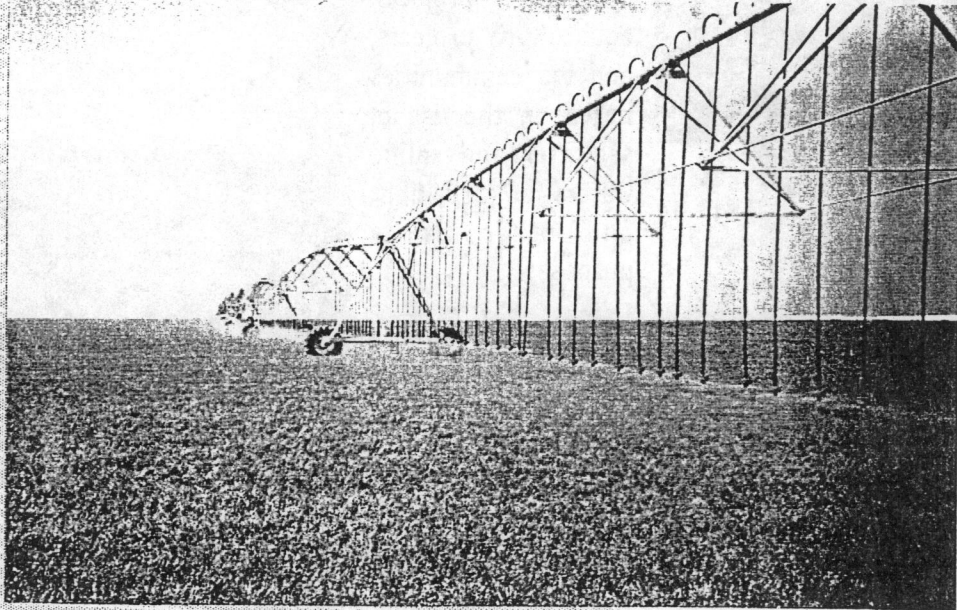


HEI

**HALOPHYTE
ENTERPRISES,
INC.**



*....Creating a
Revolution in
Agriculture for
the 21st Century.*

HEADQUARTERS: 4500 NORTH 32nd STREET, SUITE 100

PHOENIX, ARIZONA - 85018

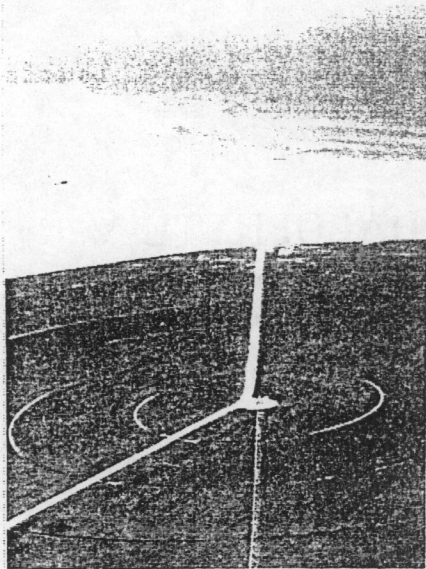
USA

TEL: (602) 912-9887 - FAX: (602) 912-0277

Creating Excellence

Halophyte Enterprises, Inc. ("HEI"), was conceived and dedicated to the "mission" of reducing man's food production dependence on the Earth's limited supply of fresh water. This goal is achieved through the use of the earth's saline water resources. This goal will also bring an improved quality of life to all people of the earth. HEI's focus is toward the development and the commercialization of large-scale seawater agriculture projects, aquaculture projects, and sea communities based on the use of seawater and saline waters for food, fiber and other utility purposes.

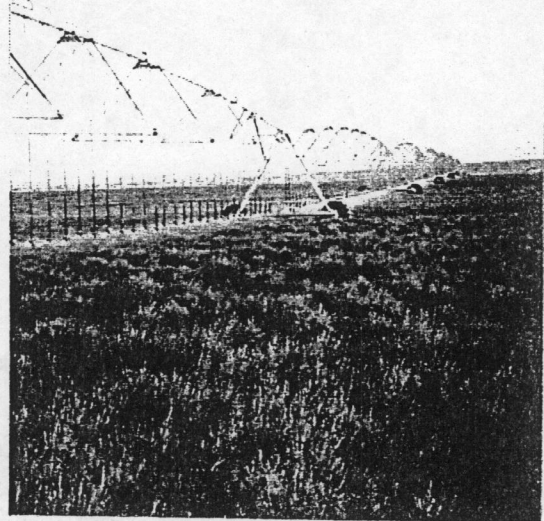
Our vision is to increase productivity from the desert seacoasts of the world while at the same time, improve the local quality of life. The development of seawater based communities along the vast desert coasts will provide a new economic purpose for the expanding populations of the world. The technologies used in seawater based agriculture, aquaculture and community development programs take the first step toward reversing the flow of nutrients from the soil to the sea by returning them back to the land. At the same time, a major step is taken to reduce the carbon accumulation in the atmosphere which in-turn helps stem the global warming problems of the planet. In the end, Halophyte Enterprises, Inc. is working hard to create a better life-style for everyone on the planet.

