

WOAD IN THE FENS

BY

NORMAN T. WILLS



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First Edition: 1970. Holland Teachers' Centre, Pinchbeck, Spalding

Second Edition: 1975. Society for Lincolnshire History and
Archaeology, Lincoln.

Third Edition: 1979. Published privately by the author, at 23 Park
Road, Long Sutton, Nr. Spalding, Lincs.

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Cover — Parson Drove Woad Mill. A horse pulling around a roller in the Roller House. Two sticks are attached to the head of the horse; the one joined to the centre of the roller house is to prevent the horse from falling on to the track; the one in front of the horse is to keep the rollers at a distance from each other.

When Rex Wailes visited Mr Burnham with the photograph in 1935, Mr. Burnham exclaimed with delight: 'Whoi, that be me and my 'oss Tom, the finest 'oss that I ever druv.'

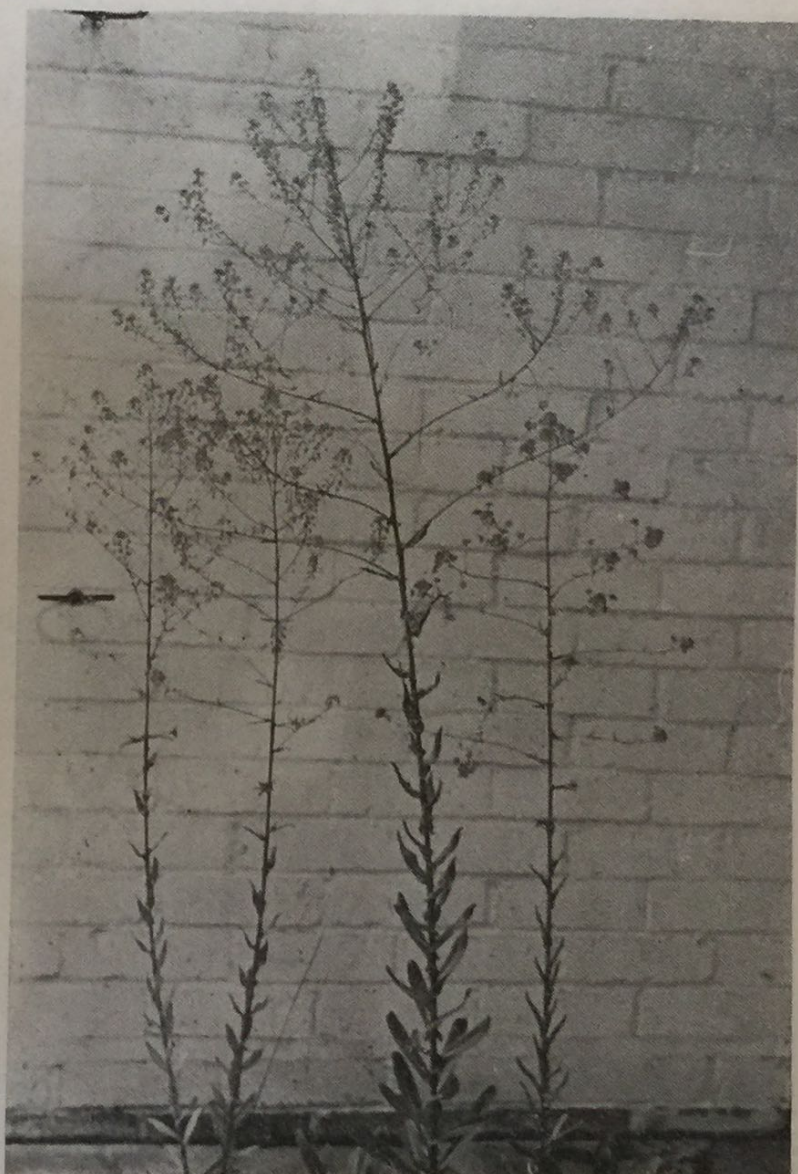
PHOTO: WISBECH (CAMBS.) MUSEUM.

Molly of the Woad, and I fell out,
O What do you think it was all about,
For she had money and I had none,
And that is how the strife begun.

INTRODUCTION

The Name

There have been many variations of the spelling of woad. In Anglo-Saxon times it was called wad. The Germans called it waid. In 1547 it was called ode. Today, woadmen in the Fens of Holland, Lincolnshire and Cambridgeshire call it wad like they did over 1,000 years ago. Woadmen are often called waddies.



The woad
plant in its
second year
of growth.

What is Woad?

Woad is the name given to the dye, or mordant, which is manufactured from the plant; and also to the plant itself, *Isatis tinctoria*. *Isatis tinctoria*, the woad plant, is a biennial herb, that is a herb that grows only leaves the first year of growth and flowers and seeds in the second year. It has an erect stem, bearing yellow flowers. The root grows 12 inches to 18 inches into the ground. The stem varies from two feet to five feet in height. The flowering stem is branched above.

What was Woad used for?

Mainly, woad was used as a blue dye, although a fresh bath would give a deep black shade, and as the solution weakened, it was, in turn, used to obtain blue and green. Cloth was dyed green in the Middle Ages by dyeing it blue with woad, and afterwards yellow with weld, another dye obtained from a plant. Lincoln Green cloth had been dyed with woad. If madder powder, which was obtained from yet another plant, was added to a weak solution of woad, cloth could be dyed deep purple. It is believed that almost all cloth, in the Middle Ages, was dyed with woad, on its own or in combination with other dyes. Thus woad was called the Universal Dye then. Later, woad was used to fix indigo, a dye obtained from an Indian plant.

THE HISTORY OF WOAD

Julius Caesar wrote over 2000 years ago, in his book *Commentarii De Bello Gallico*: "All the Britons dye themselves with woad, which makes them a sky-blue colour and thereby more terrible to their enemies."

During Elizabethan times woad-growing was encouraged in England, so that we should not need to import too much of it from other countries. At this time woad was grown near Market Rasen, in North Lincolnshire. Wykeham Grange, a manor three miles north-east of Spalding, was a woad-growing centre during James I's reign.

Woad-growing is mentioned by Arthur Young, and others, who wrote county surveys for the Board of Agriculture, about 1800:

(a) Keynsham, Somerset

In 1809, William Marshall wrote about woad-growing in Somerset. They grew and processed the woad there much the same as the Fenmen did, except that they apparently did not couch it and they sometimes used oval wooden moulds to shape the woad-balls.

(b) In the Fens

Arthur Young, in his book *General View of the Agriculture of Lincolnshire*, said that there was not more than fifty tons of woad grown in the rest of the kingdom, at that time. Woad was found

to be a good crop to break-up newly enclosed land. About 1799, woad was grown in five or six places in the Fens, although only three of these are named. They were:

(i) **Long Sutton Common**

Joshua Scrope let 60 acres of the newly enclosed Common for woad, for three years at £4 an acre a year. It is possible that he let it to Adderley Howard, for he was growing woad in Long Sutton in 1797. The Howards were later associated with Woad Farm, Tydd St Mary, and Woad Farm, Parson Drove.

