What is SARE?
Since 1988, the Sustainable Agriculture Research & Education (SARE) program has been the go-to USDA grants and outreach program for farmers, ranchers, researchers and educators who want to develop innovations that improve farm profitability, protect water and land, and revitalize communities. To date, SARE has awarded over $333 million to more than 7,792 initiatives.

SARE is grassroots with far-reaching impact
Four regional councils of expert practitioners set priorities and make grants in every state and island protectorate.

SARE communicates results
SARE shares project results by requiring grantees to conduct outreach and grower engagement; and by maintaining an online library of practical publications, grantee-produced information products and other educational materials.

SARE: Advancing the Frontier of Sustainable Agriculture in...

Northern Mariana Islands

Project Highlight: Giving aquaculture a boost with solar energy
The Northern Mariana Islands have one of the highest electrical utility rates in the United States, which is a huge barrier to profitability for shrimp and tilapia farmers, who must run air and water pumps 24 hours a day, seven days a week. With SARE funding, aquaculture farmer Pedro Ariola is showing his peers that solar power can be the solution.

With a 2009 SARE grant, Ariola installed solar panels that have taken him off the grid for 12 hours each day, cutting his monthly energy bill in half. This is significant considering energy accounts for 40 percent of aquaculture production costs.

When Ariola began this project, he was slowed by a lack of capacity to assist with renewable energy projects such as this—in fact, this project was the first of its kind in the Northern Mariana Islands. He had to go out and find the people with the expertise to help with design and installation of the system, and he had to purchase much of his equipment from the mainland United States.

Ariola’s experience has paid off in more ways than one. His success has caught the attention of other farmers who were discouraged with the high costs of aquaculture production. He is now fielding regular inquiries from fellow farmers and hosts tours of his operation. At least one other farmer has installed solar equipment as a result.

For more information on this project, see sare.org/projects, and search for project number FW09-006.

SARE in Northern Mariana Islands
western.sare.org/sare-in-your-state/northern-mariana-islands

$437,860 in total funding
25 grant projects
(since 1988)

For a complete list of grant projects state by state, go to www.sare.org/state-summaries
SARE Grants in Northern Mariana Islands

Total awards: 25 grants

- 2 Professional Development Program
- 21 Farmer/Rancher
- 1 On Farm Research/Partnership
- 1 Research and Education

Total funding: $437,860

- $142,481 Professional Development Program
- $260,507 Farmer/Rancher
- $24,872 On Farm Research/Partnership
- $10,000 Research and Education

Find a complete list of projects on page 3.

SARE's Impact

53 percent of producers report using a new production technique after reading a SARE publication.

79 percent of producers said they improved soil quality through their SARE project.

64 percent of producers said their SARE project helped them achieve higher sales.

Learn about local impacts at: western.sare.org/sare-in-your-state/northern-mariana-islands

Contact Your SARE State Coordinator

SARE sustainable ag coordinators run state-level educational programs for Extension and other ag professionals, and many help grant applicants and recipients with planning and outreach. Visit western.sare.org/state-pages/northern-mariana-islands to learn more.

Virendra M. Verma
Northern Marianas College
(670) 237-6851
virendra.verma@marianas.edu

For detailed information on SARE projects, go to www.SARE.org

SARE is funded by the USDA's National Institute of Food and Agriculture (NIFA).

This report includes summaries of competitive grant programs only. Some competitive grant programs that are no longer offered may be included or excluded from the totals in this report depending on the grant program and SARE region.
Northern Mariana Islands has been awarded $437,860 grants to support 25 projects, including but not limited to, 1 research and/or education project, 2 professional development projects and 21 producer-led projects. Northern Mariana Islands has also received additional SARE support through multi-state projects.

### RESEARCH AND EDUCATION GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW06-042</td>
<td>Sustainable Forage and Livestock System for the Island of Tinian</td>
<td>$10,000</td>
<td>Dr. Allan Sabaldica</td>
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<td>NMC-CREES</td>
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### PROFESSIONAL DEVELOPMENT PROGRAM GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
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</thead>
<tbody>
<tr>
<td>EW12-034</td>
<td>Building Capacity within the Commonwealth of the Northern Mariana Island’s (CNMI) Aquaculture Development Program (ADP) in Marine Finfish Hatchery Production to Create Opportunities for Farmers and Alleviate Pressure on Wild Fish Stocks</td>
<td>$45,407</td>
<td>Michael Ogo</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>Northern Marianas College; Cooperative Research, Ext, and Education Service</td>
</tr>
<tr>
<td>EW08-017</td>
<td>Technology Transfer of Alternative Plant Medicines for Livestock Healthcare in the Western Pacific</td>
<td>$97,074</td>
<td>Dr. Allan Sabaldica</td>
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<td>NMC-CREES</td>
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</table>

