WHAT ABOUT EDDA BARLEY?

Edda barley, released by the Alaska Experiment Station in 1951, has been received with mixed feelings. Some farmers have been well satisfied with it while others have refused to grow it. There is a need to review the good and bad features of Edda.

First, let's set down the desired features of a barley variety.

1. High yield
2. Early maturity
3. Resistance to lodging
4. Resistance to disease
5. Smooth awns
6. High grain quality

Now, let's take a good look at Edda barley and see how it rates. First, however, it should be said that during the past five years every known barley variety available (5,215 in number) has been grown at the Matanuska Station and the best ones also were grown at Fairbanks. So, there is little chance that good barleys exist that have not been tested in Alaska.

Yielding Ability Each year the best varieties are tested for yielding ability. Tests are made in small plots with several plots of each variety in the experiment. The reason for using this method of testing is that it requires much less land area, time and expense with little or no loss in accuracy. For example, to test 100 varieties in 1/10 acre plots with 4 plots of each variety would require 40 acres, while the same varieties can be tested in the small plot method on about 1/3 acre. It is much easier to get all varieties on uniform soil in 1/3 acre than on 40 acres.

In yield trials during the past five years (1949-1953) Edda has averaged about 61 bushels per acre at Matanuska and 53 bushels at Fairbanks. No other variety has yielded that much grain at Matanuska. Several 2-rowed varieties have yielded slightly more at Fairbanks on upland plantings. They are recommended because they produce many secondary tillers or shoots that ripen later than the main stem. In long seasons yields are good but in short seasons yields are reduced. In short seasons the mixture of mature and immature grain creates cleaning and storage problems.

Yields from field scale plantings of Edda were 70 bushels per acre in 1952 at Matanuska and over 80 bushels per acre in 1953 at Fairbanks. Edda is a fairly tall growing variety and it produces good yields of straw, too. This is important to dairy farmers.

Maturity In general, extremely early varieties are low yielders. Therefore when we say early maturity we mean a degree of earliness sufficient to mature every year, but not so early as to result in low yields. It is not too often that so good a combination of satisfactory yield and maturity exists as that found in Edda barley. There are several earlier varieties, but they produce less grain. They are earlier than necessary for most areas so are not recommended for general use. Edda has never failed to mature a satisfactory crop in plantings at the Experiment Stations. Of course, if it is planted too late it sometimes will not mature. All small grains should be planted during the first two weeks in May.

Lodging Barley is stiffer strawed than either oats or wheat. Some barleys stand better than Edda but they are not satisfactory otherwise. Edda usually will not lodge enough to cause trouble in harvesting. Occasionally some lodging occurs when excessive nitrogen is applied and in low spots in the field where moisture is high. This is true of almost all varieties, however.

Disease Resistance The most common diseases of cereals in Alaska are the smuts and barley stripe. We do not have cereal rusts and many other diseases that plague certain areas of the States where cereals are grown. Disease problems probably will increase as more grain is produced and the plant breeders will have to be on their toes to develop varieties resistant to new diseases as they become important.

Edda is fairly resistant to the smuts, but it is susceptible to the barley stripe organism that occurs in Alaska. When this organism infects seedlings the plants usually die before seed is produced. Infections that occur later may cause loss of some leaves, but only slight reductions in yield. Fortunately, seed can be treated with organic mercury dusts to prevent seedling infections. Ceresan M is the trade name for one of these dusts which control stripe and smuts and help the seedlings to ward off attacks from some root rot organisms.

Awns There are several conditions found in barley with regard to awns or beards, as they are often called. There are rough awned, smooth awned, and hooded varieties. Rough awned barleys are disagreeable to handle and it is dangerous to feed straw of rough awned barleys to cattle. However, now that more and better forages are being fed to cattle in Alaska, the practice of feeding straw is fast disappearing. There is little danger in using the straw of rough awned varieties for bedding if cattle are well fed.

Edda is a very rough awned variety and it is readily apparent that smooth awns would be more...
desirable. A number of smooth awned barley varieties have been produced in the States. However, of all varieties tested in Alaska, the best smooth awned variety yields only about 80 percent as much as Edda. It is believed that this 10 to 12 bushel difference in yield is more than most farmers would want to pay for smooth awns. Hooded barleys like Trapmar generally are poorer yielders than awned varieties.

Grain Quality It has been shown that the feeding value of Alaska grown barley is about equal to that grown in the States and that it is about 90 percent of that of corn. There is little difference between the various hulled barley varieties grown under the same conditions. Hulless varieties have about 2 percent more feed value than hulled varieties.

Edda has been found to be an exceptionally good barley for malting. If malting and brewing industries come to Alaska, there will be a ready market for Edda.

Let's Compare Summing up we find that Edda is excellent in yield, quality, maturity, and in lodging resistance; it is fairly good so far as disease resistance is concerned; it has the objectionable feature of rough awns. The best smooth awned variety falls down in yield. Olli is good in most characteristics, but is also rough awned and slightly lower in yield. Trapmar (or 19B) lodges badly, is low in grain yield, late, very susceptible to smuts, hulless and hooded. It yields only about 2/3 as much forage as oats and therefore is not an economical crop for forage production. Interest in this variety seems to be waning. When all is considered, Edda is the best bet for production of grain and straw.

Where Do We Go From Here? Though it is the best variety now available, Edda does not possess all the qualities we would like in a barley variety. Some varieties which are not useful themselves have certain characteristics that make them valuable as building blocks for a new variety. Crosses have been made between these varieties and Edda with the hope of getting a variety with Edda's good features plus smooth awns, resistance to barley stripe, and possibly a little stiffer straw. One characteristic of Edda not mentioned before is the tendency for heads to break off if over-ripe. If this tendency can be overcome it would be of value. This is not considered a serious defect however because losses can be prevented by harvesting the crop when it is ready.

Time is always a big factor in breeding better varieties and a good illustration is the history of Edda. The cross from which Edda came was made in 1925 in Sweden but it was not released to Swedish farmers until 1943, 18 years later. After a cross is made, selection must be continued for a number of generations to isolate and purify the better strains. Then follows yield testing for several years to tell which is the best yielding strain and then that strain must be increased before it can be made available to farmers. Since crosses of Edda and other varieties were made only recently, it will be a number of years before a better variety than Edda is available. In the meantime Edda should be used extensively. Its only serious defect is the disagreeable rough awns. Most farmers will not let rough awns scare them once they are convinced of the other merits of Edda barley.

In order to give the farmer a chance to compare Edda barley with whatever cereal he now grows, the Agronomy Department of the Alaska Agricultural Experiment Station is prepared to give 20 pounds of good quality seed (enough for 1/5 acre) of Edda barley to any farmer who will plant it. This seed will not be eligible for certification. Try this variety and see for yourself how superior it is. Contact the Agronomy Department, Alaska Experiment Station for this seed sample.

Recommendations for Growing Edda Barley

1. Prepare a good seedbed. Plowing is preferred.
2. Fertilize with at least 200 pounds 10-20-10 per acre. Manure plowed down is also helpful.
3. Plant 100 pounds seed per acre. Be sure seed is clean (free of weed seed) and of good germination. Certified seed meets these requirements.
4. Plant during first 2 weeks in May or as soon thereafter as possible.
5. Prepare seedbed, fertilize, plant and cultipack in shortest possible time to conserve moisture.
6. Plant in weed free ground or control weeds with chemical sprays.
7. Harvest immediately when mature.
8. Thresh right after harvest to avoid germination in the shock caused by excessive wet weather.
9. Dry grain if possible.