



1919-2019



YEARS OF PLANT SCIENCE

The National Institute of Agricultural Botany is established by Sir Lawrence Weaver under the motto 'Better Seeds: Better Crops'. The Institute is a response to the need for quality seed and improved varieties in safeguarding food supplies post-WW1.

UK AGRICULTURE

The Plant Breeding Institute is set up in Cambridge in 1912 to develop improved wheat varieties, followed by the establishment of the Official Seed Testing Station in London in 1917.

The Ministry of Agriculture and Fisheries is formed in 1919, the predecessor of MAFF and Defra.

VARIETIES AND AGRONOMY

Average wheat yield is 2.2 t/ha. Squareheads Master (1868), Little Joss (1908) and Yeoman (1916) provide consistency, yield and disease resistance in wheat crops, in a marketplace previously dominated by landraces and 'local' variety synonyms.

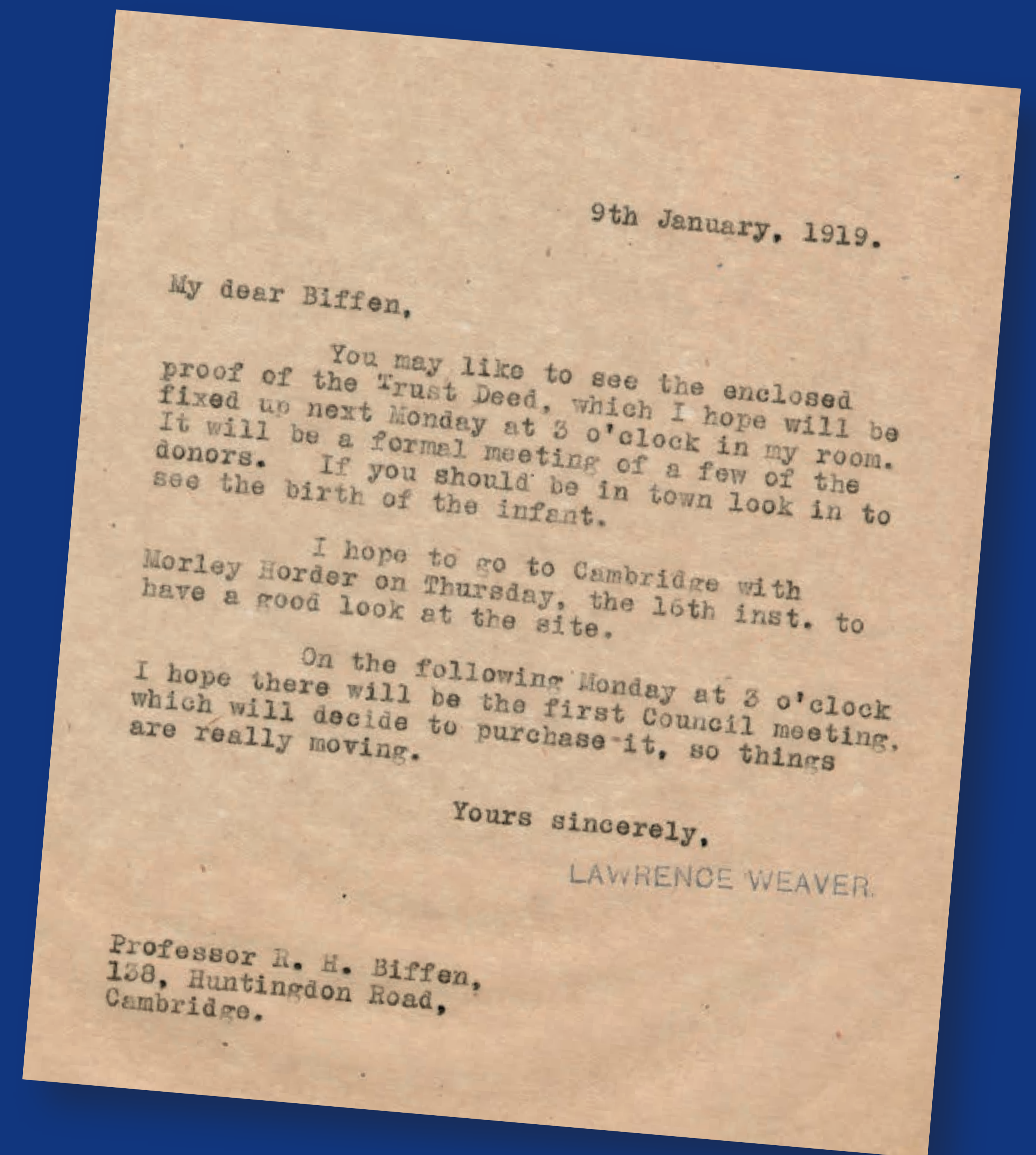
Fungicides include copper oxychloride and phenyl-mercury chloride.

"The birth of the infant..."

NIAB founder Lawrence Weaver invites the Plant Breeding Institute's Director Professor Biffen to the signing of the Trust Deed on 13 January 1919.



