

fleshy plant materials such as cacti are available. However, it works equally well on an ocean beach or in areas where water is abundant, but polluted. In an area without vegetation and without any water in the soil, the still could be used to purify water from body wastes, engine coolants, or other undrinkable sources.

When deciding where to locate a still, dryness of the soil, availability of plant materials, exposure to sunlight, and ease of digging a pit should be considered. It should be exposed to sunlight all day.

If the soil is damp, or plant material is available, build the still where it is the easiest to dig. If the soil is very dry and no plants are available, it should be located in a streambed or depression where water may have accumulated after a rain.

On an ocean beach, the pit should be

just above the high watermark so sea water is plentiful in the sand, but the still is not damaged by waves. Near a polluted pond or stream, the pit should be dug at a point where the soil is wet, but where water does not accumulate in the pit and spill into the container.

The amount of water produced by a single survival still is not enough for continued survival in a hot, dry climate. Under extreme conditions, about 1 gallon of water per day is necessary to maintain life. Two stills would nearly meet this requirement, and one still could provide sufficient water to prolong life until rescued. It is well known that panic caused by thirst drives people to wander to an almost certain death within hours. A modest, but dependable, source of water could prevent these tragedies.

## More Crawfish for the Gourmet

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**C**RAWFISH are good to eat, fun to catch, and provide income to many people in Louisiana. So . . . "you get a line and I'll get a pole". . . .

Crawfish tails have been a seasonal delicacy in Louisiana for many years. Early historical writings relate stories of crawfish abundance and of tasty dishes. Natural Louisiana swamps once provided enough crawfish for the local people. But with more demand, less rainfall, and competing land uses, the crawfish supplied from the unmanaged areas became undependable.

Through the efforts of technicians of the Soil Conservation Service, Louisiana Wildlife and Fisheries Commission, and Louisiana State University, procedures

were developed whereby commercial and recreational crops of crawfish can be grown on purpose.

Since 1963, thousands of pounds of live crawfish a day have been moved out of flooded fields in south central Louisiana during early spring and summer. Hundreds of people have gained employment from the fishing and processing. Eating places serve more people, most of whom drive many miles to eat crawfish, and wetlands development for crawfish has



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become a big, new conservation practice.

Landowners, rice farmers, and businessmen like Bert Gilbert, Roland Faulk, Ashby Landry, Elmer Naquin, John Ruppert, Alphe Simon, and many others pioneered the crawfish farming efforts.

### Steps To Follow

Rotation of crawfish with a forthcoming rice crop is one type of crawfish field. This type begins with an area of native pasture—an idle ricefield in rotation growing grass—and the procedure generally follows this sequence:

1. In early spring the field is plowed.
2. About May 1 the field is replowed and the rice planted.
3. The growing rice is flooded with water about 4 to 5 inches deep from May 15 to August 1.
4. Most ricefields are harvested between July 15 and August 15. Fields are dry at this time.
5. Between September 1 and November 1 the field is reflooded for crawfish.
6. The crawfish are harvested between January and June.
7. Water is maintained during the period of September through June.
8. Water is removed from the field, and it reverts to native pasture until rice is planted next season.

The remaining crawfish burrow into the soil to escape enemies and to obtain moisture. The irrigation of rice once in 2 years provides sufficient moisture to maintain this resident population. Even though crawfish are native in south Louisiana ricefields, unsuccessful attempts to raise a commercial crop have occurred on land that had not been planted to rice in 4 or more years because of lack of water. On such fields it may be necessary to stock adult crawfish at the rate of 5 to 10 pounds per acre, in water, during the month of May.

The water should be a minimum depth of 6 inches at all times, and about 18 inches is deep enough to grow crawfish. Deeper water makes the harvest more difficult. Strong outside levees around ricelands make water-holding easier.

Raising crawfish in rotation with rice is only one method of commercial pro-

duction. Another way is to build a levee around a piece of land which shows signs of native crawfish and manage for a crop every year. This way, you are actually just guaranteeing what nature does every so often. And it can be either wooded swampland or open land.

