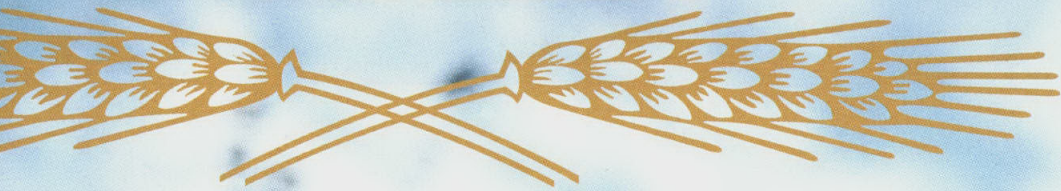


# AGAINST THE GRAIN







By Maggie Kinser Hohle

John Letts knew he'd uncovered an archaeological find in England's historic thatched roofs. What he didn't foresee was his controversial role in the battle between tradition and progress.



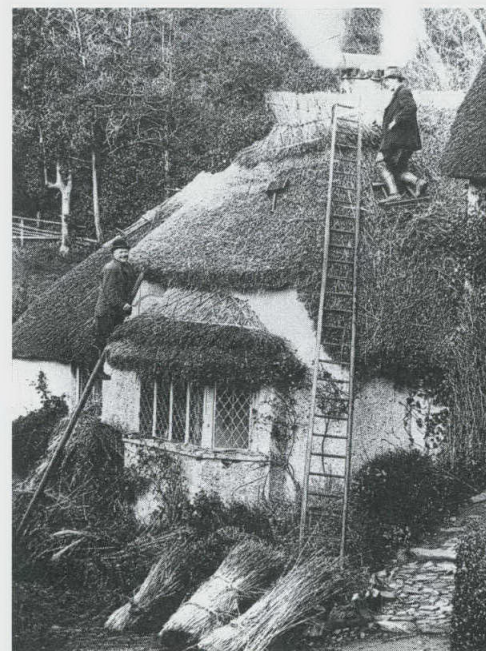
**A thatched roof** is made of the most global and, at the same time, the most local building material there is. Thatch is everywhere, and has been since prehistory, but it's different everywhere too. The Irish used anything from rye straw to gorse; on the coast it was seaweed, and on farms potato stems. In inland Japan, most thatch is miscanthus, a wild grass that grows on mountainsides. In England the ideal home is a thatched cottage with "roses round the door"—and 25,000 historic thatched buildings cannot be altered without the consent of local conservation officers. "Thatching keeps the fabric and preserves a way of life, a culture, a heritage," says Peter Evans, former head of craft training for the British government's Countryside Agency.

No one denies that the British love their thatch, but for decades thatching traditions have been succumbing to a twentieth-century system of big agriculture, capitalism, and homogeneity. Ironically it was a Canadian scientist who inadvertently discovered a way to bring them back.

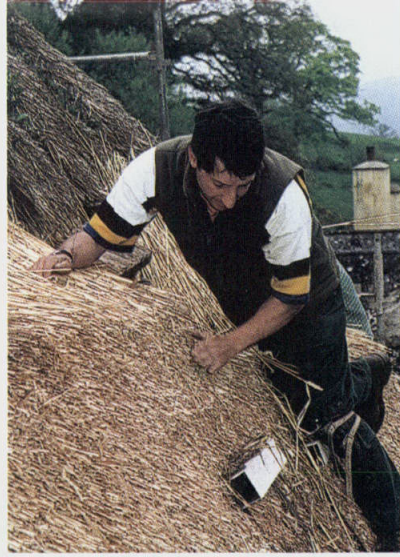
Archaeobotanist John Letts remembers the fall day in 1993 when he found himself analyzing what may be the oldest wheat in England. As a research associate in the Environmental Archaeological Unit of the Oxford University Museum of Natural History, he was analyzing seeds from the fire pits of a medieval village—"trying to build a story about medieval agriculture from bits and pieces of plants, bugs, and bones"—when a colleague walked in with a shoe box, and turned Letts's world upside down.

The man with the box said it held thatch dating from medieval times, probably the sixteenth century. Letts doubted it. "I said, 'That's impossible: wheat decays. It turns into compost.'" he recalls. "But this old thatch was so well preserved. And it contained strange wheat types, including a rare variety called rivet." Letts knew that rivet wheat had all but disappeared by the mid-nineteenth century.

Houses thatched with traditional cereal straw (top left) and with the challenger: imported African Veldt Grass (top right), a type of water reed. A handful of wheat spikes (above) indicates the genetic variety within the genus; modern bread wheats perform poorly as thatch, but older varieties can make excellent roofing material. A photo from the 1800s (right) shows thatchers using the traditional methods that John Letts champions.