The NIAB Crest sits above the original entrance to the 1921 NIAB Building on Huntingdon Road.



1919

The National Institute of Agricultural Botany's Huntingdon Road HQ is opened in 1921, and the OSTs joins the Institute.

The first Fellows Scheme is launched and a regional trials network is established.



1920s

NIAB plays a crucial role in seed testing, ensuring the seed is healthy and fit for sowing. The OSTs, and its mainly female staff, relocates from London to Cambridge in 1918 and integrates into NIAB in 1921.

UK AGRICULTURE

The International Seed Testing Association is founded at a meeting at NIAB in 1924.

A national variety structure is established in potatoes and cereals.

Harry Ferguson invents the three point linkage in 1924.

VARIETIES AND AGRONOMY

Average wheat yield is 2.4 t/ha. Little Joss (1908) and Yeoman (1916) remain the most popular wheat varieties.

Fungicides include copper sulphate and copper carbonate.



Below: A regional trials network is established with variety comparison and seed multiplication plots.



1930s

NIAB issues the first Farmers' Leaflets across a range of crops, precursor to the Recommended, Descriptive and National Lists today.

The Institute pioneers the use of randomised trial design in 1936 and releases authenticated stocks of proven state-bred varieties in 1939.

UK AGRICULTURE

The Agricultural Research Council is set-up in 1931, predecessor to the Biotechnology & Biological Sciences Research Council.

The Milk Marketing Board is established in 1933 to control milk production and distribution.

The UK is 30% self-sufficient in home-grown crops.