### FARMER/RANCHER GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>FW19-345</td>
<td>Improve dragon fruit production in the Northern Marianas Island through hands-on student education</td>
<td>$14,900</td>
<td>Francis Mendiola</td>
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<td></td>
<td></td>
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<td>CNMI Public School System</td>
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<tr>
<td>FW11-002</td>
<td>“Mitigating Production and Environmental Costs in Shrimp Farming with the Use of Bio-floc Production Technology”</td>
<td>$15,000</td>
<td>Augustine Maratita</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>producer</td>
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<tr>
<td>FW10-033</td>
<td>Development of ready-to-cook frozen taro (Colocasia Esculenta) in the Northern Marianas Islands</td>
<td>$14,480</td>
<td>Asapmar Ogumoro</td>
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<tr>
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<td>Marianas Farmer/NMC-CRESS</td>
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<tr>
<td>FW09-052</td>
<td>Demonstrating Alternative Poultry Production System in Tinian</td>
<td>$9,000</td>
<td>Ben Borja</td>
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<tr>
<td>FW09-051</td>
<td>Pineapple Production in the CNMI</td>
<td>$14,729</td>
<td>Alejandro Badilles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Northern Marianas College JOSEPH BORJA Marianas sweet pineapple</td>
</tr>
<tr>
<td>FW09-050</td>
<td>Sustaining Deer Production in the Island of Rota</td>
<td>$10,000</td>
<td>Ricardo Atalig</td>
</tr>
<tr>
<td>FW09-036</td>
<td>Maximizing Aquaculture Productivity with Sequential Polyculture Systems</td>
<td>$14,892</td>
<td>Carolyn Hosono</td>
</tr>
</tbody>
</table>
FW09-006  Demonstration of the Feasibility of Solar Energy in Sustainable Aquaculture to Address High Costs in Conventionally Produced Electricity  $10,469  Pedro Ariola

FW08-024  Sustaining Tilapia Production in the CNMI Through the Use of an Artificial Fry Incubation System  $15,000  Ines Guererro

FW08-305  Comparative Study of Cuban Slugs (Veronicella cubensis) Suppression Using Grazing Ducks, Neem (Azadirachta indica) Extract and Chemical Baits in the CNMI  $23,673  Alejandro Badilles Northern Marianas College

FW08-025  An Integrated System for Growing Vegetables  $12,456  Joshua Calvo

FW07-307  Livestock Genetic Improvements in the Commonwealth of the Northern Mariana Islands  $29,974  Dr.Allan Sabaldica NMC-CREES

FW07-001  Neem Tree Production for Alternative Pesticides, Nematode Control and Fertilizers  $14,500  Francisco Atalig

FW06-010  Coconut Crab Production Using Recycled Food Sources  $10,000  Henry Atalig

FW04-206  The Further Development of Organic Systems for the Production and Multiplication of the Polynesian Arrowroot and Other Medicinal Plants in the CNMI  $7,500  Felix Mendiola

FW03-020  Sustainable Slug Control for Vegetable Growers and Gardeners on Rota, Commonwealth of the Northern Mariana Islands  $6,000  Francisco Calvo F.J. Calvo Enterprises

FW03-017  Rat Control in Pineapples on Rota  $5,969  Lino Mendiola

FW01-092  Rota Coffee Company  $14,980  Beato Calvo CREES Coordinator

FW01-091  Luta Windbreak / Agroforestry Project  $7,485  Ephram Taimanao

FW00-104  Aquaculture and Fertigation Project  $5,000  Vincent Calvo

FW98-003  Local Feed Production for Tilapia  $4,500  Nicolas Songsong

ON FARM RESEARCH/PARTNERSHIP GRANTS

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Title</th>
<th>SARE Support</th>
<th>Project Leaders</th>
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</thead>
<tbody>
<tr>
<td>OW10-305</td>
<td>Research and Development of Hydroponic Systems for the Commonwealth of the Northern Mariana Islands.</td>
<td>$24,872</td>
<td>Valrick Welch Northern Marianas College</td>
</tr>
</tbody>
</table>

Total funding from the USDA SARE program to Northern Mariana Islands
$437,860

For further information on projects, contact Western SARE at (435) 797-2257 or wsare@usu.edu.

Sustainable Agriculture Research and Education (SARE) is funded by USDA’s National Institute of Food and Agriculture (NIFA).