(ii) **Moulton Common**

Dr. Johnson of Spalding let 300 acres of Moulton Common, on the enclosed land, to a woad grower at May Day, 1797 at £5 an acre a year for four years. I have seen the occupation name "woad planter" in the Moulton Parish Church registers for 1798.

(iii) **Brothertoft (near Boston)**

Mr J. Cartwright of Brothertoft started an up-to-date woad farm of 1100 acres during the eighteenth century. This had possibly the first permanent woad-mill. Previously woad-mills had been temporary structures, parts of which were moved from place to place.

Arthur Young wrote: "Mr. Cartwright's buildings and machinery are all calculated for cropping 200 acres every year. Thus a tract of 980 acres would, without supposing woad for 4 years in any part, yield 210 acres, has a power of leaving the grass much longer if he should think proper."

At Brothertoft there were buildings 200 feet long, and two storeys high. There were houses for thirty workers. There was a foreman. They had a school. This colony seems to be the former hamlet of Isatica, named after Isatis, part of the Latin name for woad, which was on the bank of the New Forty Foot Drain which flows to Boston.

5. In 1892

The main woad growers in 1892 were: Mr. Nussey at Algarkirk, Mr. Graves at Skirbeck, Mr. Short at Wyberton, and Mr. Howard at Parson Drove. Each of these grew ten acres of woad a year, although Mr. Graves had grown fifty acres in some seasons.

6. In the 20th Century

The Parson Drove woad mill was pulled down in 1914. Algarkirk woad mill closed down after the 1927 crop. Skirbeck woad mill closed down after the 1932 crop.

WHERE WAS WOAD GROWN?

(a) On the Continent woad was grown near Florence and Turin in Italy, Amiens, Caen, Nantes, Bordeaux and Toulouse in France, Julich and Erfurt in Germany. The last German woad-mill at Pferdingsleben near Gotha was pulled down in 1910.

We probably had woad from all these countries at one time or another. These countries probably had woad from us too.

(b) In the British Isles woad growing took place in such areas as Ireland, Hampshire, the Midlands and Yorkshire. During the 18th Century, Somerset and the Fens became the main areas.

WHY DID WOAD CEASE TO BE USED?

Woad ceased to be used because of the gradual introduction from the 16th Century of Indigo, derived from *indigoferas*, a plant of the pea family, grown in India. Indigo gave a better, stronger blue and did not cost so much. Since 1878 there has been additional competition from artificial indigo, produced in the chemist's laboratory.

WOAD CULTIVATION

1. Seed

A small patch of woad was left uncropped for seed, which it bore the second year. The seed was hand-threshed with a flail just before it was needed in the spring. The flail was a wooden handle which is joined by leather to a short stick. It is swung by hand over the head and the short stick hits the dried woad plants which are on the ground and the seeds fall out. Mr. Jarvis of Parson Drove said it was always flailed there. At Algarkirk too, it was flailed. As Mr. Charles Barsley of Algarkirk said: "What would be the point of having a threshing machine for such a small quantity of seed?" After the seed was threshed it was sieved. There were small square sieves, which could be held in one hand, but at Algarkirk it consisted of a long tray with a perforated base.

2. Sowing

Earlier, woad seeds were sown broadcast, 2 or 3 bushels to the acre. Later it was sown with a drill, one bushel per acre. The seeds were sown from April to late May, in rows about ten inches apart. T. Stone said, about 1794, that the drill was a good idea because "use can be made of the infant poor for hand-weeding."

3. Weeding

The labourers knelt between the rows and used short-handled hoes or woad spuds. They were the size of a mason's trowel. There were two types of woad spud; one had a notch on the handle; the other one did not. Men wore bags on their knees whereas women wore material, such as old blankets tied with tapes, on theirs. Men at Algarkirk wore waterproof material under the bags. Women at Algarkirk wore sheets of rubber under their hardened skirts, to protect them from the damp ground, Mrs. Nix told me. The weeds were thrown into the alleyways where they were left. Mr. Harold Barsley of Algarkirk said that they used long-handled hoes there as well. His brother Charles said they used a jack-hoe, which was pulled towards one, and which hoed two rows at a time.

4. Cropping

When the plants were about 10 inches high, the leaves were cropped off to within three inches of the ground. As the plants had not been thinned, whole bunches from several plants could be plucked at one go. Up to 5 or 6 rows were plucked at a time. The plants then grew again, although not as high as before, and they were then plucked off a second time. A third cropping is sometimes said to have taken place, although not in living memory.

The plants were thrown into baskets called hampers, skips or skeps, which were about two feet high and 18 inches in diameter at the top. The willow skips at Skirbeck had two handles attached at the top, whereas at Algarkirk there was just a hole on either side for the hands to grip. When full, the skips were rolled to a cleared piece of ground between the rows, and the plants were put into heaps about 3 feet wide by 20 feet long.

The woad cart, which tipped and was pulled by a horse, was specially made. It had sacking or other material to cover the sides and, when full, there was enough material to tie over the top to prevent the plants from being dropped. A Skirbeck woad cart was 8 feet 9 inches long by 3 feet 9 inches wide at the base. Two feet 5 inches up the side, it began to span out to an eventual 11 feet 3 inches by 6 feet, three feet 5 inches from the base.

Mr. Adderley Howard, the owner of Parson Drove Mill, about 1880, once found a stranger rapidly gathering woad leaves and putting them in a sack. When asked what he was doing, he replied, "I am sure no one can want all this spinach, so I am just gathering some for my wife to cook," "All right," said the owner, "take as much as you like, but promise me you will boil it well before you eat it." The man never stole again.

Pickers spent the morning in plucking the plants and the afternoon in balling the pulp. Eight or more waddies, mostly from the same family, formed gangs for plucking the woad.

In Germany the leaves, before going to the mill, were washed. Thus the 1550 German Proverb: The first who goes his woad to swill, will be the first to quit the mill.

WOAD MANUFACTURE

Ideally, woad went through seven processes: it was crushed, balled, dried, crushed again, couched, casked, and carted to the railway station.

1. The Roller House

The mill was a roundabout, with a central axle and circular track on which rollers revolved, crushing the woad plants.