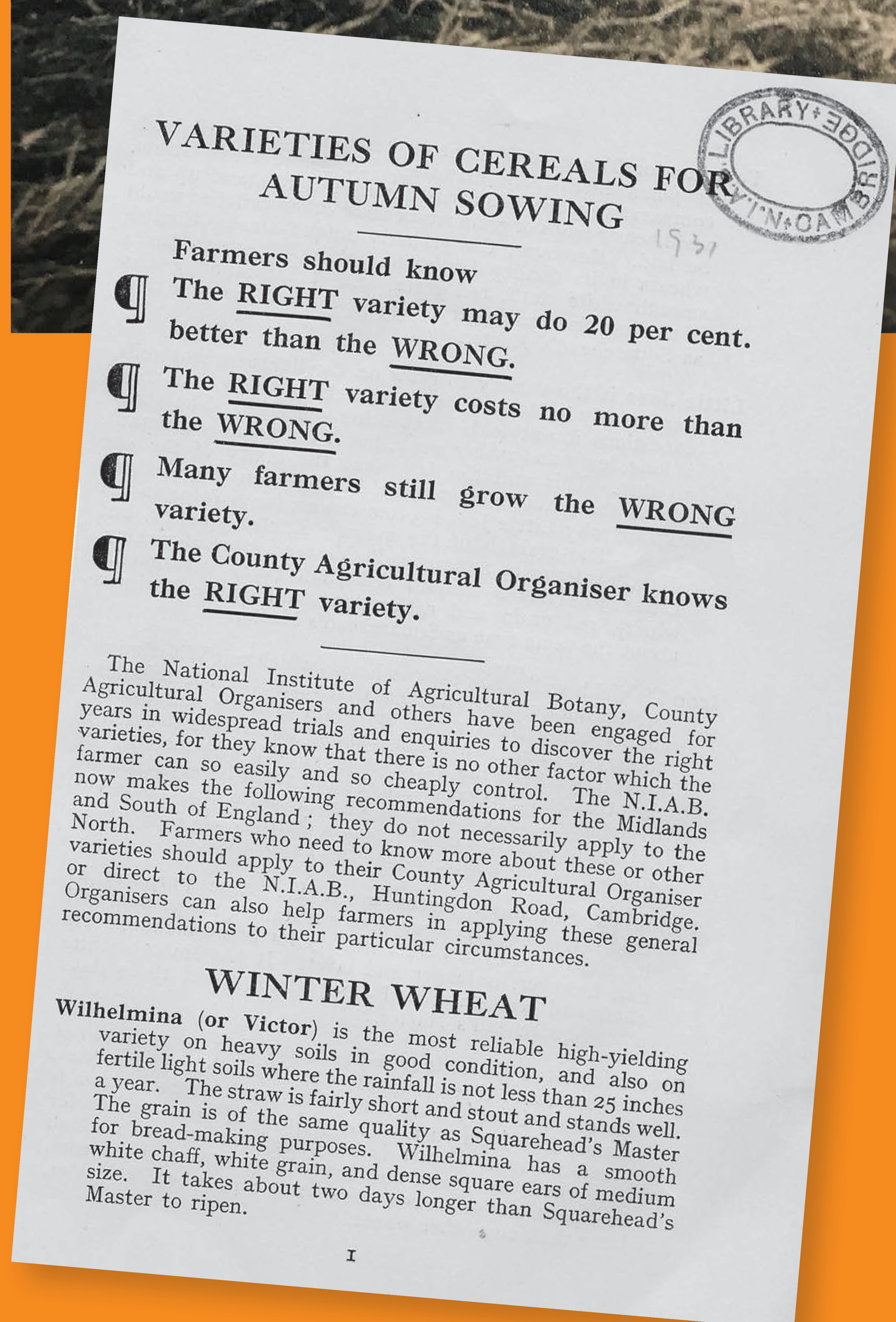
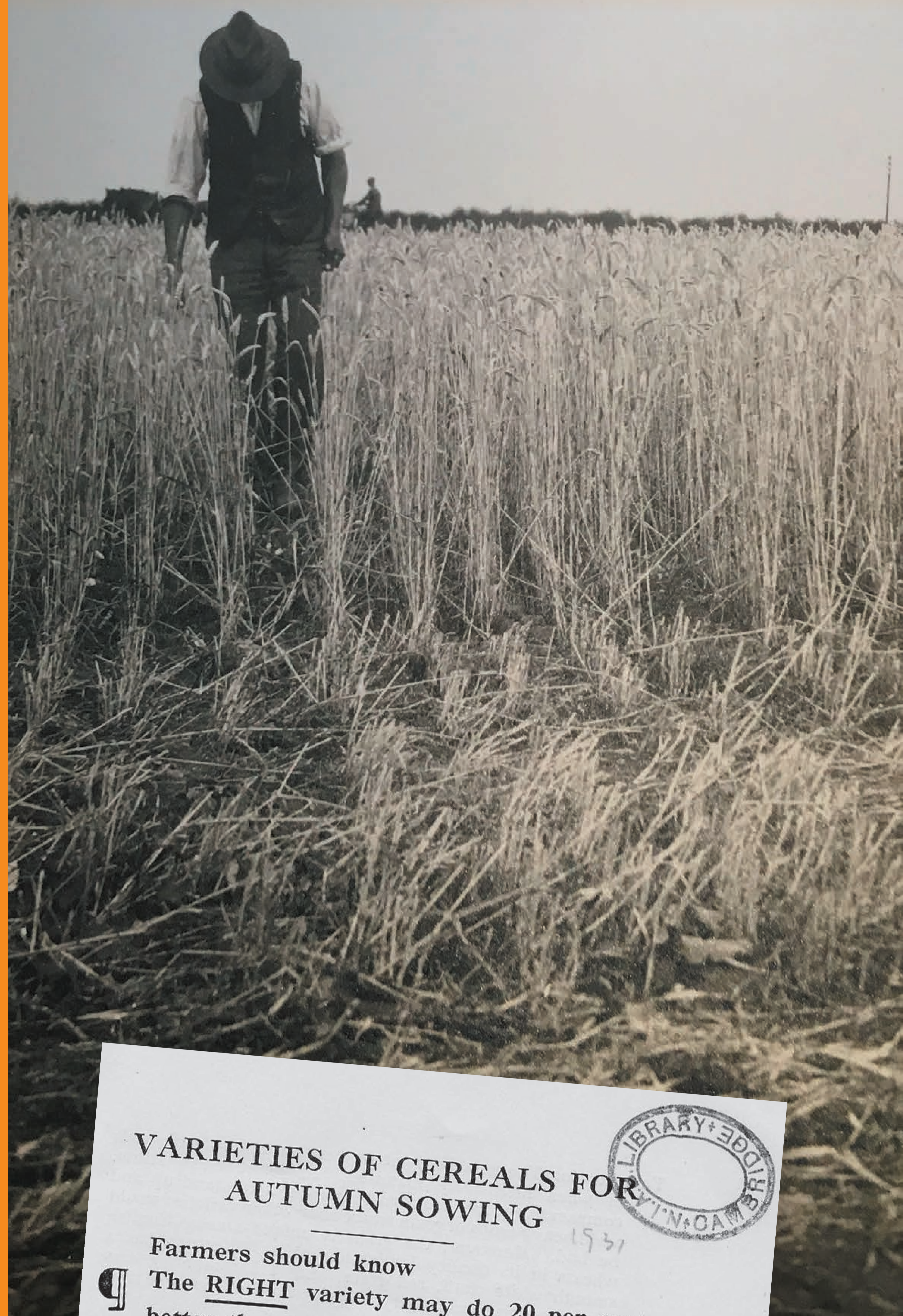
VARIETIES AND AGRONOMY

Average wheat yield is 2.4 t/ha. The winter wheat variety Holdfast is released in 1935.

Spring varieties Plumage (1902), Plumage-Archer (1905) and Spratt-Archer (1908) account for 80% of the total barley acreage in 1939.

DDT is discovered in 1939.

NIAB adopts the new 'randomised control trial' system in place of large scale, multi-site un-replicated trials which had been the mainstay of early variety testing.



The first NIAB variety list for autumn and spring sown cereals is published in 1931, although many still believe varieties 'acclimatise' to regional conditions.



Plot harvesting at Huntingdon Road in Cambridge.



Assessing oilseed rape varieties in 1949.