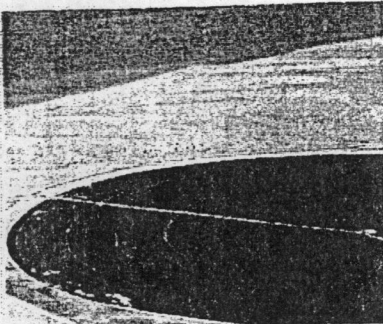


Irrigation of halophytes using seawater returns nutrients to the land and produces a food crop at the same time.

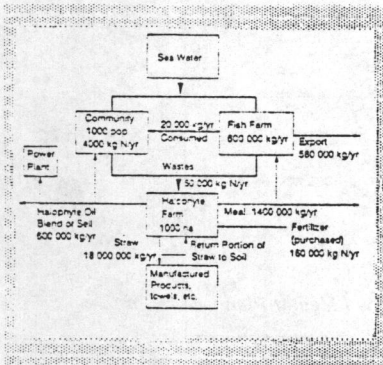


Halophyte crops planted along the desert coasts help balance the world's carbon cycle by returning carbon to the soil.

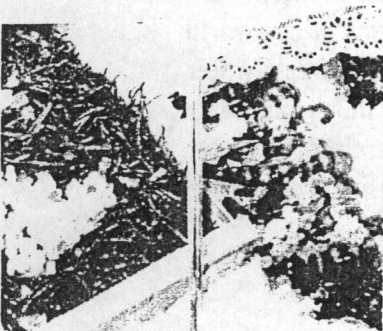




Seawater crop production on the Gulf Coast of Saudi Arabia brings economic gain through the production of food and feed products.



Combining seawater agriculture and aquaculture technologies adds to the economic justification for the program and to the benefits gained by those who inhabit the area.



Shrimp and Salicornia combinations are pleasing to the palate as well as nutritious products from seawater agriculture and aquaculture programs.

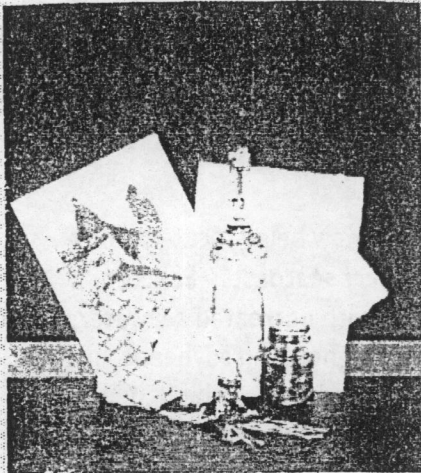
Seawater Agriculture

The first seawater agriculture projects are now being located along 20,000 miles of the world's existing desert seacoasts. Salicornia, the first commercial halophyte crop grown with untreated seawater, produces oilseeds with an oil content that is higher than soybeans and other oilseed crops. The oil of the salicornia seed is a very high quality oil similar to safflower oil. Salicornia produces, not only a high quality oil for human consumption, but also vital components such as the meal that remains after extraction of the oil. This meal, which is 40% protein, can replace other conventional sources of protein in animal feed stocks for poultry and ruminant diets. Alternative uses of the salicornia products and by-products are also being developed. They include such items as; building materials, paper pulp, and bio-fuels that can be made from the forage. The oil can also be used as high value ingredients for cosmetics, pharmaceutical products, as well as additives for fuels and lubricants. Today, HEI is marketing the young fresh green tips of salicornia to several markets in Europe. The fresh salicornia has been a highly desired and sought after food in Europe for centuries. To now, it has only be available from wild production.