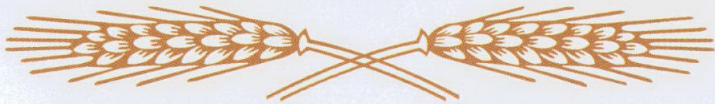




Thatchers add a new coat of straw to a historic property. Straw roofs are rethatched every few decades, but the process leaves the bottom coats intact. Some layers of accumulated straw date back centuries and can speak volumes about historic changes in English agricultural practice.



*The thatched roof was an ancient storehouse, a five-century history of agriculture, complete with weeds and insects.*



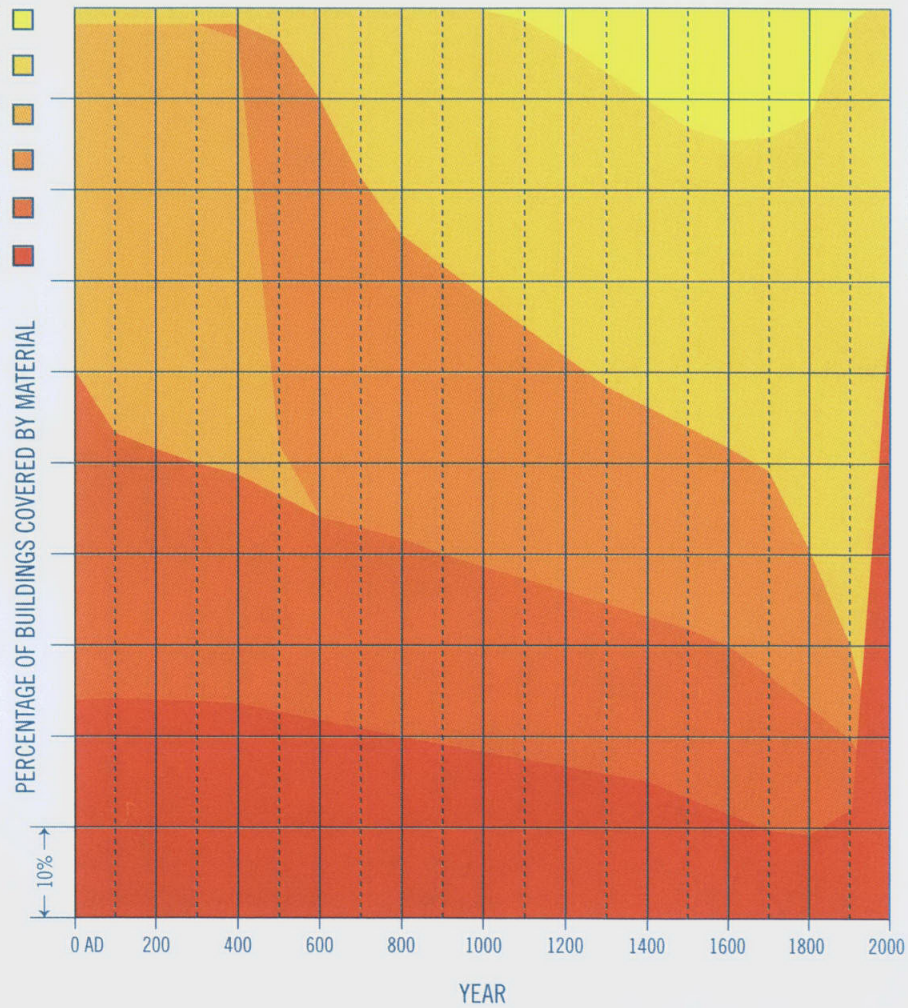
The incredible sample had come from James Moir, a building historian for English Heritage (EH), the government body responsible for preserving England's historic structures. He had rescued it from a medieval building in Buckinghamshire that was being stripped of its cereal straw—the traditional material in most of England—and rethatched with water reed. Moir recognized the contents of the shoe box as part of a “base coat.” Thatchers usually recoat a straw roof every few decades by stripping off only the decayed part of the most recent layer and adding a new layer. Traditionally the base coat is not removed; it remains on the rafters from the time the house is built.

It took an archaeobotanist to see the sample as the miracle it was. In Letts's eyes it was an ancient storehouse, a five-century history of agriculture, chronologically arranged, complete with weeds and insects. “Once that shoe box arrived, my life changed,” Letts says. “It was clear that this was going to change our view of medieval farming. Ted Collins, a professor of agricultural history at Reading, practically had a heart attack when he saw it. ‘I’ve been lecturing about this for forty years,’ he said, ‘and now I’m holding a real sheaf of medieval wheat in my hands.’” Within a few days Letts had written up a unique proposal: to excavate old thatched roofs as a type of archaeological dig.