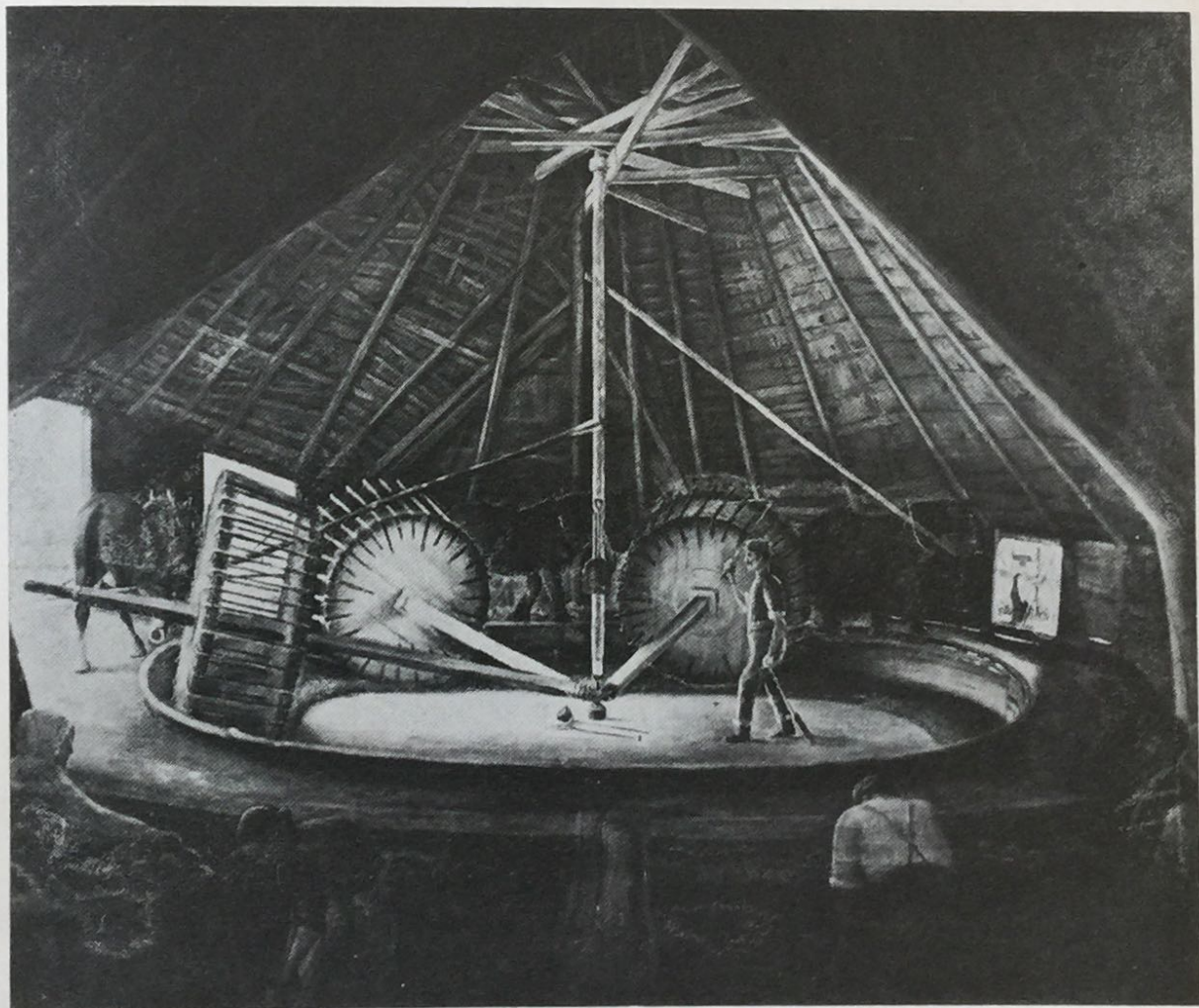
Brothertoft Mill had as many as eight rollers, each of which was pulled around the circular track by a horse. A total of 24 horses would sometimes be needed, to make sure that the crushing continued all the time. Horses, which worked in shifts, had to be rested after about an hour or so. Parson Drove Mill had three wheels,

with three horses pulling them. At Algarkirk, there were four rollers which were turned by means of a steam-engine, then an oil-engine, and finally by a tractor's pulley driving a belt.

At Parson Drove, I was told, one wheel weighed 21 cwt., another 22cwt., and a third 24 or 25 cwt.

These wheels were made of two wooden discs, one about $7\frac{1}{2}$ feet in diameter and the other about six feet in diameter. These discs would be spaced apart and joined by about forty bands of iron two inches broad and a half an inch thick. Running through each wheel there was an axle, which was pivoted to a centre pole.

Before the mill was started, woad leaves were spread on the track, and more added as those were ground up. They were crushed for an hour, and then allowed to drain.



Parson Drove Woad Mill. Oil painting by Alfred Balding of Wisbech, c. 1900.
It hangs in the Council Room of the Science Museum, London.
Photo. Science Museum, London

2. **Balling House**

The pulp was then kneaded and rolled by hand on a balling board, into 6 inch diameter balls. The balls were placed on a loading board, which lay on a sloping loading form, or horse. When a board was full with about 20 or so balls, another empty loading board was placed at the end of the loading form, and so on, the full boards being pushed up the form. The end of the form was forked or had two horns protruding, to enable a man with a padded top-hat or cap to put his head under a full board, and carry it to the drying ranges. The woad juice dripped down the carrier's neck. The woad stained the men's hands almost black, which was impossible to remove. They had to wait for a new growth of skin, before their hands were clear of it. One man could ball as much as one horse could crush.



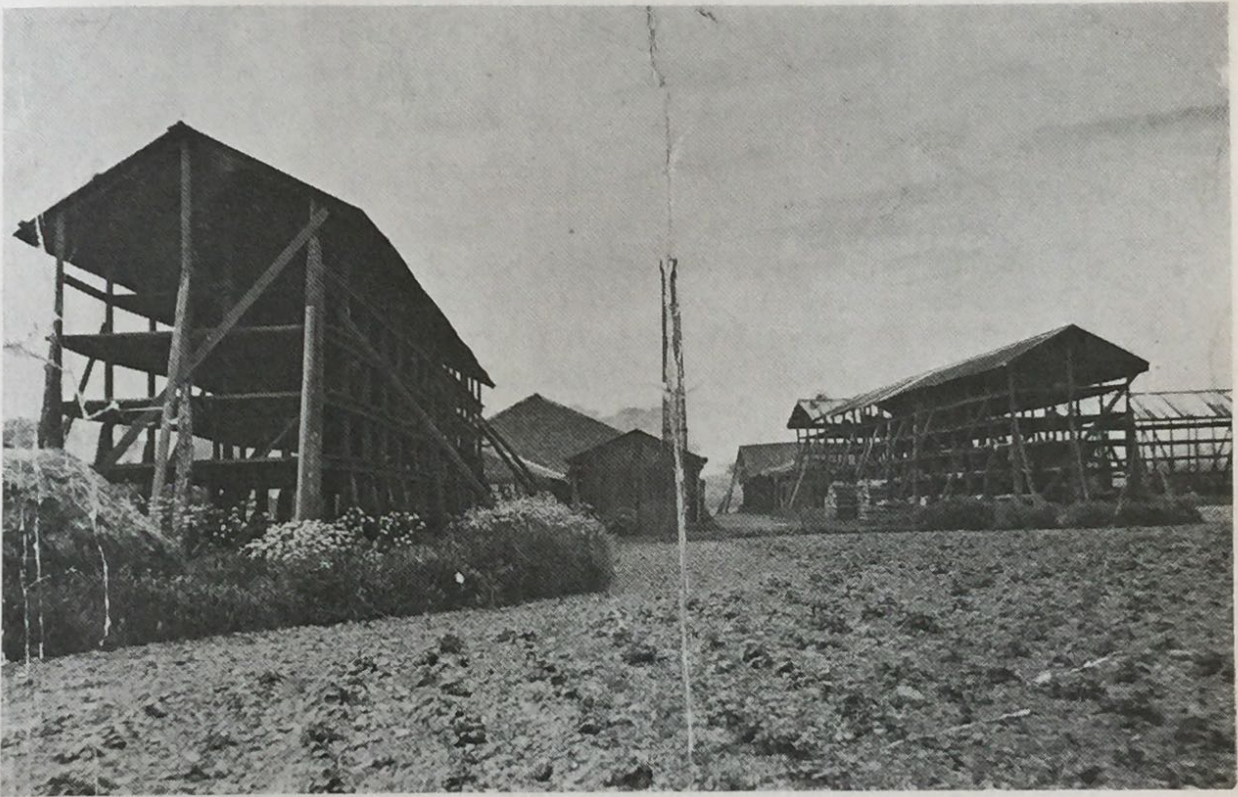
Parson Drove (near Wisbech) Woad Mill

Waddies balling the woad pulp. Notice the woad horse with a tray of woad-balls on. The large barrel in the centre was used to send away the finished woad.

