



Growing Grain at

GRESSENHALL
FARM AND WORKHOUSE
MUSEUM OF NORFOLK LIFE

**A CUE East funded partnership between
Gressenhall Farm and Workhouse,
the School of Biological Sciences, UEA
and the John Innes Centre.**

UEA University of
East Anglia **cue**^{east}
community-university-engagement


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for public
engagement

Project Background

Ever since people have lived together in communities, they have needed a secure crop to survive; we all need to eat. As the world has changed and these populations have become larger, our need for crops has grown. From the first Neolithic farmers right up to the bio-scientists of the modern age, we have all been aiming at the same outcome: to improve our crops, for a sustainable future.

The aim of this project was to promote understanding of the issues surrounding crop improvement through a series of family-focused workshops and events which elicited artistic responses from participants, and which were linked to wider sustainable lifestyle agendas.

The project and its participation at the Sustainable Living Festival were funded by CUE East. 'CUE' stands for Community University Engagement. CUE East is the Eastern region Beacon for Public Engagement; one of six nationwide. The project was a partnership between Gressenhall Farm and Workhouse, the School of Biological Sciences, University of East Anglia (UEA), and the John Innes Centre.

Gressenhall Farm and Workhouse is currently leading on a Renaissance in the Regions Sustainability project, amid national interest and with an international conference held in October 2008 to address the role of museums within the wider sustainability agenda. There is an increasing awareness of the opportunities for museums to actively contribute to the growing environmental, economic and social sustainability agendas. Museums can engage both through direct action and through taking a role in facilitating and interpreting the sustainability debate.

Gressenhall wishes to develop its reputation as an exemplar for sustainable living. This is linked to the museum's Go Green event held in 2007 and 2008, as part of a wider development of communication on site relating to the issues of environmental sustainability and climate change. As part of Gressenhall's commitment to developing and enhancing our work in this field, the 2009 event programme was planned to promote such issues throughout the season. A 'Green Stream' of activities has run throughout the entire year. This has enabled us to embed these aspects into our daily work. The Growing Grain project was devised as part of this wider programme.

Through the Sustainability Project, Gressenhall is seeking to find and promote contemporary relevance within its collections. The project developed from the work of the Rural Museums Network, a subject specialism group within the museum profession which has in recent years focused upon addressing their members' carbon footprints and interpreting climate change for their audiences through the 'Turning Green' project. The Sustainability Project incorporates work on 'triple bottom line' sustainability (economic, environmental and social) in rural life museums within the East of England.

Gressenhall is keen to explore and enhance its role as a neutral venue for discussion of contemporary issues. The aim of the Go Green events was to bring different sections of the debate together, providing a forum for public discussion regarding sustainability issues in a historic context. As a result, an addition to the 2008 event was 'speaker's corner' where for instance the future for sustainable farming was considered, with organic methods compared with those favoured by farmers growing

genetically modified crops, with speakers from the Soil Association, John Innes Centre and a local farmer. As a rural life museum with working farm set in the heart of the Norfolk countryside, we need to acknowledge the importance of current issues faced by farmers whilst offering visitors a window onto past practices.

Project Outcomes:

- To understand the historic development of crop improvement from the Neolithic to the early 20th century.
- To understand the changes that have taken place in crop improvement during the last 100 years and work currently taking place.
- To create an artistic response to these new understandings.

Project Outputs:

- One drop-in family art session during Food Fair at Gressenhall on Monday 4th May 2009.
- Drop-in sessions over two days at the Sustainable Living Festival at the Forum, Norwich, on 26th and 27th May 2009.
- Three 4 hour museum-based art workshops for a total of to 40 'harder to reach' families, on Saturday 20th June, 27th June and 4th July 2009.
- Exhibition of workshop artwork during Apple Day event at Gressenhall Farm and Workhouse on Sunday 25th October 2009.

An artistic response:

Finding the correct artist for this project was essential. The project staff were aware of some of the contested issues relating to contemporary crop improvements, and were keen that these discussions were not allowed to dominate the proceedings. They felt it was important to appoint an artist who could remain neutral and elicit a worthy creative response from all participants, whatever their viewpoint. Given the intergenerational aspect of the work, it also needed to be an individual who was used to working with people of all ages and abilities.