COMBINING TECHNOLOGIES --

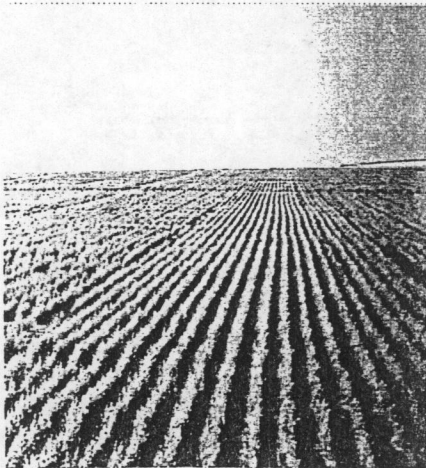
Seawater Aquaculture

HEI also offers aquaculture technologies that include intensive shrimp and fish production programs for confined, high volume production projects. This technology can be synergistically integrated with the salicornia technology to achieve a higher return on investment. This economic enhancement is achieved by using the seawater for the production of shrimp or fish then using it again to irrigate the salicornia crop. High quality aquaculture products can help feed the local populace, as well as create products for export markets. The integrated seawater agriculture and aquaculture programs can form a sound economic base for the establishment of seawater communities.



The products and by-products from a seawater agriculture program can form the bases of a strong economy, such as:

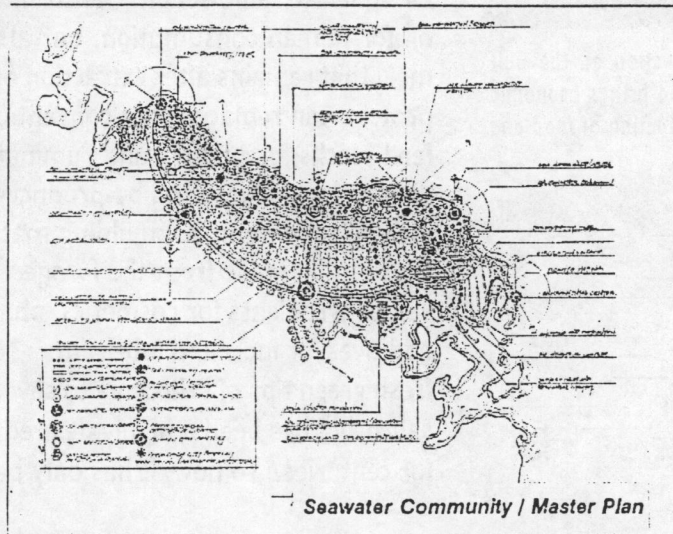
- * Fresh or Pickled Greens
- * Edible oils
- * Animal Feeds
- * Paper Pulps
- * Building Materials
- * Bio-Fuel Products
- * Cosmetic Products
- * Pharmaceutical Products



Today, salicornia is being produced on large-scale projects in the Kingdom of Saudi Arabia and in Mexico, and soon in India.

Purpose

A growing populations continue to be a threat to the quality of life on the planet. Mankind is growing at a rate of 390,000 inhabitants per day. Traditional fresh water food production methods cannot keep up with the demands. The world's desert soils are capable of sustaining crop production and only the lack of water keep these soils from producing ample quantities of food. HEI aims to bring about a change with seawater agriculture that will help the coastal deserts bloom.