Photo. Wisbech (Cams) Museum

3. **Drying Ranges**

These consisted of open-sided, roofed, timber structures with a number of gratings. Children or women took the board from the head of the man carrying it and put the balls on the ranges. The lower gratings would be filled first. The balls were then left to dry for some weeks, and in some places turned over. If the drying ranges became overfull at Algarkirk, the balls were afterwards put in a square "dry pen". Both Mrs. Nix and Mr. Jonathan Barsley worked on the Algarkirk ranges, they told me. Mr. Charles Barsley said that the woad balls at Algarkirk were usually left until Boxing Day. At Parson Drove, in about 1890, this was the end of the processing there.



Skirbeck Woad Mill in 1921

The woad-seed stack is on the extreme left. Drying ranges are on the left and right of the picture. The Roller House is the left of centre distant large building. The central small building is the Drying Ball Pen.

4. **Roller House**

At some places the dried woad balls were returned to the roller house, and ground up by the same rollers that were used before. This did not occur at Algarkirk in this century, however.

5. **The Couch House**

The woad was then taken to the couch house and spread on the floor three feet deep. At Algarkirk, the woad balls were first broken up by the rammers which were used for ramming the finished woad into the casks at a later stage. Water was then added to the couch, as woad is called during this process, and the juice squeezed out, allowing the couch to ferment. The temperature of the couch would have to be controlled to enable it to beaver well. Too high a temperature made the couch foxy, while too low a temperature left it heavy. At Algarkirk, Mrs. Nix's father sometimes used to get up during the night to turn the couch, to enable it to ferment properly. All windows and doors of the couch house were kept closed to keep the heat in. As a result the woadmen sometimes could not see each other across the couch house because of the steam.

Most woadmen found the smell of the couched woad unpleasant, although Mrs. Nix of Algarkirk said "it was not a nasty smell". The smell of the couch got into the clothes of the woadmen and when they went into a warm house the smell became very strong and remained for days. The woad was left in the couch house for from 6 to 8 weeks.

6. **Packing**

After couching, the woad was put into baskets, hampers, skips or skeps as they were called, and weighed. The contents were then put into barrels and rammed down with special rammers. As each skip-ful was put into the barrels a notch was cut in the top hoop of the barrel. Algarkirk barrels varied in size and were said to be anything from from 6 cwt. to 21 cwt. The Parson Drove barrels weighed from about 20 cwt. to 30 cwt.

7. **Carting to the Railway Station**

When the woad was sold, the barrels were taken to the local railway station. Parson Drove woad went to Murrow Station, Algarkirk woad went to Algarkirk Station and Skirbeck woad went to Boston Station. The woad was taken to the station on a drug, the name given to a special woad-cart. The barrels were rolled up two planks onto the drug by means of a chain which was fastened around each barrel, and pulled from the front of the drug by a horse. At Parson Drove there were three barrels to a drug, and it took three horses to draw the drug to the station. As the barrels started to go up the planks onto the drug the foreman at Algarkirk used to say, "Speed her well!" The woad was taken by train to Yorkshire, Lancashire and to ports for export to America.

WOAD VATS

When the woad reached its destination it would be put in the woad vat. In earlier editions, paraphrasing Hurry, I wrote: 'in Medieval times a solution of woad, with alum or potash as a mordant, was put into a container or vat. It was then heated to a high

temperature for three hours. The material was then immersed. The longer the material was left in the liquid the brighter would be the colour. The scum at the top was sometimes dried and made into paint for artists.'

A correspondent writing in June, 1978 said this statement needed some qualification and comment. She said that in the first place alum is quite useless and unnecessary in making woad vats. In the second place wood ash is only used in solution with soft water to make the indigotic solution alkaline once it has been leached from the leaves by infusion. Once the indigo has been deposited and the wool dipped, aired and dyed it has still to be set, and boiling fails to do this.

In modern times, especially during this century, woad was not used as a dye but as a mordant to help the fermentation of indigo. Any dye that the woad may have had was destroyed by bacterial action.

The above correspondent, writing in November, 1976 gave a method of dyeing with woad.

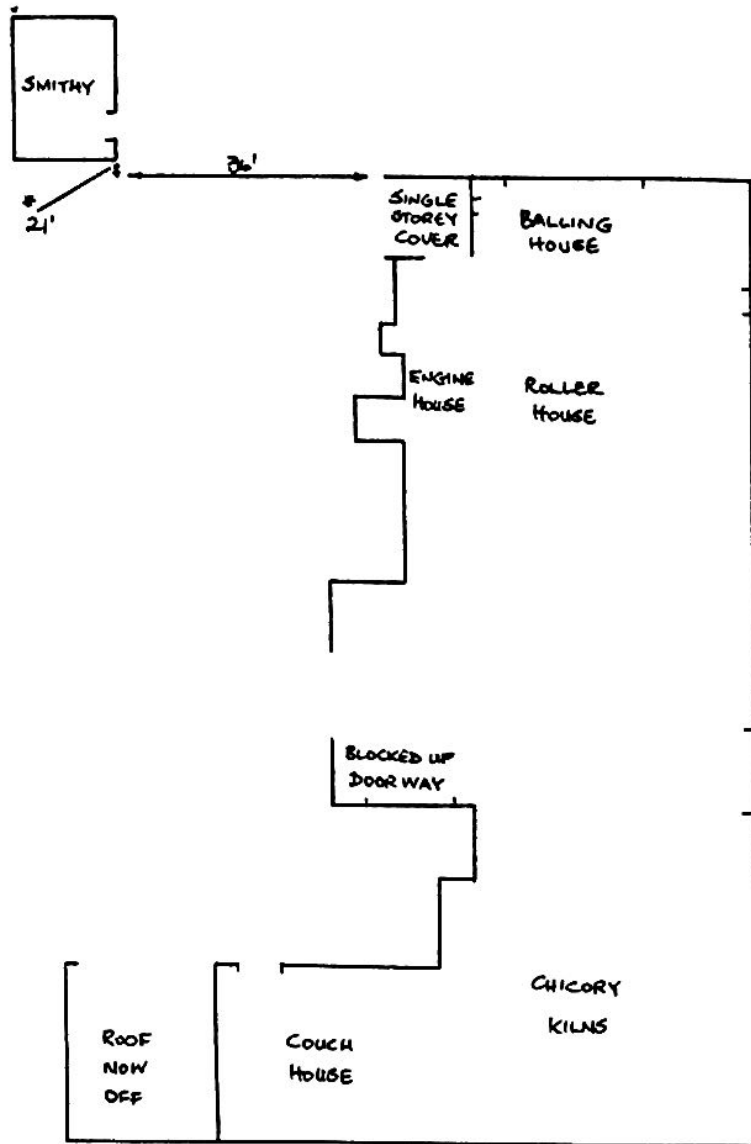
The simplest method is to pick and cut up a large jar full of fresh leaves taken between June and October. The jar of leaves is filled to the brim and running over with almost boiling water. Then wait for the air bubbles to rise and the jar is filled again, putting on the lid tightly to exclude all air. After 30 to 40 minutes there will be a coloured liquid among the leaves. This is put off into various jars containing one of the following strong alkalis: ammonia, soda, caustic potash or wood ash. Then shake each jar thoroughly and the liquid becomes dark green. Drop clean wool into the liquid which will turn blue on exposure to air. The more the wool is dipped and aired the darker it becomes. Unfortunately this method, so simple to do, is not fast to soap.

