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Most Modern European Males Descend from Farmers Who Migrated from the Near East

ScienceDaily (Jan. 19, 2010) — A new study from the University of Leicester has found that most men in Europe descend from the first farmers who migrated from the Near East 10,000 years ago. The findings are published January 19 in the open-access journal *PLoS Biology*.

The invention of farming is perhaps the most important cultural change in the history of modern humans. Increased food production led to the development of societies that stayed put, rather than wandering in search of food. The resulting population growth culminated in the seven billion people who now live on the planet. In Europe, farming spread from the 'Fertile Crescent', a region extending from the eastern Mediterranean coast to the Persian Gulf and including the Tigris and Euphrates valleys.

There has been much debate about whether the westerly spread of agriculture from the Near East was driven by farmers actually migrating, or by the transfer of ideas and technologies to indigenous hunter-gatherers. Now, researchers have studied the genetic diversity of modern populations to throw light on the processes involved in these ancient events.

The new study, funded by the Wellcome Trust, examines the diversity of the Y chromosome, which is passed from father to son. Mark Jobling, who led the research, said: "We focused on the commonest Y-chromosome lineage in Europe, carried by about 110 million men -- it follows a gradient from south-east to north-west, reaching almost 100% frequency in Ireland. We looked at how the lineage is distributed, how diverse it is in different parts of Europe, and how old it is." The results suggested that the lineage spread together with farming from the Near East.

Dr Patricia Balaresque, first author of the study, added: "In total, this means that more than 80% of European Y chromosomes descend from incoming farmers. In contrast, most maternal genetic lineages seem to descend from hunter-gatherers. To us, this suggests a reproductive advantage for farming males over indigenous hunter-gatherer males during the switch from hunting and gathering, to farming -- maybe, back then, it was just sexier to be a farmer."

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Story Source:

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Journal Reference:

1. Balaresque P, Bowden GR, Adams SM, Leung H-Y, King TE, et al. **A Predominantly Neolithic Origin for European Paternal Lineages**. *PLoS Biol*, 8(1):e1000285 DOI: 10.1371/journal.pbio.1000285

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