



Weed-Fed Ducks

BEEF and pork are usually advertised as corn-fed, veal and chicken as milk-fed; wild duck, by the same token, should be touted as weed-fed. For plants that most of us would instantly classify as weeds are the dietary staples of most of the good wild ducks of the United States and Canada, it appears from two new publications of the U. S. Biological Survey, written by Dr. Clarence Cottam, A. C. Martin and F. M. Uhler.

Some of the outstanding duck foods which they list are frankly and professedly weeds. Most widespread and most generally eaten is the pondweed; mermaid weed, pickerelweed, smartweed and duckweed also figure in the wildfowl diet of weeds.

Some food items, like wild rice, wild millet and wild celery, are named for resemblances, real or imaginary, to the corresponding items in the cultivated fields of the uplands, yet it is by no means certain that to the casual eye these would appear as anything but just more weeds. Only a few, like waterlily and arrowleaf, can claim classification as flowers.

There are weeds even among weeds, the study shows. That is, there are certain plants that produce little or no food for ducks and that crowd out other plants which the broadbills really like. Just as some of our worst field weeds are undesirable aliens, so also it is in the ponds and swamps. Two of the worst "crowder-outers" are the water hyacinth, from Africa, and the water chestnut, an Asiatic pest.

Nevertheless, most of the troublemakers are native species, including many kinds of sedges, grasses and bulrushes. Many persons will doubtless hear with concern that cattails, old childhood favorite, are not good friends of ducks,

and that one of the most beautiful of our native flowers, the American lotus, is a weed, from the ducks' point of view.

There is even machinery, for crushing out the mere spacegrabbers and giving the food-yielding "weeds" a chance to do their stuff for the ducks.

Science News Letter, June 17, 1939

PHYSICS

Old Violins Studied To Learn Their Secret

MUSICIANS will tell you that there have never been violins made equal to those of the old masters such as Stradivarius and Guarnerius. These are the kinds of instruments which sell for \$20,000 and more.

Why will anyone pay that price for an instrument? Surely not because it is an exquisite example of wood carving or a genuine antique. A more reasonable reason is that the old instruments really give a more beautiful tone.

Just why the world's prized violins do this is a matter which scientists have been studying for years and will continue to do so for some time to come. In a way they are racing against time for within two centuries these old instruments, now almost priceless in their tonal qualities, will become decrepit instruments valuable only for museum cases.

Dr. F. A. Saunders of Harvard University reports that from his studies of superior violins, owned by such musicians as Jascha Heifetz, it is found that the body of the violin acts as an amplifier for the sounds generated in the strings. The violin body is a loud-speaker, but not a perfect one and not as good as those used in the better radio sets today.

Blindfold tests show that only expert violinists can tell the difference in tone between famous old instruments and good modern copies of them. More of these studies need to be undertaken, Dr. Saunders maintains, to see whether the extreme high prices of old instruments really mean anything to the average audience. Scientists strongly suspect that their slight superior qualities are largely wasted in public performances.

It is believed that the aging of wood in an old violin, rather than the wood carving ability, may account for the superior tones. If this is true the goal of modern men would be to age wood artificially in the proper way and thus create excellent modern instruments.

Science News Letter, June 17, 1939

ARCHAEOLOGY

Iran May Prove Oldest Center of City Life

WHERE was the world's first city? Archaeologists have been seeking an answer to that question ever since they began digging into buried ruins and finding to their surprise how ancient city "advantages" really are.

For a while, Egypt and Mesopotamia were the only serious rivals for honor of being first in city life. Now, however, Syria, India, and Iran are mentioned as "dark horse" candidates. To prove earliest, one of these regions must reveal convincing evidence of city life earlier than 4000 B. C.

The site now popularly termed the world's oldest city is Tepe Gawra, in Mesopotamia, where American expeditions have carefully probed 26 layers of ruins. Tepe Gawra around 4000 B. C., or even earlier, had to its cultural credit well-designed public buildings and fortifications, art, music, religion, social life, personal adornment. With such progress manifested, the dawn of city life must be sought still earlier in less pretentious form.

French archaeologists regard Syria as a region of cradle cities as far back as 4000 B. C. or perhaps 5000 B. C. There are signs that India may have earlier cities than the now-famous ones of around 3000 B. C.

As for Iran—two geologists, Lester S. Thompson and Henry Hotchkiss, have examined elaborate irrigation systems and a Great Wall and moat in north-eastern Iran. In a report to the American Institute for Iranian Art and Archaeology, they declare that these public works show "a very high degree of engineering skill and clearly indicate the existence of a strong, well organized central government."

Who the ancient builders were is still not known. But by geologic evidence, Mr. Thompson places their handiwork as probably not later than 4000 B. C. and possibly as long ago as 8000 B. C. Their cities, if they had cities to defend, are yet to be unearthed.

Science News Letter, June 17, 1939

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