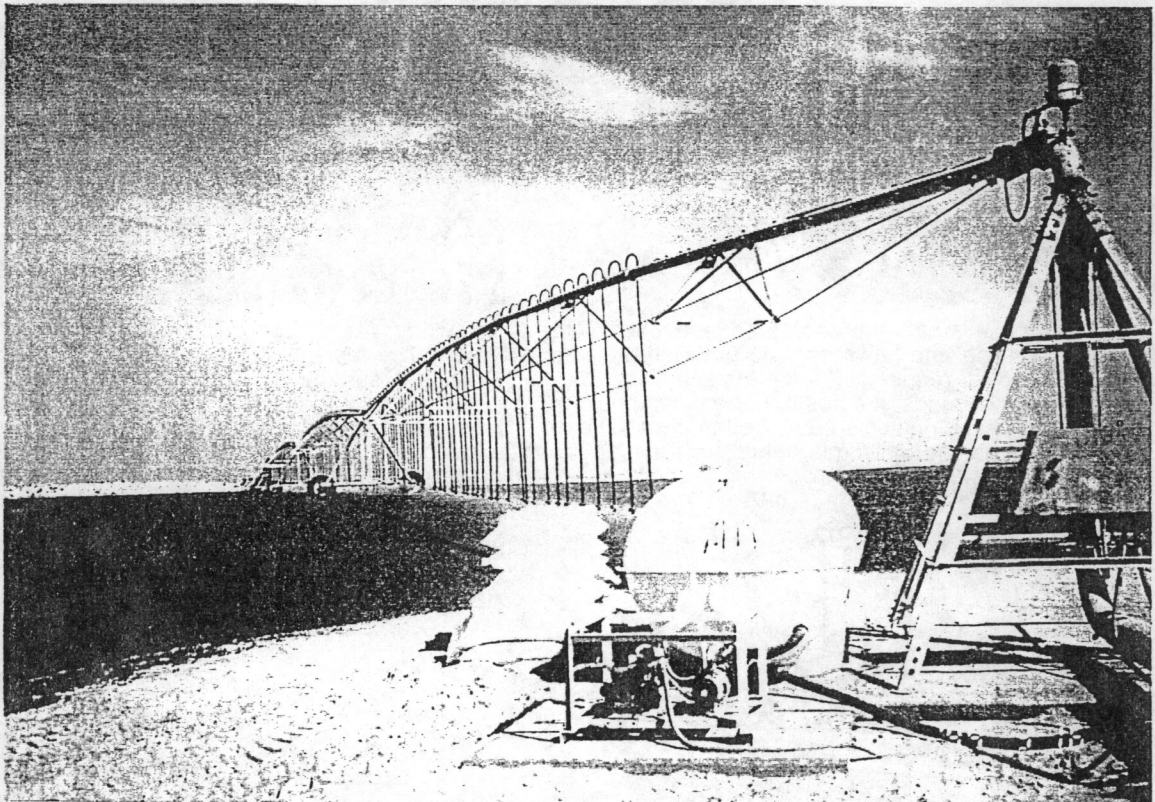


What Next

HEI has set a direction for its future that includes the goal to develop over one-quarter of a million hectares of land for salicornia production during the next 10 to 15 years. It also seeks to foster and promote the formation of seawater based communities in regions of the world where population growth or the lack of fresh water prevail. The target areas are also those most commonly found to be short of food and water. Therefore, seawater based economies and seawater based life-styles are a major part of the answer for the future.



ONE OF FIVE - 50 HECTARE CENTER PIVOT IRRIGATED SALICORNIA FIELDS AT THE RAS AL ZAWR PROJECT, (PLANTED NOVEMBER, 1994, PICTURE TAKEN MARCH 11, 1994).



FERTILIZER INJECTION SYSTEM FOR ADDING NITROGEN TO THE SEAWATER FOR IRRIGATING THE SALICORNIA ON THE RAS AL ZAWR PROJECT, (PICTURE TAKEN MARCH 16, 1994).

First commercial-scale harvest of oilseeds irrigated with seawater: Will the desert bloom?

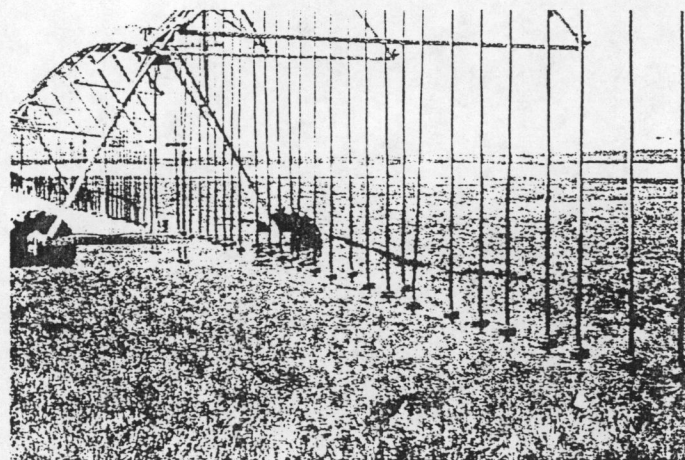
History's first harvest of commercially grown *Salicornia*, a salt-tolerant oilseed, has just been completed on a 700-acre project in Saudi Arabia. Yields of over a ton per hectare, or 15 to 20 bu., "exceeded our target," says project manager Dan Murphy. Seed yield covers expenses, and the forage yields of 6 tons per acre are profit. The forage is good feed for camels and can be blended into other feeds for cattle.

The project has been successful enough to attract worldwide interest. India's sixth largest commercial industry is launching a 500-acre pilot project with *Salicornia*. "If this proves successful, a commercial phase will be implemented with a long-term potential of 250,000 acres," says Murphy.

Technical support on the Saudi project is provided by Halophyte Enterprises Inc., of Phoenix.

