

The acreage in cultivation this year is by far the largest in the history of the Pacific Northwest, and the prospect for general good crops and remunerative prices were never better.

THE CARP.

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Carp—Malacopecterian. cyprinidæ cyprinus—
Body round, with large scales; plump. A single elongated dorsal fin. Fleshy lips; small mouth, with a barbel at the upper part of each corner of the mouth in the common species, and a smaller one above. Teeth in the pharynx, none in the jaw. Ventrals behind the pectorals, without any connection with the bones of the scapular arch. The second dorsal ray and first annal serated posteriorly. Tail forked. Twelve rows of scales between the ventral and dorsal fins. Lives to extreme old age.

The attention now being paid to the artificial propagation of fishes, occasioned by an uncertain supply of that particular article of food, as well as actuated with a desire of contributing in a degree the labor which goes to make any enterprise successful, and especially for the mild enjoyment experienced by one possessed of a taste for such diversion, and the abundance of enquiry on the subject of fish culture, demonstrates unequivocally the importance of that element of natural economy which seems to require some correct analysis and apt treatise.

The waters of our state are abundantly inhabited with an extensive variety of fishes. But it embraces that kind which is the most difficult of cultivation. Their adaptability to the series of transitions they require to undergo in the practices of fish culture is such as will permit of the introduction of a variety of fish, the characteristics of which would consist of those qualities required in the artificial propagation of fishes. And such a family of fish as this is to-day absorbing the attention of many people throughout the land. It is

THE EUROPEAN FOOD CARP,

A fish which, existing for a thousand years in a country unpossessed of the facilities for transmitting the products of their industry and rewarded research even to a kindred, or of imparting to the world the knowledge unquestionably gained by fortune and taught from necessity in the discovery of a distinct food-fish—stands to-day before pisciculturists as the one eminently calculated to become the fish-food reserve of the world. Laying aside the palatable qual-

ities of the anadromous salmon, whose limited season of use as an article of diet qualifies the theory of its impracticability to that result of propagation which would diminish the expensiveness to a degree, permitting the people of any class throughout the land to subsist from it, and the remainder of the *genus salmo*, and recognizing the fact that the people must find such an article of food as is easily kept in supply, we require to find that variety of fish which is as well adapted to artificial propagation in the lands of the interior of this country as elsewhere, and not that kind, native of our country, which being incapable of such propagation, is required to be deprived of its vitality and shorn of its fresh succulent qualities, then canned and shipped to the people at large. In the food carp of Europe we find our fish.

The carp is a malacopecterian fish, of the family cyprinidæ, genus cyprinus. China was the first country which cultivated the carp. From there Persia received them, and from which time their migration continued westward, winding up in England about the fourteenth century. And not until at least four hundred years had rolled by did carp find their way across the Atlantic and appear in America. In 1872, however, the United States Fish Commission, having already perceived the advisability of introducing food-fishes into this country, imported three of the best varieties of food carp. The consignment was skilfully managed and superintended by a practical and learned German fish culturist, who was brought over from the old world purposely for the business; and under his apt care the fish soon multiplied to such an extent that a system of distribution was entered upon throughout the Union. And from this lot sprung the present supply of carp in America.

Attention is called to the engraving of the carp, accompanied with detail of description prefacing this article.

The knowledge requisite in the successful rearing of carp has not been disseminated with much profusion yet, owing partially, I presume, to the amount of ignorance maintained in general of such a pursuit, occasioned certainly by an inopportunity of application to the enterprise. But in the discourse I now proceed to follow which has been written in demand to the many inquiries of our country people, the carp

itself will be the first theme of consideration, followed by such particles of information applicable to its culture as the writer is able to produce from a practical knowledge of such subjects and the scant data from which to draw.

The cyprinus carpio is of golden olive brown hue, with a light belly and darkish fins. The size depends upon the age: in one year's growth they have been known to increase in length from 14 to 22 inches. Of the most valued characteristics of the carp, that of fecundity takes prominence. The female carp has been known to produce annually near 500,000 eggs. The spawn attaches itself to the water herbage and floating objects about the surface of the water, where it becomes developed by the influence of the solar light and heat, in about thirty days. With us the carp spawn about May, and within one season of multiplication will have produced sufficient young to necessitate removal into another pond. Living largely on vegetable diet, yet capable of thriving on food of most any kind, they can be reared with but little expense in restricted waters. They are passionately fond of water cress of the class *tetradynamia, nasturtium aquaticum*, and other water vegetation, and will as eagerly devour worms, larvæ insects, all vegetable and animal refuse of the kitchen, agricultural and economical products of little value. The carp is susceptible of being bred in any water, but that of a lukewarm and sluggish nature, such as ponds with soft or muddy bottoms, marsh lakes and meadow ditches is to be preferred. They hibernate during the winter by burying themselves in the mud at the bottoms of the ponds and remaining in that torpid state the entire cold season, reappearing in the spring with no marked decrease in size or condition. Having an instinct of keeping in company, they will be often seen in schools, wandering about the ponds.

In carp culture, one ton per acre is feasible. And to give an idea of the immensity of this produce, as an industry, engaging the attention of an entire populace in some districts of the world I will speak of Germany, a great country for piscatorial pursuits, which derives an enormous income from her fisheries. In many places in Germany it is said the puddles in the streets are utilized as ponds for the keeping of two year old carps, from which distant