1940s

NIAB launches the first winter wheat Recommended List in 1944, and introduces virus-tested potato seed into Northern Ireland in 1946.

A seed production committee is formed to supervise home-produced seed and Hill Farm, near Cambridge, becomes NIAB's seed production farm in 1947.

UK AGRICULTURE

Food rationing is introduced in 1940 after the start of WW2, finally ending in 1954.

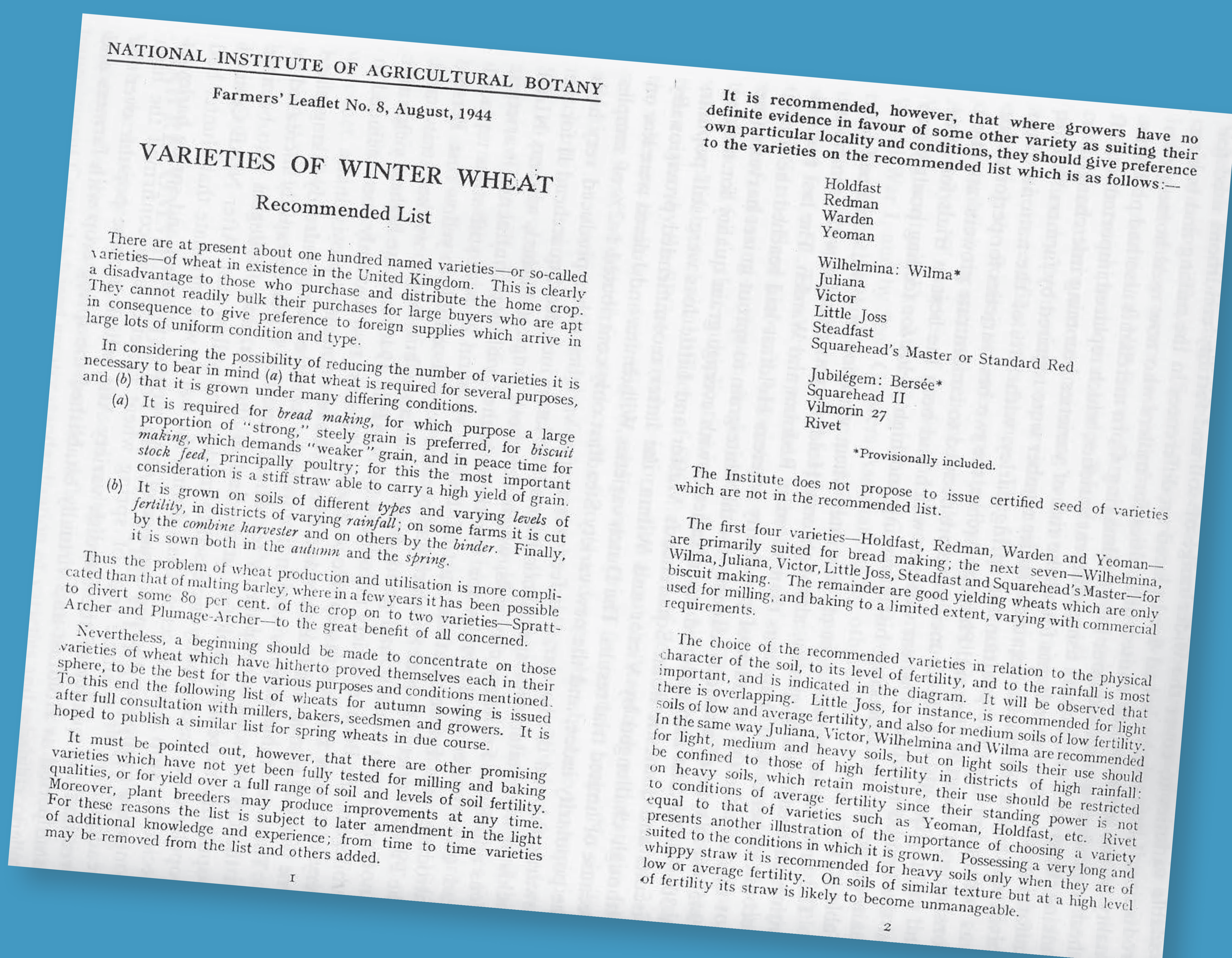
The state advisory service, the National Agricultural Advisory Service (NAAS) is formed in 1946.

The Agriculture Act (1947) revamps agricultural law, improving tenancy rights and guaranteeing prices and markets.

VARIETIES AND AGRONOMY

Average wheat yield is 2.6 t/ha.

The first synthetic herbicides are released (MCPA is discovered in 1941) with dithiocarbamate fungicides used on-farm.



NIAB

1919-2019



YEARS OF PLANT SCIENCE

The first winter wheat 'Recommended List' includes 16 varieties, but excludes yield data.



Pathology trials in 1950.



Inspecting the variety demonstrations at the 1956 NIAB Fellows Day.

UK AGRICULTURE

The Potato Marketing Scheme starts in 1955.