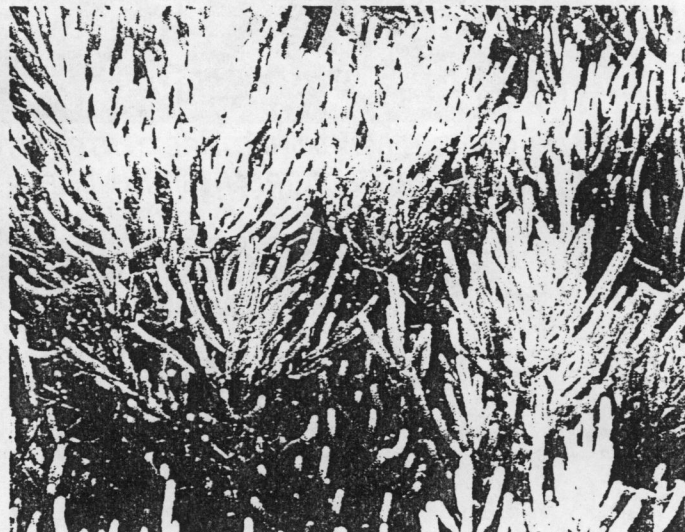
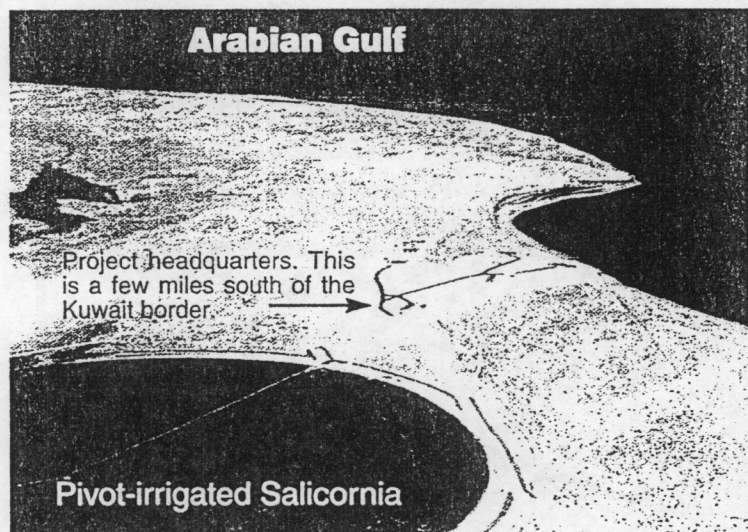
Salicornia seeds yield an edible oil with highly desirable taste and cooking qualities. The meal is high in protein. The crop can be harvested and processed with equipment designed for soybeans.

Salt-free water is precious in Saudi Arabia, but seawater is plentiful. That's true along thousands of miles of arid, sandy coastlines around the world at tropical latitudes. Development of crops using seawater irrigation *could expand the world's productive land base in hungry nations.*



Above: Pivot system uses drop sprinklers to reduce evaporation and assure even distribution. One of the challenges in pumping water out of the Gulf was keeping debris out of the system. Managers dug a channel inland; installed a screening system.

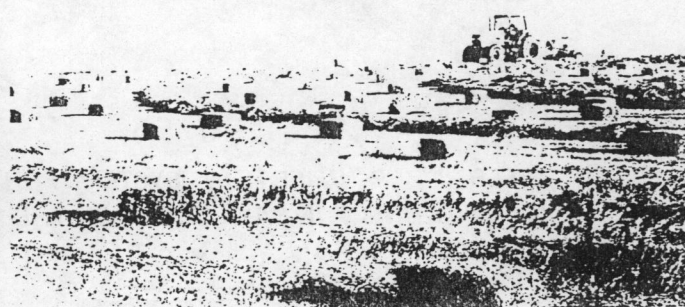
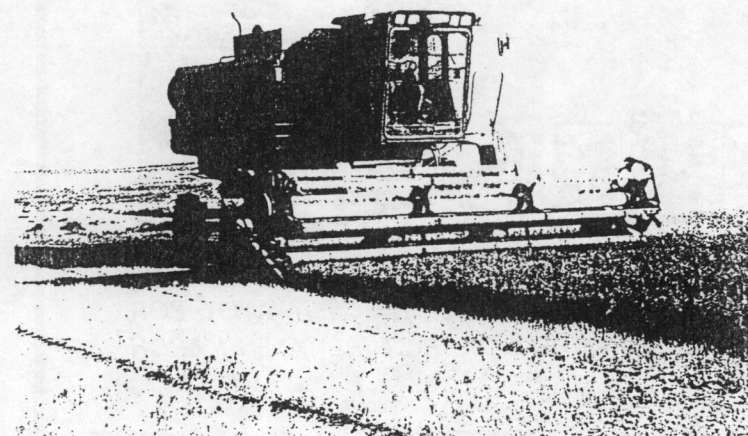
Below: *Salicornia* turns from green to red as it matures. Halophyte Enterprises is planning to sell fresh *Salicornia* tips in Europe, where it's a delicate garnish for seafood. Wild *Salicornia* tips bring \$9 per pound at Herrods in London. The tangy greens were the favorite salad of George Washington.