The sequence of events in growing crawfish on land every year is as follows:

- Establish a suitable water control system—levee and drainpipes.
- Let native grasses grow to provide food for the crawfish. Fertilize if you find it is necessary.
- Flood the area with water 6 to 18 inches deep between September 15 and October 1.
- Hold water on field throughout the fall and the winter.
- Beginning December 1, set test traps to see if crawfish population is ready to be harvested.
- Drain field about June 15 and repeat the procedure outlined above.

With these management procedures, harvest usually begins in late December or January. Weather influences the starting time of harvest. A warming trend is needed in late winter to stimulate feeding, growth, and movement to traps.

The crawfish harvested in December, January, and early February are usually larger ones, 10 per pound. These are adults which survived from the season

*Viki Faulk of Crowley, La., displays large red swamp crawfish taken from a field near her home. Six of this size weigh a pound.*



before; and include a few large but immature individuals from early-hatched eggs. Most eggs hatch in October, and the young reach large size by March.

The harvest is conducted in various ways. Some farmers contract their fields to commercial fishermen for a set fee per pound of crawfish harvested. Others fish the field themselves and sell directly to the public or to wholesale buyers. Still others allow the public to fish at so much a pound, or a combination of these methods is used. Retail prices usually begin at 35 cents per pound live weight and go down to a low of 10 cents depending on what the supply is.

A well managed and diligently harvested field yields between 400 and 1,000 pounds of live crawfish per acre. This production is accomplished only with heavy fishing and if all crawfish 15 or more grams in weight are harvested.

### Types of Traps

Most commercial crawfishermen now use the standard cylinder-type or funnel-entrance trap. Catfish heads, gizzard shad, buffalo fish, carp, and beef melt are the baits commonly used. The bait is placed in the wire cage, and crawfish enter through the funnel.

The old bait is removed each time the trap is checked and fresh bait is added. It is important to have the bottom of a funnel-entrance trap on flat ground so the crawfish will crawl in, not under, the entrance. A well baited and placed trap will catch  $\frac{3}{4}$  to 1 pound in 6 to 8 hours. The trap is usually checked in the early morning and late evening.

The common crab or crawfish net is used by sports crawfishermen when the crawfish are "really biting."

A person should check the nets every 10 to 15 minutes since the crawfish find this bait quicker.

Crawfishing is fun, and safe for the whole family. I talked to two ladies crawfishing one day between Crowley and Jennings, La. They told me they were having so much fun they had forgotten to eat their picnic lunch.

Water on the ricefields is not so deep

as to offer a threat to the smaller folks. People of all ages can walk the rice paddy levees with the small wire-supported crawfish nets, poles, buckets, and bait. And it is quite a thrill to lift the net when 10 to 20 large red crawfish are holding to the piece of meat used as bait.

### Ways To Cook Crawfish

You can eat crawfish in a number of ways. Three pounds of the boiled ones, served with tomato flavored sauce on the side, makes a meal. Crawfish bisque, crawfish étouffée, and crawfish salad are popular dishes. Gumbo and pie are delicious also. Seafood specialty houses serve crawfish year around, and regular eating establishments in southern Louisiana add them to the menu by demand during the season, February through June.

The meat in the crawfish tail is all that is eaten. However, the "fat" (liver) is used as seasoning. The larger crawfish have smaller percentages of tail meat. When 8 or 10 crawfish weigh a pound, there is only about 9 pounds of tail meat per 100 pounds of live crawfish.

In average size crawfish, 25 to 30 per pound, there is 14 pounds of meat per 100 pounds of live crawfish.

Recipes for cooking crawfish are easily found in almost any southern Louisiana cookbook.

Crawfish used to be available only to local Louisiana folks, but now they are cooked and packaged commercially under a number of brand names. The processing plants are both on the farms and in the towns. A large processing plant was built near Breaux Bridge, La., in 1966. Here, the crawfish are cooked, packaged, and frozen for sale to retail outlets. Thousands of pounds of live crawfish are used daily in the Breaux Bridge plant.

Crawfish are providing recreation for many people, giving the landowners additional income, increasing employment, and improving land use. The stimulation of business to local cafes, hardware stores, and sporting goods stores, and the increase in tourist trade are other benefits. So you see, the lowly crawfish is no longer lowly in Louisiana!