E VERY few years there appears a wonderful wheat which, according to its promoters, possesses all the desirable characters of phenomenal yield, super quality and extra market value to say nothing of smut, rust, insect, and drought resistance. Prices ranging from one dollar a head to five dollars a pound are often paid by credulous growers eager to get a start with new wheat. Inquiries from Arizona farmers concerning such wheats are frequent. A newspaper article states that a quantity of "Miracle" wheat has been distributed by the Mexicali Chamber of Commerce to a number of wheat growers in Lower California. Before planting such wheats, farmers should discuss the advisability of growing them with their county agricultural agent.

Upon investigation the wonder wheat is usually found to belong to one of two types, Polish and Poulard. The names applied to these wheats are legion with a new one often added by each new "discoverer." The Polish appears as Jerusalem rye, Giant rye, Goose wheat, Rice wheat, and a number of others. The Alaska variety of the Poulard is most commonly grown and is known as Miracle wheat, Seven-Headed, Many Headed, Mummy, Egyptian, Mortgage Lifter, Wheat 3,000 Years Old, and so on.

The accompanying illustration shows characteristic spikes of the two wheats. The Polish has large, long, nodding heads with extremely long, thin and papery white chaff. The looseness of the heads is characteristic. The kernels are very hard and are sometimes half an inch in length. They resemble amber durum kernels in color and are somewhat similar to rye kernels in outward appearance. The plants are very tall and the upper portions of the stems are solid or pithy. The beards are black and are easily broken off when the grain is ripe. This wheat is very susceptible to stem and leaf rusts and the heads are easily blasted by hot winds at flowering time.

The most striking characteristic of the poulard is the branching habit of the head. It is from this habit that such names as Seven-Headed and Many Headed arise. While there is often more grain to the head than with common wheats, the plants tiller very little and the stand is poor unless a large amount of seed is used. The chaff is either white or brown and smooth or velvety, depending on the variety. The kernels are rather short and somewhat humped, resembling both the durum and the club wheat kernels to some extent. There is considerable variation in the kernels due to growing conditions and other factors, and soft or "yellow berry" kernels are common. The plants are tall with solid or pithy stems and broad leaves. They are very easily injured by rust and smut.

Neither Polish nor poulard are high yielding wheats. Occasionally high yields of poulard are obtained, but in no locality where it has been grown have the yields equalled those of the better local varieties. Four selections of poulard tested by the Plant Breeding Division of the University of Arizona at Yuma in 1915 averaged 42.3 bushels as compared with 45.5 bushels for Early Baart. However, further trials showed poulard less favorably and the variety was discarded as one having little value as compared with the more common varieties. Very little information concerning the yielding value of Polish is available for (Continued on Page 11)

Bread From White Sonora, Early Baart, And Alaska (Poulard) Indicating Poorer Quality And Smaller Loaf Volume Of The Poulard Variety
were presented and the couple winning the $10 prize given by Dean Thorner was announced. This was new feature of the dance, as the most appropriately dressed couple has never been rewarded in the past.

As a whole the dance was a success from the first "Rooster's Strut" to the final "Barnyard Shuffle," and much credit must be given to President Joe Downs and the Committee-men for the efficient way in which it was handled.

POLISH AND POULARD

(Continued from Page 8)

this state. In 1914 Polish yielded 168 pounds per acre on dry land at Prescott while nine other varieties averaged 195 pounds under the same conditions. The variety was a total failure the previous year but the same was true of nearly all the other varieties as well. While such yields do not show the true value of a variety, these and other trials leave little doubt of the poor yields to be expected of the Polish wheat.

Yields in other parts of the country indicate the inferiority of these two wheats. Both Polish and poular were out-yielded from 50 to 100 percent at Dickinson, North Dakota, and at Newell, South Dakota, by both durum and common wheats in tests extending over several years. One of the poular varieties known as Titanic averaged 20.8 bushels per acre at Chico, California, while Pacific Bluestem and White Federation yielded 28.2 bushels and 43.4 bushels per acre respectively.

Another serious disadvantage of these wheats is their low value for bread making purposes. The gluten content of Polish is low and of poor quality. The same quantity of flour from a good, hard, red, spring wheat will produce a loaf twice the size of that produced from Polish wheat. Macaroni manufacturers will not use this wheats in the manufacture of their products.

Flour from poular wheat is poorer in baking quality than that of any of the commercial wheats in this country. The accompanying photograph gives a fair idea of two loaves of bread, one made from Early Baart and the other from poular. The latter makes a very small loaf of poor quality bread. Millers will not purchase poular wheat for flour making because of its poor quality. The following table shows the results of milling and baking tests on poular and Early Baart wheat grown at Yuma in 1916.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Absorption</th>
<th>Straight</th>
<th>Weight of loaf</th>
<th>Volume</th>
<th>Crumb</th>
<th>score</th>
<th>score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poular</td>
<td>71.4%</td>
<td>69.3%</td>
<td>558 gms.</td>
<td>1403 cc.</td>
<td>80</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Early Baart</td>
<td>69.0%</td>
<td>63.6%</td>
<td>534 gms.</td>
<td>2035 cc.</td>
<td>94</td>
<td>94</td>
<td></td>
</tr>
</tbody>
</table>

It will be noted that the poular has a higher water absorption and also a higher straight flour yield than the Early Baart but this is more than offset by the color and texture of crumb and volume of loaf of the Early Baart. The differences in loaf volume are shown in the photograph. The wheat protein in the poular was 12.13 percent as compared with 13.45 percent in the Early Baart. The dry gluten in the flour from the poular was 9.47 percent as compared with 10.69 percent for the Early Baart. These figures indicate the lower food value of the former wheat.

The following conclusions taken from Farmers' Bulletin 1340, Polish and Poular Wheats, show the low esteem in which these wheats are held: "There is no object in growing Polish other than as a curiosity"; "Poular wheat is suitable only for stock feed, and as such it is not superior to other kinds of wheat"; "Farmers are advised against buying and growing varieties of Polish and poular wheat, as only unsatisfactory re-turns have been obtained from them in all parts of the United States." The lower average yields of the Polish and poular wheats as compared with common wheats, the poor quality of the flour obtained and the susceptibility of both types to rusts should be sufficient to prevent their being grown in Arizona.

HINTS ON POULTRY FEEDING

PRACTICES IN EGYPT

(Continued from Page 7.)

Chick Feed Program

Kind of Feed

Age, 1 to 2 days, nothing
Age, 2 to 10 days, boiled eggs, bread crumbs three to four times a day in limited quantities
Age, 11 to 60 days, cracked wheat, cracked rice, cracked corn, boiled bran, all in equal amounts. Buttermilk should be available.
Age, 60 days on, Cracked wheat, cracked corn, cracked barley, boiled bran, in equal amounts. Milk and green feeds should be available at all times.