VARIETIES AND AGRONOMY

Average wheat yield is 3.3 t/ha. Capelle Desprez is launched in 1953. Its resistance to yellow rust stands for 50 years and is found in the lineage of many modern wheats. The variety dominates the British wheat area for another 20 years with yields up to 5 t/ha. Proctor spring malting barley is also launched in 1953.

Fungicides include folpet and captan.

The 1-9 trait scoring system is used for the first time in the 1952 NIAB Recommended List.

The first Fellows Crop Conference is held in 1952, with a Cereal Field Approval Scheme introduced in 1956.

1950s

The first international seed analysts training course begins in 1954 and NIAB becomes the technical co-ordination centre for international seed certification schemes in 1958.

A new seed multiplication branch handles the increase in state-bred varieties and seed production for trials.

The view from the Huntingdon Road building across to the new granary on Whitehouse Lane, built in the late 1950s.



NIAB's Huntingdon Road Building extension opens in 1960, with the regional centre network expanding to 13 in 1961.

OSTS celebrates 50 years in 1967 with NIAB celebrating its golden anniversary in 1969.

The first vegetable advisory leaflet is issued in 1961.

In 1964 MAFF commissions NIAB for the first time to test varieties for distinctness, uniformity and stability (DUS) and conduct statutory performance trials.

1960s



A seed analysts training course in the main hall at NIAB Huntingdon Road in 1961.

NIAB variety plot assessments in 1960.



UK AGRICULTURE

The Plant Varieties and Seeds Act is introduced in 1964, establishing a system of royalty payments on individual plant varieties, known as Plant Breeders' Rights. This is the trigger for a rapid expansion of commercial plant breeding and seed multiplication.



Cereal seed sampling in 1964.

VARIETIES AND AGRONOMY

Average wheat yield is 4.2 t/ha. Maris Widgeon is launched in 1964.

Fungicides include imazalil, prochloraz, thiophanate-methyl, triadimefon and triadimenol.

NIAB



YEARS OF PLANT SCIENCE

DUS (distinctness, uniformity and stability) and VCU (value for cultivation and use) statutory variety testing is defined under a new NIAB:MAFF contract following UK accession to the European Community.

The PVRO (Plant Variety Rights Office) moves to NIAB's Huntingdon Road site.

NIAB's Hill Farm is sold and Park Farm at Histon is bought. The granary on Whitehouse Lane is redeveloped into new offices, laboratories and storage for the seed certification department in 1973.

UK AGRICULTURE

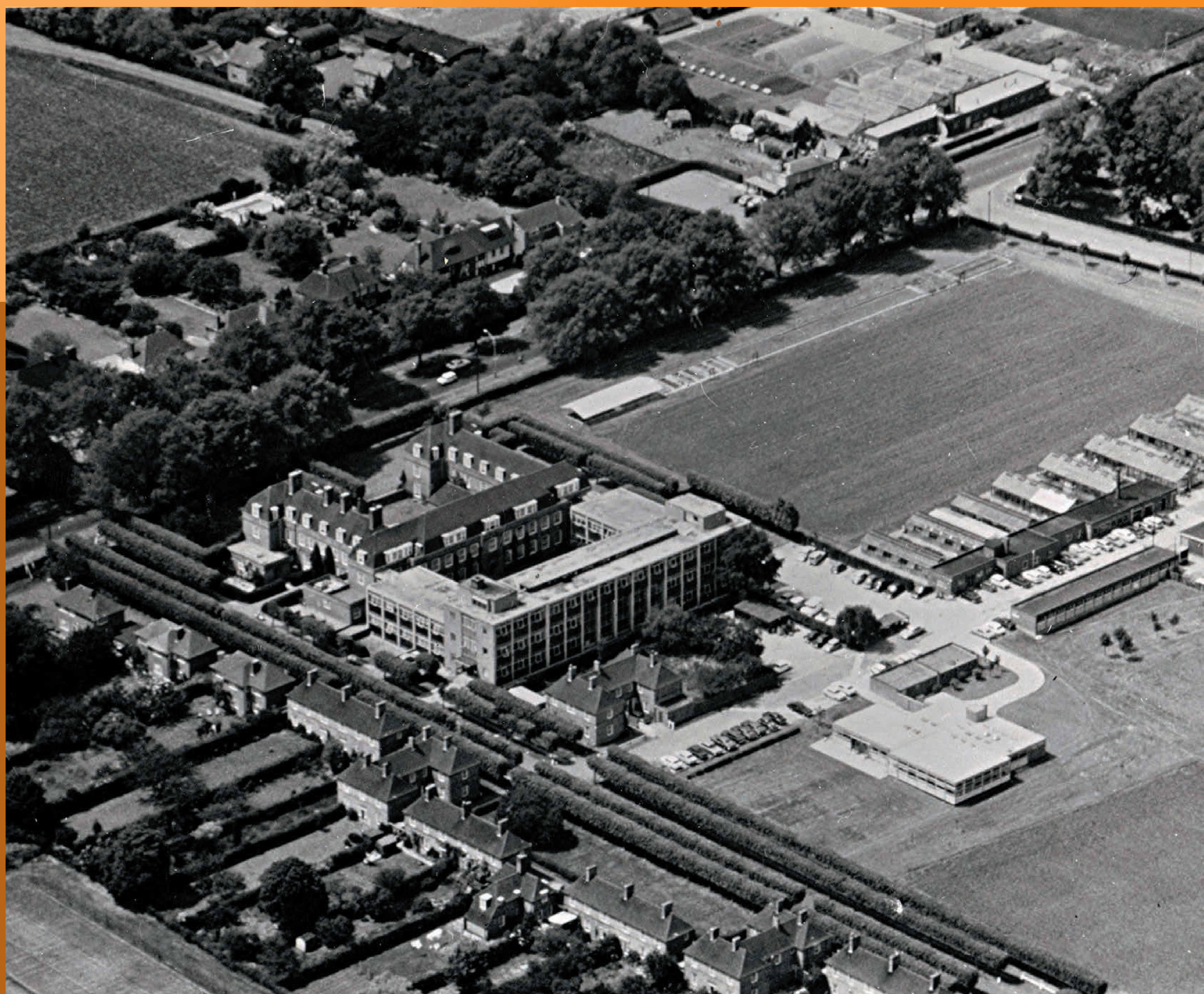
The UK joins the Common Market in 1973 and seed certification becomes statutory.