We were fortunate to enlist the services and enthusiasm of Kate Munro for this task. Kate is a Norfolk-based sculptor who primarily makes large scale site-specific work in a wide variety of materials. Some of her work is temporary and some permanent, and is often affected by the surrounding environment, in that it may melt, grow, move in the wind or reflect the sky. Her main aim through projects is to encourage confidence and expression through fun, hands-on exploration of materials and processes.

Due to the timescales, it was necessary to give Kate a fairly tight brief regarding the outputs, although the format and materials remained open for discussion. The decision was taken to create 2D or sculptural representations of the discussions and items seen during any related activities, taking the form of a 'John Barleycorn' character, thereby reflecting the different experiences of the day in a personified crop. This decision enabled project staff to pre-empt what was almost certain to be a wide range of responses from participants, whilst continuing to work on something that could be exhibited together within a 'field of crops' to create a striking and thought-provoking display.

Through conversations with project staff Kate soon proposed that these figures be created using salt-dough, incorporating grains into the very essence of this activity and linking to the other elements of the project.

John Barleycorn:

Barley, corn and wheat have always been very important crops in this country, as they are used for our most staple foods: bread, cereals, beer and whisky. In English folklore, John Barleycorn is a character who represents these crops, harvested each autumn. In the traditional folksong of the same name, the character of John Barleycorn endures all kinds of indignities, most of which correspond to the cyclic nature of planting, growing, cultivation and harvesting, before being turned into ale and his remains being buried once more in the ground.

Salt dough:

The craft of salt dough making dates back to Ancient Egypt where salt and wheat flour were two of the most common foods available. In many past cultures dough modelling was tied up with religious beliefs and ceremonies when sculptures would be offered as gifts to the gods, or presents to people on important occasions such as weddings, christenings or funerals. In Europe the craft was popular, especially in Germany where the art was used widely for Christmas decorations.

Sustainable methods:

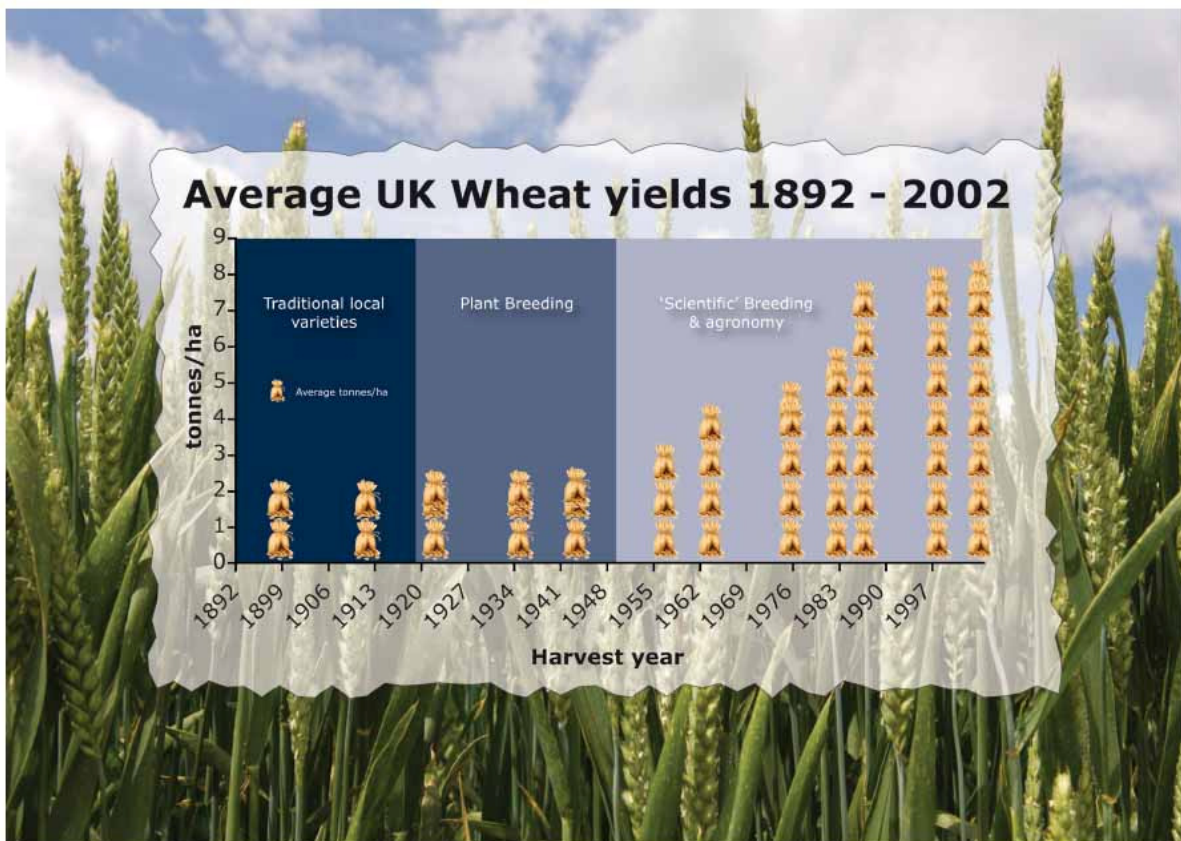
Our John Barleycorn models were then collected by North Elmham Bakery on their next delivery run to Gressenhall or central Norwich. They were then dried out in the ovens as they were cooling down after baking sessions. Consequently they were low energy and low carbon, adding to the sustainability focus of the project.

