LINKS TO THE PAST
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Did you ever wonder why there are 5,280 feet in a mile? Or even stranger, 43,560 square feet in an acre? How'd that happen? Well, as usual, there are good practical reasons that go back hundreds – even thousands – of years.

You've no doubt heard the term "furlong" in the context of horse racing, and may even know that it is an eighth of a mile. But did you know the term comes from the old English words *furh* (furrow) and *lang* (long) and goes back to the ninth century. Traditionally, a furlong is the distance a team of oxen could plow in a straight line without resting (the oxen, not the man). Furrows were ploughed long and straight because it took extra time and effort to turn the oxen team around to plow the other direction. A Furlong was standardized as being 40 rods long which equals 1/8 mile, or 660 feet. A rod is also an old English measurement, equal to 16 ½ feet, and is often is seen in old deed descriptions of land from the colonial days through the 1800's.

Rods are also used to measure the right of way width of old roads. Main through roads – those running east-west in the case of Township No. 1 – were laid out to be 4 rods – 66 feet – wide. Hence the term a "four rod road." Secondary roads were 3 rods (49.5 feet) and lanes were 2 rods (33 feet).

"Chains" and "Links" are other common measurements used in surveying and deeds before the 1900's. The "Chain" was introduced as a standard for measurement of land in 1620 by English Clergyman and mathematician Edmund Gunter, and is still known to surveyors as a "Gunter's Chain." Gunter's innovation was to combine two seemingly incompatible measuring systems: the old English system that used 4 as a base and the "new" decimal system using base 10; recalling that a furlong is 40 rods: 4 x 10. Gunter standardized the surveyor's chain to be 66 feet – four rods long (base 4) – and had one hundred "links" (decimal system). (See photo; each "link" is 0.66' long or about 8".)
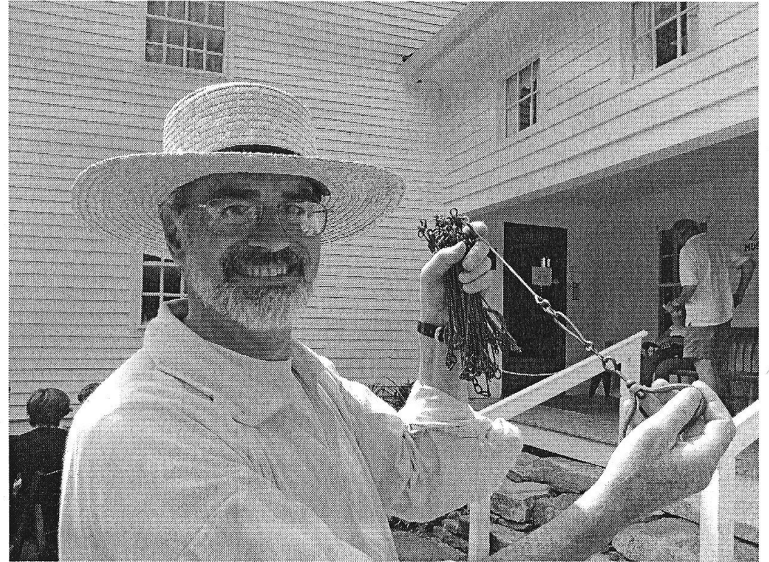
With all these numbers, you're probably still scratching your head over the initial question about miles and acres. Let's look at the acre first. An acre was the land area that our same old oxen team (and one tired man) could plow in one day. So he would plow a furlong (660 feet long); give the oxen a short rest, turn them around, and plow another parallel furlong back the other way; and repeat. At the end of the day, he should have plowed a field one furlong (10 chains) long by 1 chain wide: that's one acre – 10 square chains. A pretty simple measurement and very easy for early surveyors to measure and calculate. The tricky

math only comes in when – in our "new improved" system of measurement – we have to multiply using feet and inches. So: a plowed field is one chain wide (66 feet) and 10 chains long (660 feet). Do the math: an acre is 660' x 66' which equals (ta da) 43,560 square feet. As you can see, it's not so easy to figure out acreage in square feet (without a calculator), but it was really easy to calculate using the old chains and decimal links measurement.

Now for the mile, we need to add one more factor. The origin of the mile came from the Roman empire. The roman soldiers were very well fed and physically fit so they could march a distance equivalent to three miles in an hour. One mile (*"mille,"* meaning one thousand in Latin), was equal to one thousand paces *("passus")* of five feet using double-steps, or approximately 5,000 feet. The roman system of measurement was used throughout medieval Europe but with variations in different countries that caused problems with commerce. In England, the units were finally standardized in the early 1300's to use the foot, yard, rod, furlong and mile that we all now know and love. The closest measurement to the roman mile of 5,000 feet was 8 furlongs. Which equates to 8 furlongs x 10 chains (660 feet) = 5,280 feet.

So now you know "the rest of the story." Class dismissed.