REGISTRATION OF UC-1 SAFFFLOWER
(Reg. No. 6)

P. F. Knowles

'UC-1' safflower (Carthamus tinctorius L.), in a sense, is the first commercial variety of a new oil crop. Comparable analyses of the oils of UC-1 and 'US-10' gave the following fatty acid compositions:

<table>
<thead>
<tr>
<th>Fatty acid</th>
<th>UC-1</th>
<th>US-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palmitic</td>
<td>5.3%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Stearic</td>
<td>1.2%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Oleic</td>
<td>78.3%</td>
<td>10.8%</td>
</tr>
<tr>
<td>Linoleic</td>
<td>15.2%</td>
<td>79.6%</td>
</tr>
</tbody>
</table>

The oil of UC-1 is similar chemically to olive oil. In tests it has looked promising as a cooking oil in comparison with hydrogenated commercial frying oils (1,2). The oil characteristics of UC-1 and US-10 are governed by alleles at one locus, UC-1 having the genotype olol and US-10 OIOI (4.7). Iodine value can be used to indicate rather accurately the fatty acid composition of safflower oil (3), with commercial varieties ranging from 137 to 145, and UC-1 from 90 to 100. Iodine value can be readily determined from a small drop of oil by using an appropriate refractometer.

An introduction from India accessioned 57-147, with genotype olol, was crossed to N-10 in 1957. F₂ selections with genotype, olol were crossed in 1961 to US-10, a variety derived from and similar to N-10 (8.9). F₂ plants from this cross were crossed again to US-10 in 1962. Selfed F₂ plants from the latter cross with genotype olol (iodine value between 90 and 99) were identified in 1964 and increased as F₃ lines in 1965 under isolation. After oil analyses and iodine value determinations, six lines were composited as UC-1.

UC-1 is similar to US-10 in appearance, oil content and yield. Both are early, spiny, and have yellow flowers.

UC-1 was recommended for certification in 1966, and the first certified seed grown in 1967. It is expected that UC-1 will be grown in amounts sufficient to test commercial interest in the new type of oil. If there is a good demand for the oil, it will be quickly replaced by varieties with higher yields and higher oil contents.

Literature Cited


REGISTRATION OF PARK WHEAT
(Reg. No. 474)

M. L. Kaufmann and A. D. McFadden

'Park' wheat (Triticum aestivum L. em. Thell) is a hard red spring wheat developed by the Early Wheat Project Group centered at the Canada Department of Agriculture Research Station, Lacombe, Alberta. It was selected from the cross, 'Mida-Cadet' (C.T. 609) × ' Thatcher,' made in 1950. Selection, with emphasis on early maturity, was carried out from plant progeny rows through the F₂ Park is 2 to 4 days earlier than Thatcher, is nearly equal to Thatcher in yield and similar in other respects. It was licensed in Canada in March 1963 and similar in other respects. It was licensed in Canada in March 1963 and distributed to seed growers the same year.

The spike of Park is fusiform, mid-dense, apically awned; glumes are mid-long, mid-wide, glabrous, white; shoulders are wide to mid-wide, oblique to rounded; beaks are mid-wide, short.

Park is adapted to the region of west central and northern Alberta where earliness is a prime consideration, and where the rusts are not a problem. In these regions it has replaced Saunders and Thatcher to a large extent. It is resistant to loose rust, and some races of stem rust, susceptible to bunt and leaf rust.

Breeder seed is maintained by the Lacombe Research Station.

REGISTRATION OF YORKSTAR WHEAT
(Reg. No. 475)

Neal F. Jensen

'Yorkstar' wheat (Triticum aestivum L. em. Thell, C.I. 14026, is a soft white winter wheat of medium height developed at the Cornell University Agricultural Experiment Station and distributed to commercial growers in 1968. It is a pure line selection from a series of backcrosses made during the period 1952-1956 by N. F. Jensen at Ithaca, New York. The parentage of Yorkstar is: 3 'Genese' 5× 'Yorkwin' 2× 'Brevor' × 'Norin 10;' the Brevor × Norin 10 semidwarf selection was obtained from O. A. Vogel.

Yorkstar visually resembles its recurrent parent Genese except for height (it is about 7 inches shorter). It has been outstanding for yield, averaging 9% above Genese in 79 nurseries conducted over a period of 6 years in New York and at 23 experiment stations cooperating in the USDA Uniform Eastern Soft Wheat Nurseries; the mean yield of Yorkstar was 55.40, that of Genese 49.07 bushels per acre.

Yorkstar has a winter habit of growth and midseason maturity; the white straw is medium short with greater lodging resistance than Genese. The mid-long head with red chaff is apically awned with a distinct nodding aspect at maturity. The kernels of Yorkstar are soft white, short to mid-long, oval to oval; crease is mid-wide, mid-deep; checks are rounded to angular.

The quality of Yorkstar is outstanding: protein is about one percent lower and the flour shows finer granularity than that of Genese; lower protein is desired to counteract the trend to higher protein resulting from higher nitrogen applications by farmers, and finer granularity makes for better cake baking. Test weight of Yorkstar is about a pound per bushel lower than Genese but flour yields are equivalent.

The reactions of Yorkstar to environmental hazards, such as pathogens and field sprouting, are expected to be similar to that of Genese; lower protein is desired to counteract the trend to higher protein resulting from higher nitrogen applications by farmers, and finer granularity makes for better cake baking. Test weight of Yorkstar is about a pound per bushel lower than Genese but flour yields are equivalent.

1 Registered by the Crop Science Society of America. Received June 15, 1968.
2 Professor, Department of Agronomy, University of California, Davis, Calif. 95616.
3 Registered by Cerealists, Research Station, Lacombe, Alberta.
4 Registered by the Crop Science Society of America. Received June 24, 1968.
5 Professor of Plant Breeding, Cornell University, Ithaca, New York.