Piloting ideas

The May Day Food Fair at Gressenhall Farm and Workhouse:

The project was piloted at the May Day Food Fair at Gressenhall Farm and Workhouse on Bank Holiday Monday 4th May 2009. The event as a whole celebrated local produce and seasonality, while the 'Green Stream' focus explored food and farming and a sustainable approach to the countryside. An exhibition 'All About Wheat' by the John Innes Centre was staged within St Nicholas' Barn on Gressenhall Farm, while the Growing Grain workshop was housed on the workhouse site in our Learning Centre.

Visitors were also able to handle items from the museum collections (detailed fully below) which showed how communities throughout history had improved the land and their crops to ensure a sufficient supply of food. A display showing a range of different crops was supported by Cristobal Uauy a bioscientist from the John Innes Centre currently working on reducing wheat yield losses. With the use of a simplified graph designed specifically by the JIC for this project to show the increase in yields, he was able to explain to visitors both the importance of wheat as a staple crop and also the focus for his current work. Kate then led on the salt dough modeling.



The project team felt that this method – whereby visitors first engage with the history and science of crop improvements before creating their John Barleycorn figure – had worked well, but that more activities would be required to maintain interest for a longer period, and a more structured session would no doubt lead to more considered models. The drop-in nature of this session and the competition with other activities on site during what is a large event day naturally limited the amount of time that families were prepared to stay and session leaders became increasingly aware of the need to articulate the main aims of the day in a succinct manner.

Owing to the nature of the event, these sessions were run on a 'drop in' basis, attracting approximately 120 children and 150 adults. From the outset, the team were keen for the project to engage the whole family and to support learning at all levels. The session on the Food Fair event replaced the normal 'Art Attack' activity usually staged within the Learning Centre on all event days and during school holidays.

As a result, although many families explored the collections or display of different modern crops together, when it came to the salt dough creations, these were predominantly created by the children alone. Where families did help each other to make the salt dough figures, it was more a case of adults creating the sculptures following instructions from the children. The team were keen for all of the family to be involved throughout, with the suggestion that all children and adults at the future events should be encouraged to make their own John Barleycorn figure.

Growing Grain takes to the road The Sustainable Living Festival at the Forum, Norwich



On the 26th and 27th May 2009, the Growing Grain Project attended the First Norwich and Norfolk Sustainable Living Festival at the Forum in Norwich. Over the ten days between the 22nd and 31st May, a series of free exhibitions, debates, workshops and activities enabled visitors to consider practical living in a sustainable way.

For these days, a system of working was required to address the needs of both the keen visitor attending the event specifically to engage with the festival, and also attracting and sustaining the interest of the essentially nomadic 'Forum user', passing the activities on their way to or from the library and other attractions within the Forum. Once more, the activities and resources needed to support a 'drop in' style session, and the May Day pilot (detailed above) was used as the basis for the format of these days.

The salt dough activity was again supported by the opportunity for visitors to engage with the museum's collections. The activity was also carefully positioned so as to be adjacent to a display from the School of Biological Sciences from the UEA which explored the potential for biotechnology in achieving sustainable living.