TYPES OF WOAD MILL

There were two types of woad mill: temporary, and permanent. The temporary one preceded the permanent one. Before the modern rotation of crops, and the use of fertilisers, it was considered that woad exhausted the land. Therefore a temporary mill was used, and many parts of it were moved to another place, where a new piece of land was rented.

Parson Drove Woad Mill: A Temporary Woad Mill

Mr. Arthur Jarvls was the last surviving woadman at Parson Drove until he died in January, 1970. He was working in it in 1890. Before reaching its last site at Parson Drove, the mill had been used at Newton, Spalding, Tydd St. Giles and Whaplode Marsh before. It is probable that parts of the mill, or earlier copies, were used at Long Sutton and Tydd St. Mary, as the owners of the Parson Drove Mill, the Howards, also had land for woad at both Long Sutton and Tydd St. Mary. There is an inn at Newton called The Woadman's Arms, a road at Long Sutton called Woad Lane, and farms at both Tydd St. Mary and Parson Drove called Woad Farm.



ALBARKIRK WOAD MILL, Lincs.

THERE WERE ONCE TWO DRYING RANGES AND A DRY-PEN EAST OF THE SEPARATE COUCH HOUSE. THERE WAS ALSO A DRYING RANGE NORTH OF THE MAIN BUILDINGS.

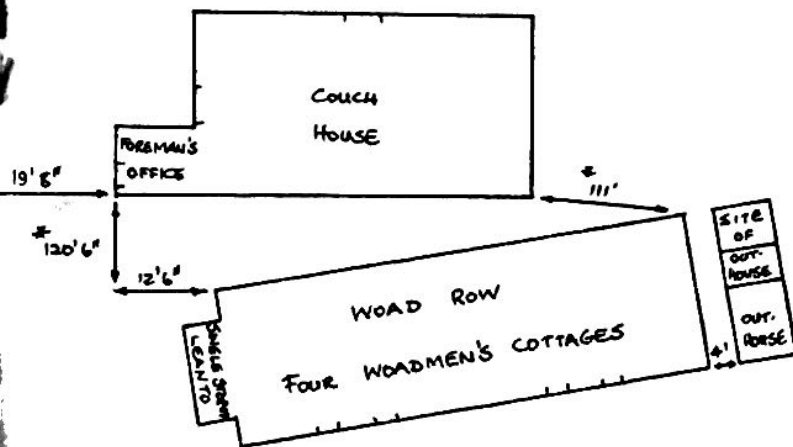
SCALE 1mm to 1 foot.

NOTE: THE SMITHY AND THE COTTAGES ARE FURTHER FROM THE OTHER BUILDINGS THAN THE SCALE INDICATES. MEASUREMENTS NOT TRUE TO SCALE ARE MARKED WITH AN ASTERISK.*

SURVEYED BY MRS CATHERINE WILSON AND NORMAN T. WILLS ON 7TH DECEMBER, 1975

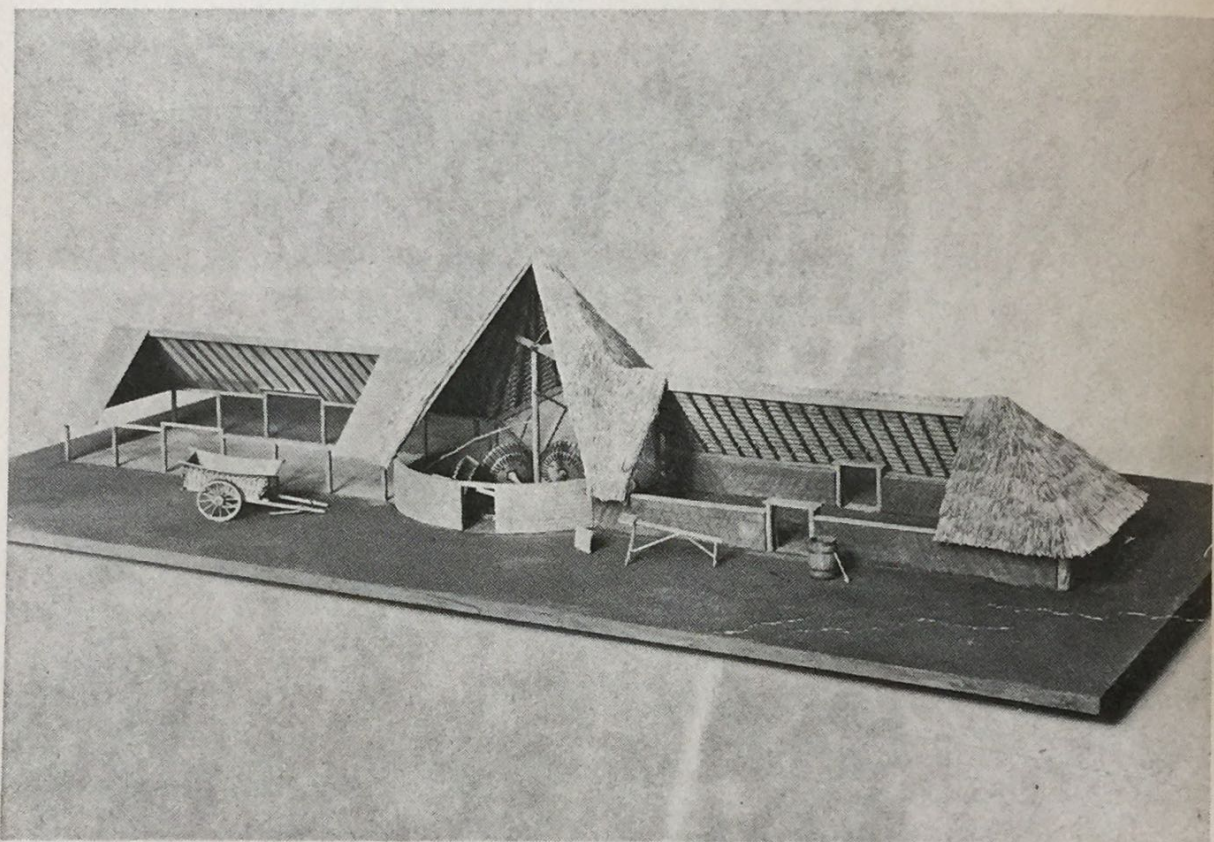
DRAWING BY N.T.WILLS 11TH DECEMBER, 1975.