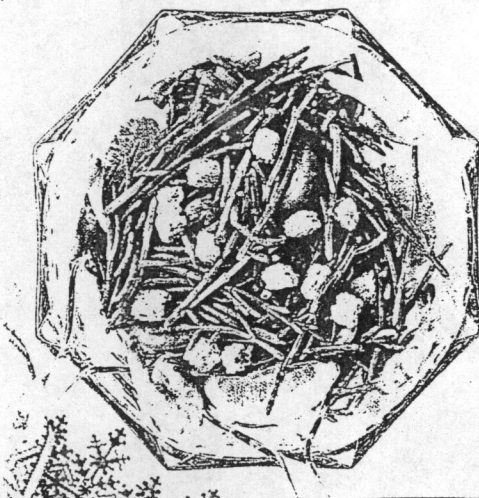
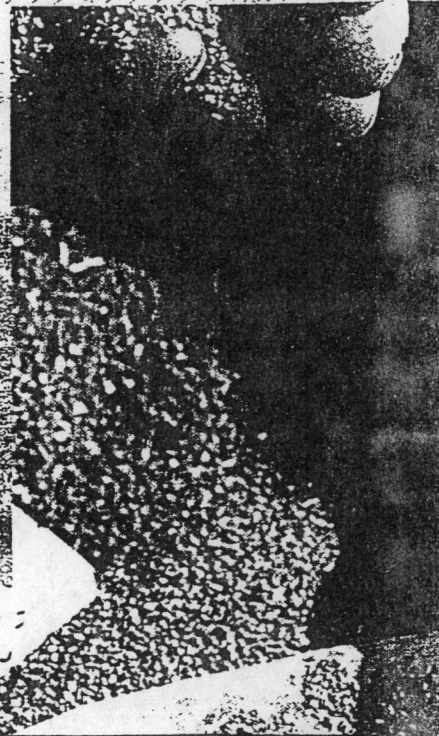
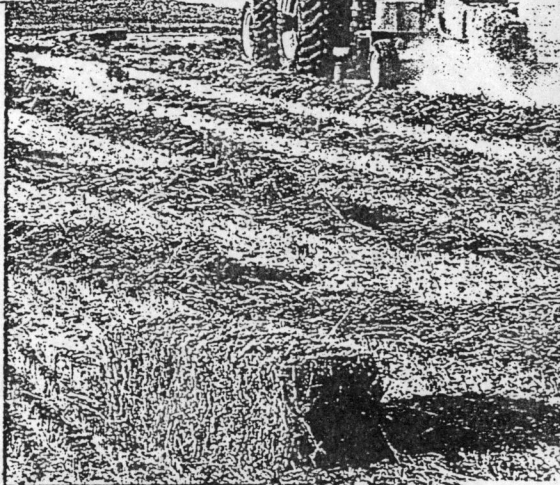
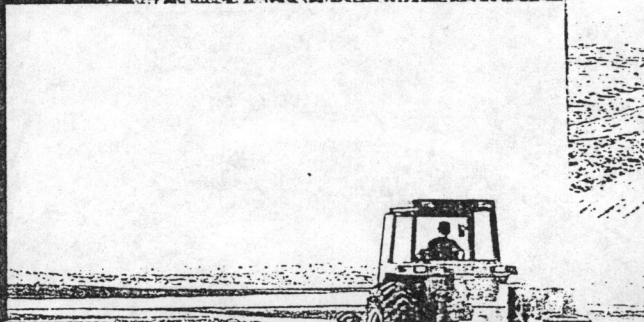
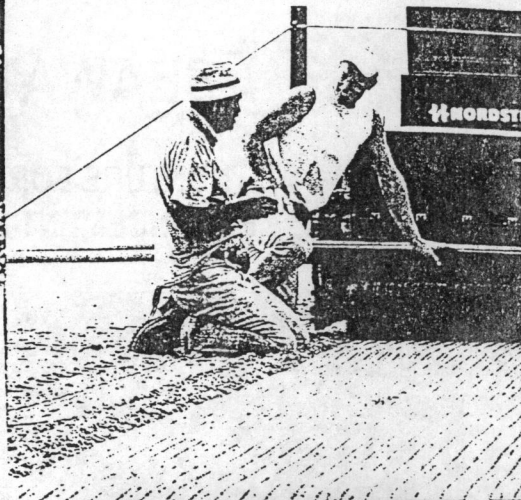
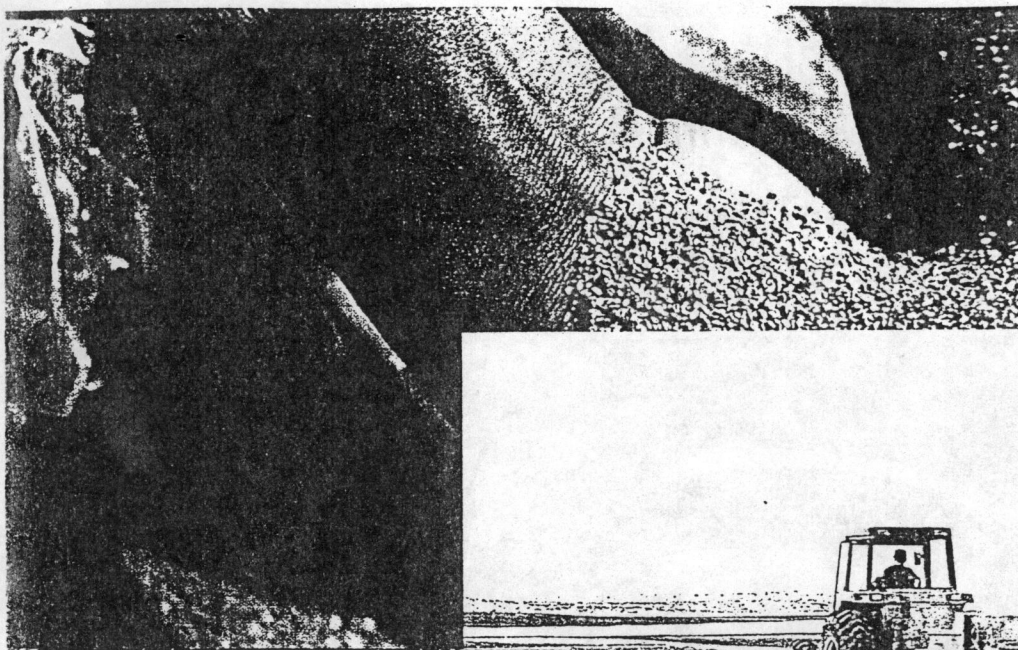


