expectations without adequate feeder space (24 linear feet of opening for 100 hens), a constant supply of drinkable water, and shell material that is near the feeders and in good light. A shortage in any one of these may make the difference between profit and loss.

Per cent protein in mash	Pounds daily per 100 hens		Approximate proportion of grain to mash
	Grain	Mash	
16 (all mash)	0	28	0 to 1
19-20	14	14	1 to 1
27 (2 grains)	21	7	3 to 1
32 (3 grains)	22	6	4 to 1
38 (3 grains)	24	4	6 to 1

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