Visitors were once again encouraged to visit these areas as a way of thinking about cereal crops and to provide inspiration for their John Barleycorn figure. Owing to the diverse audience attracted, many were content to explore the collections or to discuss the themes of the project without then staying to create a salt dough figure. Estimates were that although 120 individuals created salt dough John Barleycorns, a further 175 meaningful contacts were also made during the two days.

Growing Grain: a sustainable future, learning from the past
26 & 27 May
Gressenhall Farm and Workhouse,
Norfolk Museums & Archaeology Service

We all need to eat. As populations grow we need to produce more food. Explore how we have improved our crops throughout history for a sustainable future.

ACTIVITY

Drop-in museum object handling sessions and craft workshops. Get inspired and create your own "John Barleycorn" to add to our field of crops. No booking required.

Growing Grain comes to fruition

Single day arts workshops for invited local families:

In late June and July 2009 a series of three Saturday arts workshops were held at Gressenhall Farm and Workhouse for invited local families with children in years 5 or 6. Letters were sent to local schools to distribute inviting these families to apply for places. It was emphasized that these workshops were open to all of the family, including Mums, Dads, Carers, Grandparents and younger and older siblings.

The project team were keen to engage with 'harder to reach' audiences who were non-Gressenhall users. As a result, part of the application form asked if they had visited Gressenhall Farm and Workhouse before, and, if yes, when. They were also asked what they had enjoyed most about their visit. This question was considered to be an important way of identifying those who predominantly used the site for elements such as the woodland adventure playground, and who would then be considered 'harder to reach' in terms of interaction with the museum collections. Forty families, a total of 73 adults and 89 children attended the three sessions on the 20th and 27th June and 4th July.

As identified through the pilot project at the May Day Food Fair, the day-long workshops provided a more structured format to the information-gathering with a specific time set aside for exploring a number of different activities across the site.

The workshops began at 10am with an introduction to the project and the structure of the day. The character of John Barleycorn was introduced and his story explained.

The remainder of the morning was then free for the families to explore the site independently and engage with the various activities, picking up inspiration for their art workshop in the afternoon. There was no set order to the activities and no set times for sessions.

The activities provided were:

Bread-making: Families were provided with all the raw ingredients and instructions to make their own bread rolls by hand. These were then baked during the day, and they were able to take them home with them at the end of the workshop.

The session enabled the families to see the impact of heat and food on yeast as a living organism and to think about how bread is made. Anecdotally it provided a strong platform for intergenerational learning, with many of the parents and grandparents having made bread in the past. In some cases, the children had made bread previously at school and were able to teach their families.



When making rolls, the families were encouraged to try plaiting or twisting the dough; techniques that would be useful when later modelling the salt dough.



Object handling:

Under supervision, the families were encouraged to handle and use the following items from the museum's collection:

Neolithic tools:

People first started growing grain in the Neolithic period, around 7000 years ago. They used tools made out of flint to cut the stalks and separate the grains from the husks.



Aero Seed Broadcaster - This is a portable, hand-operated broadcast sowing machine which was used to sow the seed on the field. Seeds go in a bag at the top and then the stick is pulled left and right which spins the wheel around, scattering the seed evenly. For this reason, they were often known as seed fiddles. These were introduced from America from around 1850 and have been replaced by modern seed drills.

Bird Scarer - This rattle makes a loud noise if you swing it around—just like a football rattle. Birds like to eat corn seeds. To grow a good crop you need to make sure the birds don't eat all your seeds. Children were employed to go and scare the birds on corn fields with tools like these.



Sickle: This tool was used for harvesting grain or cutting grass for hay. The inside of the curved blade is sharp, so that the user can swing the blade against the base of

the plants, catching it in the curve and slicing it at the same time. The sickle was replaced by the much larger scythe and then a combine harvester.

Flail - This tool is used for threshing to separate the grains from the husks. You hold the long stick and swing it so that the shorter stick hits a pile of grain, loosening the crunchy husks. Flails have been replaced by combine harvesters that mechanically separate the grain and husk.

Barley Class 1 First Prize: It was common for prizes to be given to the best samples of grains at local agricultural shows. This prize was awarded in the Norwich Corn Hall Grain Competition in 1951. It went to Mr J. Alston of Calthorpe, Aylsham.

First Farmers Gallery: The families were encouraged to visit this gallery which explores the very early history of farming in Norfolk.