NAAS becomes the Agricultural Development and Advisory Service (ADAS).

VARIETIES AND AGRONOMY

Average wheat yield is 4.6 t/ha. Maris Huntsman (1972) offers 20% yield advantage over previous market leader Capelle Desprez. Golden Promise is the UK's leading spring malting barley and single and double low oilseed rape is introduced.

Glyphosate is introduced in 1974. Triazoles are introduced in 1976, establishing the use of routine fungicide programmes. Fungicides include imazalil, prochloraz, thiophanate-methyl, triadimefon, triadimenol.



An aerial view of NIAB Huntingdon Road in 1978.



1970s

1980s

VARTEST field and laboratory services are launched in 1983 alongside seed testing services via OSTs. Electrophoresis is used by NIAB for the first time in varietal ID in 1980 and by 1989 a new molecular biology laboratory opens which complements biochemical and image analysis technology.

NIAB opens the Library Building at Huntingdon Road in 1983 and becomes the single European Centre for PBR tests for ornamentals.



UK AGRICULTURE

State-bred varieties still share 80% of the winter wheat market in 1984 with UK flour millers' usage of home-grown wheat exceeding 80% for the first time in 1986.

The British Society of Plant Breeders is formed in 1986, with private sector levies supporting the Recommended List programmes. The RL and NL trials system is integrated in 1989.

In 1987 the Plant Breeding Institute is sold to Unilever.

New legislation includes the Pesticides Act (1986) and Set-aside Regulations (1988).

VARIETIES AND AGRONOMY

Average wheat yield is 6.4 t/ha. Avalon winter wheat is launched in 1980 with Mercia in 1985, Slejpnor in 1986, and Riband in 1989.

Fungicides include cyproconazole, fenpropidin, fenpropimorph, flusilazole, flutriafol, propiconazole, tebuconazole.

NIAB



YEARS OF PLANT SCIENCE

In 1996 the National Institute of Agricultural Botany formally moves into the private sector and officially changes its name to NIAB. The National Institute of Agricultural Botany Trust is created with responsibility for land and assets.

NIAB SeedStats service is launched in 1993.

UK AGRICULTURE

A UPOV Convention confirms the right to farm-saved seed royalty collection by plant breeders, with the introduction of European Plant Breeders' Rights and establishment of the Community Plant Variety Office in 1995.

ADAS is privatised in 1997 and the Food Standards Agency is established in 1999.

New legislation includes the Nitrates Directive (1991), Crop Residues Burning Regulation (1993) and the Environment Act (1995).

VARIETIES AND AGRONOMY

Average wheat yield is 7.5 t/ha. Winter wheat varieties include Hereward (1991), Consort (1995) and Claire (1999).

Fungicides include azoxystrobin, cyprodinil, epoxiconazole, fluquinconazole, kresoxim-methyl, metconazole, quinoxifen.



1990s



NIAB Huntingdon Road in 1990.



2000s

Genetic research and pre-breeding capabilities are established at NIAB in 2005. NIAB extends its applied agronomy research and farm knowledge transfer and advisory services with the creation of NIAB TAG in 2009.

The MacLeod Complex research and plant breeding glasshouses open at Park Farm in 2009.



UK AGRICULTURE

Responsibility for the Cereals and Oilseeds Recommended Lists transfers to the Home-Grown Cereals Authority in 2001. HGCA becomes part of the Agriculture and Horticulture Development Board in 2008.

New legislation includes the Water Framework Directive (2000).

An outbreak of foot and mouth disease in the UK in 2001 causes a crisis in British agriculture and tourism.