GRID REFERENCE TP 297842



The Parson Drove Mill had a central conical shaped roller-house, with a couch house on one side, both thatched, and a cartshed on the other, which had a boarded roof. (Rex Wailes told me this in a 1969 letter). There were also open-sided drying ranges. The Parson Drove Mill was probably the last temporary one in the world. It was pulled down in 1914.

Woad was not couched at Parson Drove in living memory. The dried balls were taken off the drying ranges and put straight into the barrels and rammed down.



Model of Woad Mill at Parson Drove, near Wisbech (Cambs)

This is now in the Hayes (Middx) store of the Science Museum, and was seen by the author in November, 1974. It was made by R. C. Durdin of George Wailes and Co. in 1939, from information supplied by Rex Wailes. A representation of part of the mill is now on display at the Science Museum. Crown Copyright. Science Museum, London

Algarkirk Woad Mill: A Permanent Woad Mill

Probably the first permanent woad mill in the Fens was Brothertoft Mill which was working in 1799. Three others were: Skirbeck, Wyberton and Algarkirk Woad Mills.

The Algarkirk Woad Mill started working in 1843. Up to 1880 stone wheels were used to crush the woad. I found one of these in 1975 just to the north of Woad Row. It had a 48in. diameter, had a 10in. diameter central hole, and was 17½in. wide. There were four

1½ in. holes near the 10 in. hole. Shallow grooves 5 in. to 6 in. apart could be faintly seen on parts of the circumference. Mr. Spurr showed me 8.I.79, an almost identical one in the grounds of 46, Witham Bank West, Boston, once the home of Mr. Nussey, the former Algarkirk Woad Mill owner. I was unable to understand the use of another stone roller 43¾ in. long, 15¼ in. diameter with a 5 in. x 1¼ in. diameter "axle" at one end on the Boston site.

This mill was preceded by a horse-driven woad-mill across the orchard and another one at Sutterton.

Many of the Algarkirk mill buildings are still standing. However, the three drying ranges and the dry-pen are not there now. The south couch house and office caught alight and was destroyed since I measured it in December 1975.

In the centre of the large building is the roller house. Attached to this is the balling house and the engine house. Joining on, and running at right-angles, are a couch house and two chicory kilns. To the south of these buildings there were the dry-pen, two drying ranges and another couch house; none are still standing. To the north-east there is a blacksmith's shop and to the north there was another drying range. Woad Row, four woadmen's cottages, are to the south-west of the main building, facing onto Woad Lane.

The roller mill was unusual in that it had a raised track 2½ feet above the ground. The mill consisted principally of a large horizontal wheel 23 feet 9 inches across, which pulled 4 almost vertical wheels which rotated on the circular oak track. The large wheel had 456 teeth on its top side near its rim. Projecting from the engine house wall was an axle which had teeth at its end which fitted into the teeth on the large wheel. When the engine rotated the axle, the large horizontal wheel went round clockwise (looking down) at 5 m.p.h., pulling the four rotating, almost vertical, cutting wheels.

The track was wide and was dished to keep the woad near the middle of the track. Another scraper was lowered when the woad needed to be pulled to one of the three holes just outside the track. The holes were made by drawing back iron sheets.

During most of its existence the mill was driven by a single cylinder, horizontal steam-engine. During this century, for a short while, it was driven by an oil-engine, and then belt-driven by a Fordson tractor.

The two chicory kilns were apparently used for drying chicory, which was definitely mixed with woad in the dyeing process. Both chicory and carrot tops were mixed with woad in 1845. There were four types of woad mentioned at Algarkirk: original woad, which was woad on its own; mordant woad, which was woad plus chicory; mixed woad, which was 1 ton of woad plus 4 or 5 tons of couched carrot tops; and patent woad, the contents of which is unknown.

On the 25th November, 1844, William Burrell of Algarkirk "after overdrawing his piecework rate by mordant work by £1.11.9 ran away", so account books tell us.

MY TAPE RECORDINGS OF WOADMEN

A Tape-Recording of Mr. Arthur Jarvis, the Last Waddie of Parson Drove (near Wisbech, Cambridgeshire) made in September, 1969.

“I’m Mr. Arthur Jarvis, the last Waddie at Parson Drove. I’m 90 years old. I was there and saw the horses going round, and they went one after the other; three of them, until the got the wad rolled up. And it was very hard work, for the horses. One roller was 21 and the other one 22 and the other one 24 or 25 cwt. And they went in fresh; the horses, and when they came out they was like drowned rats. Poor devils into that. The balls was ready to take off the ranges, shot in the skips, and carried to em’, to knock up into the barrels to go away.

When they wanted seed, they let it grow up and grow into flowers and then turned to seed. They then cut the seed with a hook, then tie the plants into bundles ready to be knocked down. They was then left in the field a long while to dry. They was then put in the barn to get proper dry further. They was then threshed with an ordinary flail to knock it out, to get the seed out of the straw. This here slung it round yer head and knocked to the ground. I was worked on wad from the age of 5 to about 12.”

A Tape-Recording of Mr. Walter Booth, son of the last Skirbeck Woad Mill owner of Skirbeck, near Boston, Lincs.

“I am Walter Booth aged 78 years. Today (is) the 23rd January, 1971. My father, Thomas Booth, owned Skirbeck Woad Mill up to 1938, when it closed down.

I remember thatched cobs being made to keep the sheaves in. After flailing it was sown, the seed was sown, with a management drill. Manure included ground 400 tons of sprats one year on 17 acre of woad. The woad grew to 3 feet high, was scythed, and collected up with a hay bobber.

After being weeded on the hands and knees with woad spuds it was soon ready to be plucked. Woad for seed was plucked only once. The woad was taken to the mill in carts in hessian to put over the top. The leaves were spread 4 feet deep on the mill bed. After balling they took it to drying ranges and left for two months. The corners, the carriers rather, wore hats stuffed with hay. The balls were next broken up with the backs of hoes and water added, in the couch house. It was laid up to 8 bricks high. The 40 tons from each couch, there being 120 tons overall, was packed into tubs of about 20 cwt., one exceptional tub weighed 35 cwts.

The tubs were taken to Boston Railway Station by a wagon termed as cuts, of which 3 took 3 tubs. It was taken by rail to Bradford, Leeds, Buckfastleigh in Devonshire and once we exported to America.

“My father was taken to Skirbeck churchyard in a woadcart in 1943.