Above: A circle of *Salicornia* is near the water's edge. Excess water percolates through the sand and flows back to the Gulf, flushing away any salt buildup. Power requirements are modest since water is lifted only a few feet. Thousands of acres of barren land could be irrigated from the ocean. Some nutrients are added to the seawater, which also contains minerals the *Salicornia* naturally needs. So far, there has been no problem with weeds or insects.

Below left: A combine munches through the mature *Salicornia*. Below: The residue is windrowed and baled for livestock feed. Roots and surface residue left behind will gradually build some organic matter in the nearly pure sand. Also, the growing crop helps stop wind erosion. Project managers built "sand fences" around the circles to slow down wind-driven sand flowing across the desert floor and cutting off *Salicornia* sprouts.

Crop production manager Randy Lux comes from an Iowa farm. He's preparing land for a second crop, which could result in even higher yields based on first-year data. Until now, there has been little research except plot data from the University of Arizona. Feed trials are underway at King Saud University.





Shrimp on a Bed of Salicornia

4 appetizer portions or 2 main-course portions

A foil packet, which when opened, reveals an entire meal artfully arranged on a bed of brightly colored salicornia. The fragrance of the vegetables, herbs, lemon juice, and butter fills the room.

- 12 large shrimp*
- 2 cups salicornia, ends trimmed*
- 4 ripe plum tomatoes, thinly sliced*
- 6 tablespoons fresh lemon juice*
- 2 large shallots, finely chopped*
- 1½ tablespoons chopped fresh dill*