Domestic plants and animals were introduced to Britain about 6500 years ago and Norfolk had some of the earliest farming settlements but these were not permanent; they were abandoned and resettled many times. The most important domestic plant was wheat. At this time, wheat was much taller than modern varieties with a smaller yield. The first evidence for a farming settlement in Norfolk comes from Broome Heath (Ditchingham) 6500 years or 250 generations ago, where grain storage pits have been identified.



Microscopes and Grinding Grain: This activity enabled the families to explore the chronology of grinding grain, from the Saddle quern used in the Neolithic to Iron Age, to the Rotary Quern from the Roman period, wind, water and tide mills from the Medieval period onwards through to modern steel rollers. Photographs were provided of some local mills, while the families were encouraged to try using a saddle and a rotary quern.



Querns were used to grind materials, such as grain to make flour for bread making. The Saddle quern consists of a single hand-held stone, which is rubbed against a base stone (shaped like a saddle). The rotary quern is turned by a handle. Grain goes in the top and is crushed between the two stones, and flour comes out from in-between.

It was emphasised here that domestic production of flour did not last very long as grain was considered a precious commodity. Consequently the growth, storage and production of grain was carefully controlled. People had to purchase flour or pay a tax to get their own grain ground. Centralised stores were guarded and protected as if you controlled grain, and thus food production, you were in control of the population.

This session also had a flour station where families could look at the wide variety of flour types available – from plain, brown and wholemeal, to spelt, rye and buckwheat.

Thirdly, there was a microscope station, where families could look up close at grain, and examine the different sections and discover which parts were used to make which flours.



The families were encouraged to look at the different shapes and sizes of a variety of grain types. They were also prompted to think about their John Barleycorn character and what he might look like given the shapes and textures visible through the magnifying lens.

Modern Crop Improvements: The families visiting this session could meet Bioscientists Chris Ridout, a Strategic Research Scientist exploring Disease and Stress Biology or Lars Ostergaard, a Project Leader in Crop Genetics, from the John Innes Centre.



Examining varieties of crops grown historically and in modern times, the families explored the bioscience behind secure harvests of the future. The world's population continues to grow, yet harvests worldwide are increasingly threatened by the impact of climate change. Bioscientists focus upon identifying and selecting crop traits and production systems that can increase yields given particular soil types and climates, and reducing loss due to pests and diseases. They were able to show examples of

exaggerated dwarf crops, which were grown with short stems, less likely to be damaged in winds, and which can support large ears of cereal crops.

Tractor ride around the farm: The sixth and final activity of the morning was a tractor ride around the farm site. Families were encouraged to take a ride to see what was growing in the fields across the farm. Gressenhall Farm uses traditional farming practices, including Suffolk Punch horses who carry out most of the work on the land.



After lunch, the families were reminded of some of the activities they were involved in and the things that they had seen during the morning. They were encouraged to think what John Barleycorn might look like and what type of figure they wanted to create.

Kate, the artist, then introduced them to salt dough and the various options available when making their John Barleycorn figure. The John Barleycorns were created around a wooden flat stick which would be used later to mount the finished sculpture.

Water was used as a glue to attach additional sections of dough or grains and some families had picked up natural items around the site to incorporate into their sculpture. Beaten egg was applied by some as a glaze, which would turn shiny when dried.



Evaluating the days:

On completing their John Barleycorn characters, the families were asked to tell us what they thought of the day through some simple questionnaires.

Despite having complete freedom to choose what sessions they attended during the morning, of the 34 families who completed evaluation forms, 14 attended all six activities available to them. 10 families attended five sessions with a final 10 families participating in four of the activities. The most attended session was the microscopes and grinding grain activity attended by all of the families surveyed, followed closed by the bread making (31) and the object handling (30). 27 families engaged with the subject of modern crop improvements, with the same number visiting the First Farmers Gallery. The least popular activity was the tractor ride around the farm, although 25 families of those questioned made this trip. On the sliding scale, all of the families enjoyed the day or enjoyed it 'a lot'.



The families were asked what they enjoyed most. The vast majority of answers were to do with making the John Barleycorn or making the bread revealing the success of these very practical sessions. Farm activities and tractor rides were also mentioned, with the lunch regularly being mentioned as well.

As a contrast, the families were asked to say what they enjoyed least about the day. Here there were hardly any negative comments with a number of families actually writing the word 'nothing'. Of the comments received, a number related to the fulfilling the needs of the younger participants. There were two comments related to the level of patience of some of the younger children, with reference to the introductory talks when they had to sit still and generally waiting at the beginning for the other families to arrive. There was one comment that the microscopes were too difficult for the young children to use. Although hand lenses had been provided, these obviously could have been promoted more to the families.