In my early youth my father showed me some old foundations of mud huts which used to be used in those days by the labourers who worked as waddies and lived in these huts and if they left and went to work elsewhere they took the grates with them and new people coming in brought their own grates with them to put in these mud huts."

A tape-recording of Mrs. Nix, the last Waddie of Algarkirk, near Boston, Lincolnshire, made about 2nd October, 1969.

Mrs. Nix, last waddie of Algarkirk. My dad, uncle, John Robert, sister, mother and cousin worked in it too. We lived in Woad Row, one of four cottages near the woad mill. I am 70. I worked on woad from the age of 16 to 23.

My mother came to Algarkirk from Skirbeck at the age of eight. Her father worked on it at Skirbeck and Algarkirk.

Sowing by woad drill. Then weeding with woad spuds. The woad spud had a flat blade with a short handle. Then came the cropping. When the plant is ten inches high, we cropped it close to the ground, then we had hampers to put the woad in. The men rolled the hampers on after they were full for us, carted it up into heaps in the field that had been cleared before. Then it was carted into the mill, up into the mill for grinding.

It was ground by four iron wheels, and it was called the mill bed. The wheels were worked by a steam engine, then afterwards it was an oil engine, and then later the tractor.

After the woad was ground, it was scraped off the mill bed. There was a sort of plough share, and that took the ground woad up the far side of the mill bed, round to the front so that it could be scraped off and afterwards shovelled into the balling hole.

And then we balled it up and it was put on trays and put up to the top of the horse, and the men carried it out on their heads. They had hard hats to carry it out with, out and to the range.

They take it out to the range. They have to walk up the ladder to the top, to the top range you see, and we had to put it all out in rows, straight rows 't' as to be straight. (After) about a month the balls were turned over to dry the other side and left about another month.

Then the balls were put in hampers and carried into the couch barn. In the couch barn the balls were broken up with the rammers., the same as they rammed it down into the barrels. Water was then added and the men turned it every day for six weeks before it was ready to be packed in the barrels. While the couch was being made the windows and doors had to be kept closed and it was, there was, a lot of steam, but it wasn't, it was wasn't a nasty smell. When the couch was ready it was weighed and put into hampers and then put into the barrels, large, smaller and smaller and so on.

As each hamperful was put into the barrel there was, was, a piece cut out of the hoop at the top so they knew how many hampers had been put in. As the woad was put in, the men stood in the

barrels and rammed it down tight. The lids were then put on and fastened down. Then it was carted to the station at Algarkirk on the woad drugs. It was then sent to America and used as dye.

A tape-recording of Mr. C. H. Barsley, a woad worker at Algarkirk, made 16th May, 1970.

I'm Charles Herbert Barsley, aged 74, of Sutterton, Lincolnshire. To-day is the 16th May, 1970. Woad seed was sown in April. The leaves were taken off in the first year. Some woad was left to seed the second year. Woad was threshed with a flail in the spring, just before it was needed for sowing.

No woad was grown after 1921 (the author accepts Rex Wailes's statement that it closed down after the 1932 crop) the year we got married at Algarkirk. Woad seed was threshed out by a flail by Henry Burrell, John Robert Burrell and Matthew Askew. The woad was sieved in a long tray with a perforated base, to clean it.

Woad seed was drilled with an ordinary drill that had ten coulter. It was never broadcast in my memory. The woad was hoed with a jack hoe, for the weeds in between the rows, and then it was done with a hand spud to get the weeds out of the rows. When I was weeding on my knees I used to have sacking, with oilcloth in between, to keep the damp from my knees.

There was 7 or 8 of us used to do the weeding. There was Mr. Henry Burrell, John Robert Burrell, Matthew Askew, Mrs. Askew, and Mrs. Nix, Daisy Burrell, Martha Burrell, and Miss, and May Evans and myself. The woad was wed with spuds in May and June two or three times.

The plants were cropped when they got to about nine inches high and then the second crop was cut off with a spud just under the root. When the woad was cropped you took it in handfuls. It was then put into baskets which were 20 inches high. When the baskets were full, they were put into heaps in the field to be collected. Five or six rows were plucked at one time. The hampers had two hand holes. They were made of willows.

The plants were taken to the woad mill by special cart, which had sheets on either side to hold it together from littering. The woad cart was drawn by two horses and when they got to the mill it was tipped up to empty. The horses walked one in front of the other. I used to load the cart and take it up to the mill, but I did not have anything to do with the grinding then.

When I worked in the mill I used to put it on the bed for the wheels to grind. The woad was ground up in about an hour and the machine was still working when it was taken off. There was a bin on the east side for the woad when it was ground and it, it was made of wood, on a concrete floor and it was 20 feet by 10 feet and 2 feet high.

The woad was made into balls and put on a tray about 30 on a tray. The woad balls were 6 inches in diameter. When the tray was full it was slid up the horse for the men to take away. When the

balls were fresh made and wet they went flat. (The) man would have a silk hat on, padded inside to carry away the trays up on his head. Mr. Askew, eh, Mr. Askew, Mr. Henry Burrell and his son John Robert carried the trays to the, to the racks.

I did not ball the woad. I used to look after the Fordson tractor that drove the mill. Before the tractor there was a Blackstone oil engine. The oil engine was not used after 1919, and they used to use it with a tractor 'til 1921.

They started loading the racks with the balls from the bottom or otherwise the wet would have dropped on them. They started loading the racks about August and took off the balls at Christmas time. They nearly always started taking the balls off to couch on Boxing Day. I cannot remember the balls being turned on the racks. The balls were not taken into the mill to be cut up again.

They were taken to the couch house and broken up. It was fermented and turned for seven weeks while it had finished. I did not couch any. Henry Burrell, John Robert Burrell and Matthew Askew did. In fact these were the main woadmen. Mrs. Nix also worked on the woad. Some people used to call 'em, the people, waddies (note: wad here rhymed with odd) and they used to call the woad wad. (Wad here rhymed with mad.) Water was poured on to the woad to help it ferment, after it was broken up.

When all the fermenting was finished it was put into big barrels. Baskets were filled with four stone of woad. The basketfuls were then put into the barrels. Each time a basketful was put in, a nick was made in a hoop at the top of the barrel. There was one man in each barrel to ram and trample it down. Barrels held 9 cwt., 12 cwt. and one was 21 cwt.

When they was filled the tops were put on and the barrels were rolled to where they were going to store them. The barrels were branded with a trade mark, which was burnt on. The woad was put into barrels about the end of February. The couch barn, which was later used as a Women's Institute hut, was the one where they used to store it in barrels.

The wagon that was used to take the barrels to the station had four wheels and it was pulled by two horses, one before the other. The barrels was pulled on to the back, on to the wagon, by one horse up a gantry, by means of chains round the barrel. The wagon would then be taken to the station. Some of the woad went to Bradford and some to America. If it went abroad there were special, packed in special barrels, usually wine casks. I worked in the woad for about 15 years, about 7 or 8 months in the year. There was no chicory grown at Algarkirk in my time.

When they were working in the couch barn you could not see across because of the steam. The steam used to get into the clothes and was not a very pleasant smell.