Letts knew that thatch had never been studied as a record of farming. “No one had really looked at medieval crop plants very carefully before,” he says. “Today, to identify a plant, you crush it up, extract the DNA, and run it through a machine that tells you what it is. You don’t look at the leaf. You don’t look at a flower.” Letts looked at the leaves and the flowers in that shoe box and saw in them clear scientific evidence of the relationship between

## PRINCIPAL THATCHING MATERIALS USED IN ENGLAND OVER THE LAST 2000 YEARS

- RIVET WHEAT ■
- BREAD WHEAT ■
- SPELT WHEAT ■
- RYE ■
- MISCELLANEOUS ■
- WATER REED ■







*Letts wrote up a unique proposal: to excavate old thatched roofs as a type of archaeological dig.*

man and his environment, back when the two were completely intertwined. But that ancient connection created an unwelcome overlap between two subjects that twentieth-century academics have typically disassociated. EH funded the department where Letts worked, but at first didn't want to support his research. It "slips," Letts was told, "between pure archaeology and building history."

Letts began excavating and recording medieval thatched roofs anyway. "They [EH] gave me a token amount at the beginning that did allow me to examine two or three roofs," he remembers. "But then I realized, 'Oh my God, it's all over the place!'" To find the old roofs, Letts sought out thatchers. "I needed to interpret the archaeological record I'd discovered on the roof," he says, "and to do that I had to...learn how thatch goes on. There was nothing written on that." Thatchers were helpful, teaching Letts all they knew about the craft. "They talked about the finish," he says. "They drove me around and showed me different roofs they'd done."

Letts learned that in most of the country, if a building is old enough to be listed as historic, it was probably originally thatched with straw. But in recent years thatchers have been replacing cereal straw with water reed. Water reed is not attached to the undecayed part of a previous layer like straw but nailed directly to the rafters. To get a clear shot at the rafters, a thatcher has to strip off whatever thatch is there, and maybe retimber the rafters as well. "By definition," Letts says, "every reed roof is a new roof."

To thatchers and homeowners water reed is a high-performing material. But it presented a problem for Letts: the replacement method didn't allow an archaeobotanical record to survive. Soon Letts was motivated by not just scientific curiosity but a sense of crisis. "I realized that I had to go take rescue samples, and record them as quickly as I could, because the next month they might not be there. I had a duty to rescue them."

**Traditionally water reed is used for thatch** in the east of England, where it also grows and performs admirably on the steep roofs and in the relatively dry climate. But today probably 90 percent of water reed used in the United Kingdom is imported. How did British thatching become so un-British? Excavating roofs and talking to every thatcher **continued on page 134**

Reed importer Rod Miller (far left) has brought more than 300,000 bundles of African Veldt Grass to England for use as thatch. He says it performs better than the cereal straw currently available. Reed can also be handled mechanically, which keeps costs down and makes operations efficient.



## Against the Grain

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and cereal farmer he could, Letts pieced together a story of multinationals and monocultures. Since the mid-nineteenth century, when scientific plant breeding began, farmers have been encouraged to grow shorter-stemmed, higher-yielding varieties of wheat to make whiter, fluffier, more profitable bread. The old wheats had grown in mixed-variety fields, which did extremely well in organic conditions and actually helped snuff out weeds. But modern growers and bakers preferred single-variety fields. The wheats most used for thatching, particularly rivet wheat, were abandoned. "Because of the power of the baking companies and the money," Letts says, "they just lost the race." When roofs thatched in the new breeds of wheat straw performed below par, the image of a straw roof slipped from authentic to unreliable, and thatchers started choosing water reed more often.

By the 1960s the English supply of water reed couldn't keep up. Reed harvesting "is seasonal and quite strenuous work—and they were cutting it by hand too," thatcher and reed importer Rod Miller explains. "The men who worked on the marshes were finding easier ways to make a living: working in the Birds Eye frozen foods factory." Miller is one of several thatchers who made a quintessential midcentury business decision: he began importing. Cheap labor and lack of regulations in other reed-producing countries made it less expensive to source from, say, Eastern Europe than to redevelop British wetlands. "It started, like a lot of these things, by accident," Miller says. "People saw what we were importing, asked if I could obtain it for them, and it just took off from there. It's gradually expanded to where we're importing reed from Turkey, Austria, Poland, and Hungary."

Letts claims that imported reed could bring disease or insects into England because there's little regulation. What alarms him more is the way the profile of the imports is beginning to change. Between 1995 and 2002 Miller imported 300,000 bundles of something he calls African Veldt Grass (AVG), which performs well in its natural ecosystem but whose performance in England Letts questions. "There's probably good and bad AVG, but we don't know enough about it yet to say whether it will work on English roofs," Letts says. "I've examined panels thatched in AVG in the West Country, and it came off in handfuls after just five years."