A further family said that the children were disappointed that they didn't get to keep their John Barleycorn. This was one aspect of the project that the team expected to have more issues with. With a previous arts project based around Gressenhall event days in 2008, the site had sought to create a flock of birds from recycled metal plates to decorate one of the gardens. This project had been less successful as many of the participants had been determined to take their birds with them from the drop in sessions, with the result that relatively few had remained at the museum. We were keen not to repeat this, and so explained from the outset that the figures would remain at the museum and go on display at Apple Day.

From the first two art workshops there were two comments that the modern crop improvements activity was not aimed at younger audiences – a small fraction of participants, but something the team were keen to correct. We raised this with the Lars, the Bioscientist covering the second and third events, and he was able to act accordingly, adapting the content and degree of detail and using the display of wheat

crops to explain modern crop improvements. Positively, there were no comments about this session being unsuitable for all ages from the third and final arts workshop, suggesting that the changes had proved effective.

As detailed above, the proposed outcomes for the project were to understand the historic development of crop improvement from the Neolithic to the early 20th century and to understand the changes that have taken place in crop improvement during the last 100 years and work currently taking place. The third outcome was to create an artistic response to these new understandings.

We were reasonably confident, from the creation of the John Barleycorn figures, and anecdotally from the conversations with the families when making their sculptures, that they were taking into consideration the things seen and activities completed during the morning, but wanted to see what they felt that they had learnt during the day. When asked, we received a wide variety of answers, although the same four appeared repeatedly: learning all about grain and the different varieties; how to make bread; the character of John Barleycorn and his story; and the history of farming. Linked to the latter were a number of comments on the physically hard work carried out by our ancestors in making flour to turn into bread. This suggested that the families had taken on board both the history of crop improvements and how this relates to their own lives today, and the wide variety of grains and cereal crops grown.



The families were then encouraged to add any other comments they had on the day. The keywords which appeared again and again were 'enjoyable' and 'fun', that the staff were 'welcoming', 'friendly' and 'helpful' and that the day was 'engaging', 'informative' and 'family-orientated' or 'enjoyable for all ages'.



"Excellent family day. Has encouraged the children to experiment at home with bread making!"

"As great grandparents we enjoyed the day as much as the children."



Very, very good, lovely day, informative, fun and great for families.

A field of John Barleycorns

Apple Day at Gressenhall Farm and Workhouse celebrates an extra special harvest:

Visitors to Gressenhall's Apple Day celebrations on the 25th October discovered a 'field of crops' with a difference, upon entering one of the large marquees. Many of the families involved returned to Gressenhall for the event to see their creations, which were displayed on posts within the ground.



Our artist Kate was able to join the team for a final time to inform the 3,400 visitors to the event all about the project and once more to tell the story of John Barleycorn.



Final thoughts:

The Growing Grain project had a very accessible starting point for everyone - food, and bread in particular - and all participants of all ages seemed to be very interested to discover more about this fundamental part of our every day lives.

The combination of object handling, demonstrations, interactives and making activities worked very well, engaging people of all ages on many different levels.

When it came to making the John Barleycorn figures, many people, particularly the children, found the idea of 'personification' quite complex. The project team found better and better ways each session of explaining this concept to them at the start of the activity, and our artist Kate Munro suggested that this resulted in improvements in the John Barleycorns. By the final session, many of the figures were made with real thought and consideration, incorporating many original ideas.

An additional success of this project was the impact it made upon Josh, a high school student who approached the museum for volunteering opportunities related to his Duke of Edinburgh Silver Award. He was involved in delivering the project

throughout, helping with the practicalities of set up and making the salt dough. With training and support he helped to deliver the object handling element of the project and the microscopes and grinding grain session on the arts workshops. His increased confidence in working with the families was most noticeable, and it was positive to see him actively seeking and completing tasks as he became more familiar with the activities.

Given the length of time between the Growing Grain workshops and the display at Apple Day it was heartening to see how many families returned specifically to see their creation as part of the display, still talking about their experiences with the various activities. There were also a number who were very keen to take their figures home to keep, implying that they had found the whole activity a thoroughly memorable experience.