Mr. George Nussey lived at Spalding and then at Boston. He was the owner's son. The owner lived at Leeds and had cloth mills there. (An earlier George Nussey, a dyer at Leeds, had taken

out in 1838 a patent for his invention of a new vegetable preparation applicable to dyeing blues and other colours.

Misc. Dep. 30/14 Lincoln Archives Office.

He purchased land at Algarkirk for woad growing.)

The woad was used to set dye in Government cloth. There was a certain amount of dye in it. It was used for policemen's clothes and army uniforms. The owner also had land at Sutterton. When I started work Mr. Bates was manager, Mr. Evans was foreman, and then my father became foreman. My father was foreman for 20 years up to 1939. Mr. Nussey, the owner, had 200 acres of land at Algarkirk. After Mr. Bates finished, Mr. George Nussey, junior, became manager. Young Mr. Nussey used to come to the office by the couch barn twice a week to do his books.

A LETTER ABOUT WYBERTON WOAD MILL

Letter from Mr. Bert Hall to the author, 18th October, 1974.
(In a letter dated 14th July 1972 from Mr. Malcolm Knapp to Mr. N. Wright, Mr. B. Hall was stated to be 79 years old.)

"About the Woad Mill at Wyberton. My father was foreman there and I am his son Bert. But (I) was not very old when they sold out but can remember a bit about it. (It) was about 1902 or 1903. The man who own(ed) it was Mr. J. Short not Mr. Graves. He had the Skirbeck one Mr. Nuss(ey) the Algarkirk Mill. And as I remember, they drilled the woad seeds with horses and when it came up it was about like a primrose leaf but much larger. But when it was ready for harvesting they left so much back for seed. Then it grew up like flax. Then it was cut and tied up in sheaves by hand then stack(ed) it up in (the) yard. When it came to be thrashed, the(y) put a cloth down, put woad seed on it and man knock(ed) the seed out by flails. The rest was taken up green by women on there knees and crop(ped) it, put it in heaps and carted to the mill with horses and big carts. The Mill went by steam with three big wheels. (There were) three big slippers one after each wheel to push (the) woad under (the) wheels. The men pushed it under the wheels with forks. When crushed it looked like cowdung and smelled like it. Then it was put in (the) balling shed with shovels. Women then would ball it up by hand about the size of a football. Men carried it out on trays and put it on what we called (the) woad-range outside, with no sides but with a top on to keep it dry. Ranges was 25 yards long, 5 yards wide, 3 storey(s) high. When well dried (it was) put in big tubs and sent away and far (as) I know it went to dye cloth".

A COMMUNAL WAY OF LIFE.

Evidence from my tape recordings show that waddies lived in mud-huts and worked in family groups.

The agent of Nussey's wrote a letter to a Manchester company, 1st February, 1910 (Varley MS.)

' . . . I believe the present leading hand of the woad workers is the third generation of the family who have had this work to do for Nusseys & if he does not understand the business I am afraid I should be unable to teach him, & perhaps as you are aware the woad hands are in family groups as the ordinary agricultural labourers will not undertake this very disagreeable work . . . '.

Harris, writing in 1927, said that Mr Graves, the uncle of Mr. Tom Booth of Skirbeck, was a prosperous woad grower, and had often as a baby been rocked to sleep in a woad basket. Mr. Burnham of Parson Drove told Rex Wailes, at Easter, 1935, that his father, born on 21st September 1855, was cradled when a few weeks old, in a willow skip laid sideways in the field at Whaplode Marsh while his mother picked woad.

Susan Peckover, of Wisbech, wrote in Aunt Judy, 1883, of Parson Drove:

'A very merry time is this woad harvest; the mothers bring their babies, who lie in the gathering baskets and crow with delight in the warm sunny air, while the reapers sing the woad songs, answering one another in rhyme; sometimes the verses are made at the time, but a well known chorus runs thus:

Molly of the Woad, and I fell out,
O what do think it was all about?
For she had money and I had none,
And that is how the strife begun.

It would appear that Molly, being a good hand, had larger wages, and thus the dispute arose.'



Woad pickers; at Sutterton (Lincs)
Photo. Science Museum, London

CONCLUSION

Woad is known to grow wild on the banks of the River Severn at Tewkesbury, in Gloucestershire. This was confirmed by a correspondent of November, 1977 who had recently seen it growing there. A correspondent of September 1977 took several transparencies in 1975 of woad intermingled with Oriental poppies in a field she saw en route from Van to Kars in Eastern Turkey. It was identified as woad by a botanist in her party.

Woad can be recommended for the border. It has a beautiful sharp yellow flower which appears almost luminous, and it has a scent similar to honey.

I grow Hertfordshire and Tewkesbury woad in my garden. I have had no success with my 1973 Skirbeck woad.

My thanks are due to the many correspondents resulting from the Weavers' Journal article and the radio broadcast. I should especially like to thank Mr. Rex Wziles, Mrs. Jill Goodwin, Miss Rosalinda Hardiman, curator of the Wisbech Museum, Mr. Robin Beaty of Dartington Textile Mill, Devon, and the staff of the Chemistry Dept at the Science Museum.



The Roller House at Parson Drove Woad Mill being pulled down in 1914.
From left to right : Mr. Bellamy, Mr. Carver, Chris Crowson and Billy Taylor.

Bibliography

- Clark and Wailes: The Preparation of Woad in England, Transactions of the Newcomen Society, Vol. XVI 1935-36.
- Grigson, G.: Gardenage, Routledge and Kegan Paul, 1952.
- Harris Rendel, A Primitive Dye-Stuff, Woodbrooke Essays No. 10, Heffer, 1927.
- Hurry, J. B.: The Woad Plant and its Dye, OUP, 1930.
- Thirsk, Joan: English Peasant Farming, 1957.
- Varley, Joan, MS of Lecture on Holland (Lincs.) Archives, Holland Teachers' Centre, 1969.
- Wills, N. T., Woad in the Fens, in The Weavers' Journal, Spring 1976
- Young, Arthur: General View of the Agriculture of Lincolnshire, 1799

Archives

- Algarkirk Woad Mill Archives: Lincolnshire Archives Office, H.D. 25 Nussey and Misc. Dep. 30/14.
- Parson Drove Woad Mill Archives and pamphlets by Susan Peckover and others at Wisbech (Cambs.) Museum.

Exhibits in Museums

- Boston Museum: photographs, woad balls, woad spud.
- Science Museum, London: painting, photographs, small model Parson Drove Woad Mill.
- Science Museum, London, store at Hayes (Middx.): Large Model by Rex Wailes of Parson Drove Woad Mill, actual loading board and rammer from Skirbeck, woad spud from Parson Drove. (Seen by author November 1974).
- Spalding, Gentlemen's Society Museum: woad spud, and a metal cutter off a woad mill grinding wheel.
- Wisbech (Cambs.) Museum: photographs, woad ball and woad spud.

Broadcasts:

- Radio 4: On Your Farm, 27th August, 1977. Author interviewed by Ken Ford on the subject of Woad.
- Anglia T.V. Bygones. 16th November, 1978. 2nd Edition of Woad in the Fens shown on programme on Woad by Dick Joice.