Defra replaces MAFF in 2001.

The Voluntary Initiative is launched in 2001, ensuring industry self-regulation of pesticide use.

VARIETIES AND AGRONOMY

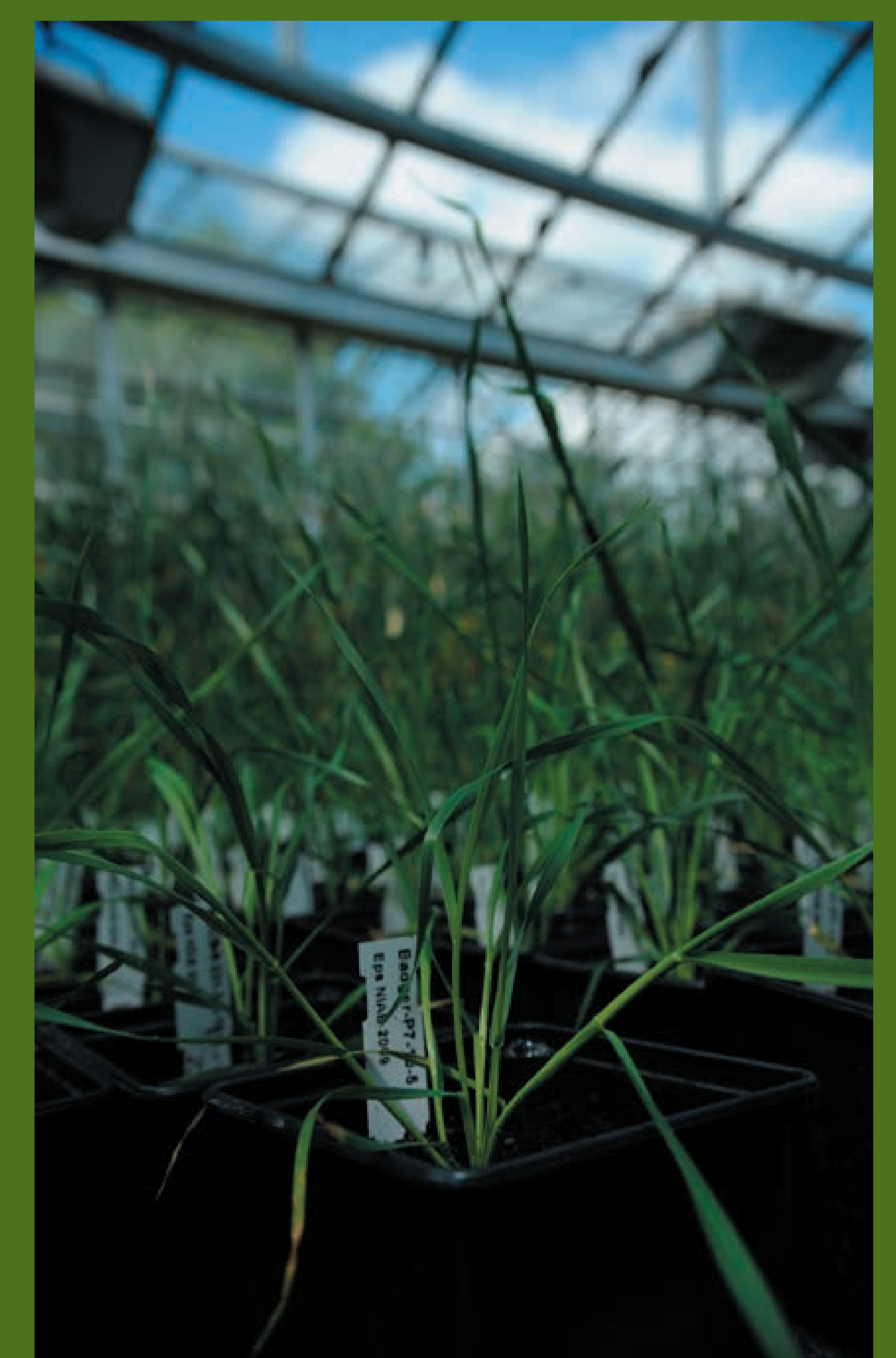
Average wheat yield is 7.8 t/ha. Winter wheat varieties include Robigus, Oakley, Cordiale and Solstice.

Fungicides include boscalid, fluoxastrobin, picoxstrobilin, prothioconazole and pyraclostrobin.

NIAB's pre-breeding platform accelerates genetic advances in wheat, including groundbreaking re-synthesised wheat research.



Evaluating new cereal varieties in the DUS plots at NIAB Cambridge.



The new glasshouses allow different environmental conditions to be created to suit the diverse range of plant material NIAB works on.



NIAB Innovation Farm is established in 2010 to showcase plant genetic innovation, with the Sophi Taylor conference centre opening its doors in 2013.

NIAB extends its potato research capabilities with the creation of NIAB CUF in 2014 and moves into the soft and top fruit sector with the integration of East Malling Research to form NIAB EMR in 2016. BCPC joins the NIAB Group in 2018.