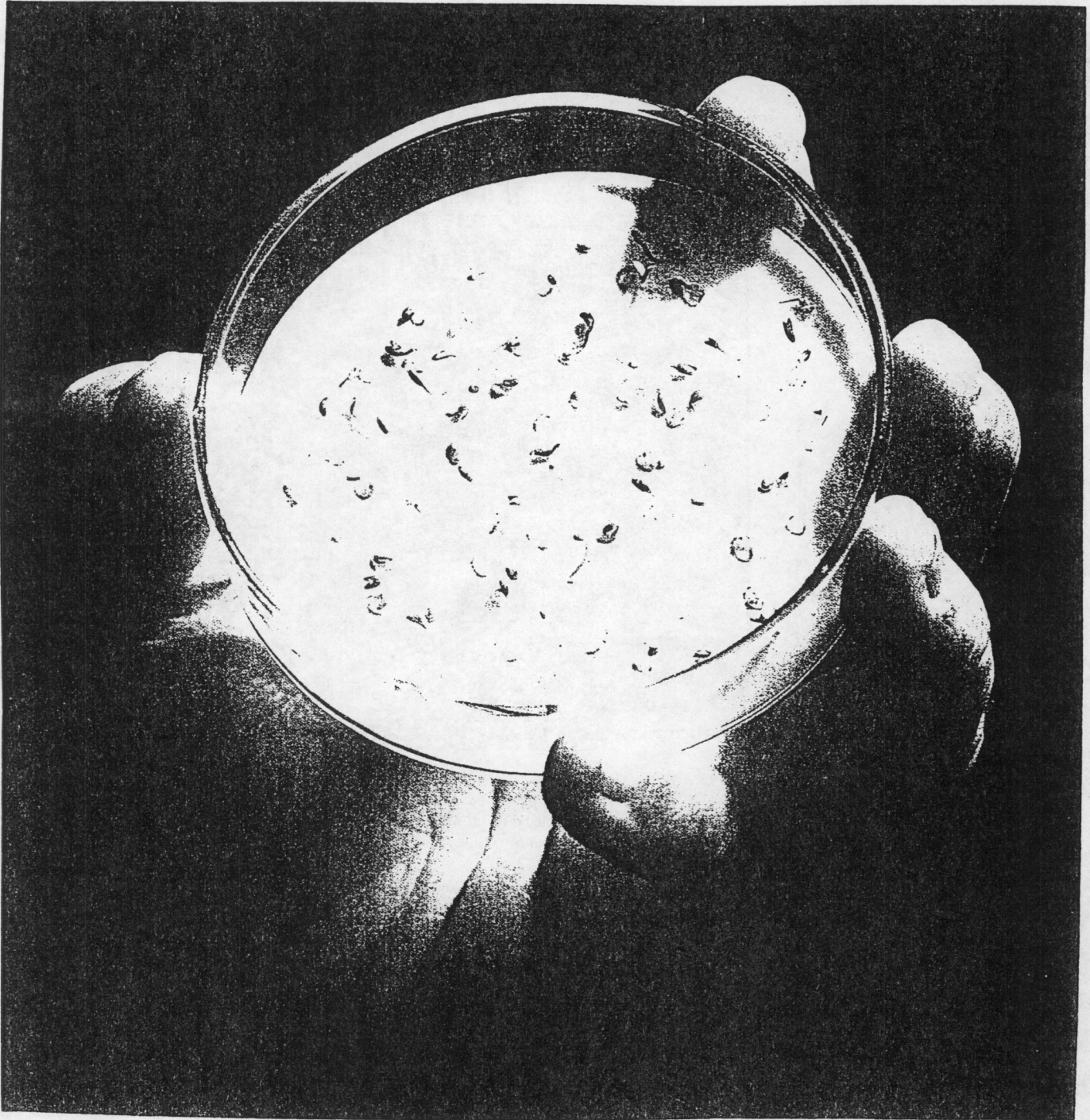
- 1½ teaspoons dried tarragon*
- Freshly ground black pepper, to taste*
- 1 unpeeled large cucumber*
- 2 tablespoons unsalted butter*
- 1 lemon, quartered*

1. Preheat oven to 400 F [200°C].
2. Remove half the shell from each shrimp, leaving the shells attached at the tail end. Devein the shrimp.
3. Center a piece of aluminum foil that is about 2½ times longer than a cookie sheet on the cookie sheet. Arrange the salicornia in a bed on the foil. Arrange the tomato slices in a round pattern in the center of the salicornia.
4. Combine the lemon juice, shallots, dill tarragon, and pepper to taste in a medium

- size bowl. Add the shrimp and toss to coat.
5. Using a melon baller, cut balls from the unpeeled cucumber so that the dark peel is on one side. Try to avoid the seeds.
6. Arrange the shrimp on top of the tomatoes, pouring any extra juice from the bowl over the shrimp. Dot evenly with the butter. Gather the ends of the foil, folding the edges together to seal the package securely.
7. Bake for 15 minutes. Serve immediately with lemon quarters.

SEAWATER ---- *an infinite source*

NURTURE FOR THE WORLD'S GROWING POPULATION.
ENHANCEMENT FOR THE ENVIRONMENT OF THE PLANET.



"The greatest service a citizen can do for his country is to add a new crop for his countrymen."

--- Thomas Jefferson