Letts is not against water reed. In fact he's the honorary scientific officer of the British Reed Growers Association. "I'm right into modern thatch," he says, explaining that he's a champion of thatching brand-new houses, which is most

often done with water reed. But it's thatchers, he says, who have given straw a bad name: "Some reed users and importers find it advantageous to make it look like straw quality could never be improved. The evidence shows that straw can last just as long as water reed."

When Letts started blaming some thatchers for turning the industry against straw, a few men who had hitched their businesses to imported materials took notice. But in 1999, when English Heritage held an entire national conference on the results of Letts's research, they got mad. In its first-ever "guidance note" on thatch, EH called for more scrutiny of thatching. A portion of the note read, "If material in the roof...appears to be of archaeological interest, recording...should be carried out by an accredited archaeologist. Drawing this material together and interpreting it may require knowledge of agrarian and social history, as well as the history of building and the practice of thatching." Thatchers like Miller, who helped Letts make his discoveries, began to see his work as a menacing source of regulation that would restrict their market and authority.

But Letts is not arguing for regulation nor for the supremacy of straw. He is arguing for choice. "What if something happens and all of a sudden there's no reed coming in from Turkey?" he asks. "We'd have no control over our roofs, no control over the quality of the material. It just seems insane that we don't produce our own."

Letts used to be able to travel the countryside anonymously in his beat-up 1982 Ford Fiesta, stopping to ask questions whenever he saw a thatcher on a roof. Now he's too conspicuous for that. A few years ago a thatcher in Oxfordshire, thinking Letts was an American tourist, pulled his leg with claims of a 14-generation tradition of thatching in his family. "When I asked which of two varieties of wheat he was using, the poor man nearly fell off the roof," Letts recalls. "Then he said, 'You're that Letts fellow, aren't you?'"

Those who know Letts either love him or hate him. One retired thatcher calls him "a rat amongst rats." Miller, who takes issue most with Letts over the reputation of his imports, feels betrayed. "Veldt Grass helps a native population, giving an income to these people," he says. "John Letts has damned it." Meanwhile, the country's highest-profile environmentalist, the Prince of Wales, is a staunch supporter of Letts and praised him highly at the 1999 conference. "I do admire hugely the work that he is doing," he told the audience. Letts has gained the support of what seems the entire British conservation bureaucracy, plus a majority of the thatchers in the country, according to thatcher Keith Payne. "What [John]

says is true," Payne observes. "But it hurts some thatchers because they're doing the opposite. They're frightened that people are going to come in like Big Brother: bang!"

**Letts, who began his venture into thatch as a scientist**, has emerged as the environmental activist he has always been at heart. In between university years studying botany, genetics, and environmental science, he was a chef at a health-food restaurant and helped form Ontario's Green Party. (He was one of its first candidates, in the 1984 Canadian general election.) So it was natural that Letts would make the connection between ancient thatch and contemporary green building. "I realized that it's sustainable, it's green," he says, "and I saw what I had to do."

Letts began to see that the ancient "land races" of wheat—the mixed varieties that had grown side by side before the advent of scientific breeding—could be restored, grown, and laid on roofs in the twenty-first century. The losses that straw thatching had suffered—straw height and strength, not to mention its general reputation—could be overcome. And the return of biodiversity could help battle looming environmental concerns. "For thatching you want the opposite of monoculture," he explains. "If you have a genetically narrow field and you get a fungal disease, the whole crop's going to fail. Whereas if there are a number of different genotypes, they'll vary in their resistance. Even when the climate's stable, it's important to have that buffer; but in the midst of climate change, it's essential."

By 1997 Letts had collected 500 varieties of ancient wheat seeds from gene banks and colleagues all over the world. To test his hypothesis, he began enlisting straw farmers to grow them, and then studied which varieties would work well together in an organic mixed-breed field. In the spring of 2000, when Letts and Payne began managing all of the thatching-related work on the National Trust's 13,000-acre Holnicote estate, growing Letts's wheat mixtures was part of the program. "Conservation gets pushed as the more expensive way, the slower way," Payne says. "We can prove that the traditional way is also the most cost-effective way, because you produce your own materials."

Letts hasn't stopped at historic properties; he wants to make medieval wheat mixtures the basis of thatching in the future. "The right type of straw will outperform a good bulk of water reed that is currently being used in this country," he insists. Repositioning wheat straw as a viable farm product and building material will make it more popular, Letts reckons, "and there **continued on page 136**