2010s

A new alliance with the University of Cambridge forms the Cambridge Centre for Crop Science (3CS) in 2015.

Park Farm redevelopment begins in 2017, followed by the Lawrence Weaver Road site in 2018. And it is the end of an era as the Huntingdon Road HQ is sold.



UK AGRICULTURE

The UK Government's AgriTech Strategy launch begins a renewed emphasis on farm-level research and innovation.

VARIETIES AND AGRONOMY

Average wheat yield is 8.1 t/ha. KWS Santiago is launched in 2011.

Fungicides include benzovindiflupyr, bixafen, cyflufenamid, fluopyram, fluxapyroxad, isopyrazam, metrafenone, penthiopyrad.

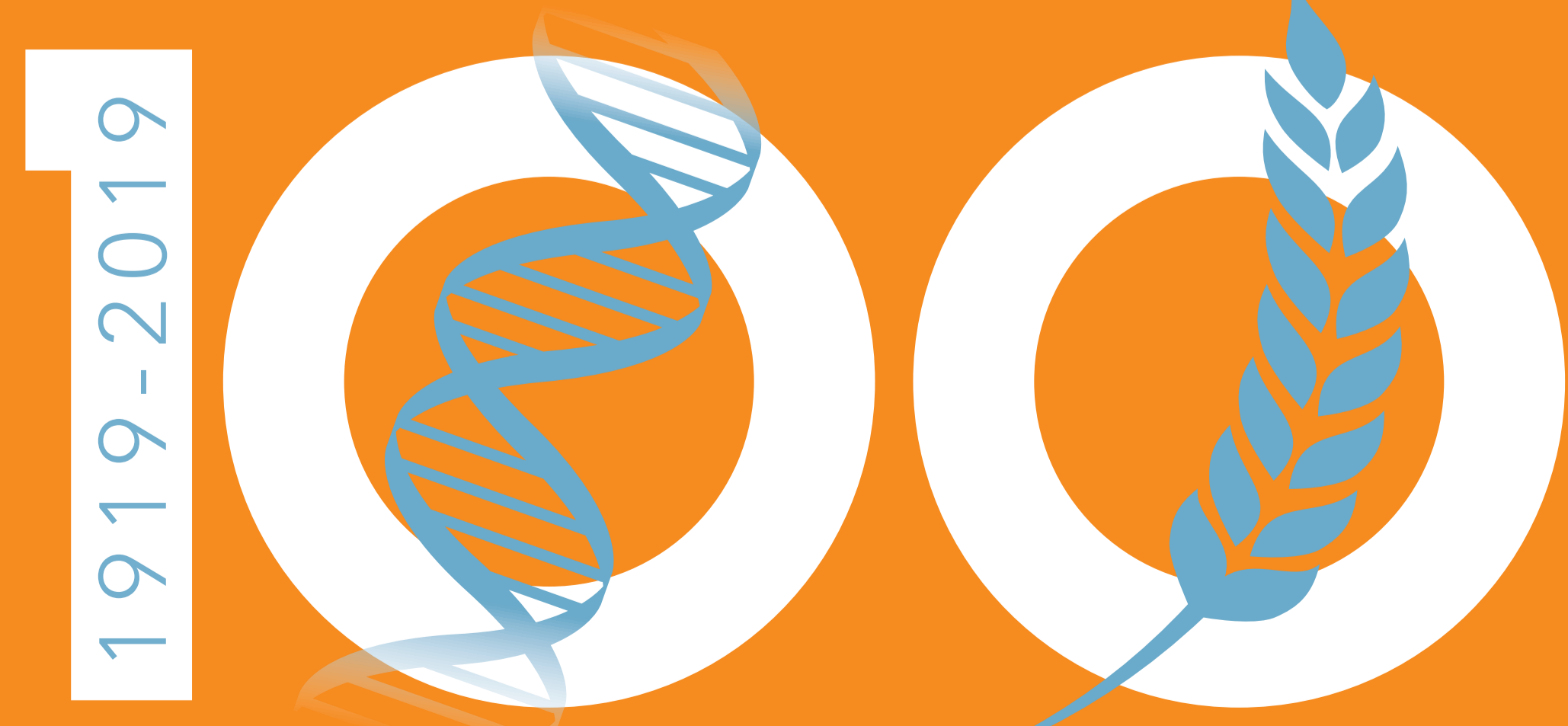


The application of scientific computing and software development is crucial to NIAB's crop research.



Over 100,000 winter oilseed rape seedlings are planted in the glasshouse for DUS cotyledon character recording.

NIAB



YEARS OF PLANT SCIENCE

NIAB celebrates 100 years of plant science in 2019.

A new crop science campus and NIAB headquarters building is opened at Lawrence Weaver Road in 2020.

2019+



UK AGRICULTURE

The UK leaves the EU in 2019.

VARIETIES AND AGRONOMY

Average wheat yield is 8.2 t/ha.

Fungicides include adepidyn, fepicoxamid, isoflucypram and mefentrifluconazole.

