

Florida Organics Recycling Center for Excellence (FORCE) – SW204
YEAR 4 QUARTERLY REPORT
For the Period Ending *March 31, 2005*

1.0 DESIGN

1.1 Engineering, Planning, Construction, and Inspection: \$ 1,508.00

All necessary engineering work is continually reviewed by KCI to ensure proper planning and inspection of the FORCE site and relevant equipment as required by the Department of Environmental Protection's (DEP)'s Southwest office. At the request of the Board of County Commissioners, staff and consultant are working with the DEP Tallahassee office and local permitting office to discuss some permitting items relevant to economic decision making matters for the County.

1.2 Plan Certification and Permitting: \$ 2,768.00

The following regulatory documents are continually reviewed to meet the said permit requirements and deadlines to operate the digester purchased through FORCE. Kessler Consulting, Inc. (KCI) is currently responsible for overseeing Sumter County Solid Waste staff, PBS&J, The Colinas Group, and AirSpec to meet deadlines and maintain proper communication with the DEP Tampa office if deadlines will be missed and why (e.g. hurricanes, broken rig equipment, etc.).

1. Composting Permit
2. MRF Permit
3. Model Consent Order

Sumter County has installed an Odor Control System as a requirement of its composting permit, which was also an R&D project and for which updates have been provided in this quarterly reporting document. This system (R&D project) was approved when the Composting and the Materials Recycling Facility permits were renewed on April 30th, 2004. The County is in the process of applying for an Intermediate Permit Modification to change the current Odor Control System to another system which will mitigate odor better and be more cost-effective. As soon as the approval from the DEP is received for the new system, this will be installed and initiate operations. The current system will continue operating next quarter to abate odors at the facility until the new system is installed. The charges for this system are reflected in task 4.3.

FORCE staff participated in the DEP Wastewater Residuals public meeting on 1/6/05 at the DEP Tampa office. It was found that current proposed revisions to wastewater residuals rule will not directly impact the composting operations of FORCE, which uses sludge as an additive.

The charges for this task are reflected in Task 6.4.

2.0 CONSTRUCTION AND MAINTENANCE

2.1 Modular Office Space (trailer): \$ 0

During this quarter, completion of remodeling and reorganizing the FORCE library occurred. The library was redone to provide the State's organics industry with a more organized and researchable atmosphere in a library type setting in the modular office.

It is anticipated that the purchase of new furniture which is included in the FORCE Year 5 Operating Plan will help complete the process to properly equip the office and organics library.

2.2 Demonstration Farm Site Preparation and Maintenance: \$ 0

The County has planned for and prepared a request to the DEP in prior communication regarding needed equipment for use and operation at the demonstration farm, digester and finishing building, and has heard back from the DEP regarding this request. Charges for this equipment have been made in line item #4.3 for the following items: 1) Industrial riding lawn mower, 2) Small tractor with accessories, and 3) Spreader equipment (for compost).

UF/Dr. Rockwood's Forestry Project:

Work continues on the FORCE Demonstration site. See Section: 4.3 – UF/Rockwood project update, which is occurring on the FORCE 40-acre farm.

2.3 Installation and Maintenance of Digester: \$ 0

A-C Equipment Services arrived on January 27, 2005 to address the issue with the Stearns electric holding brake mounted on the main drive motor of the FORCE digester. An original design issue resulted in the brake activating on rare occasions and therefore interrupting digester operations temporarily. The original drum break was redesigned and replaced with a new brake unit on February 3, 2005. All the repair work was covered by A-C under the original contract warranty.

The rotary coupling on the discharge end of the digester failed in early July. An initial inspection of the unit revealed that it may not have been properly lubricated. A replacement unit was purchased by Sumter County. In January, the replacement rotary coupling also failed. The original unit was rebuilt by the manufacturer and was reinstalled on the digester. The damaged unit is to be sent by A/C back to the manufacturer for inspection to determine the cause of the failure since it now appears not to be regarding proper lubrication.

In addition, while the digester was down during this time, County staff replaced the air hub that was leaking air. The digester was not in operation from January 28 – February 3, 2005.

However, the FORCE digester equipment continued to operate and produce compost without any

significant problems thereafter.

2.4 Laboratory: \$0

No activity to report during this period. The FORCE project team is awaiting DEP approval of Year 5 Laboratory items to begin procurement of these needed lab supplies and equipment.

2.5 Irrigation System and Maintenance: \$ 1,481.09

The Netafim system was partially installed on March 18, 2005 with the exception of one connector. The system is not functional at this time due to the connector and a repair needed on the distribution system. Since these items are waiting to be completed, the new system is not yet complete. The system is expected to be completed in the upcoming quarter. Dr. Rockwood will make another trip to the demonstration site in the next quarter to sign off on the completed system. Charges for this equipment are billed in this task this quarter and the remaining balance will for the entire system will be forthcoming.

3.0 OPERATION

3.1 Process Technology Procurement and Testing: \$ 1,238.00

Since the new FORCE website was launched on March 31, 2005, the technology database can now be found at the following URL: <http://www.floridaforce.org/technologylist.cfm>. The technology database has been created in the form of a searchable database. Site visitors can go to the website and search by different criteria (e.g., company name, city, state, country, equipment category, and keyword) to find a specific type of equipment or vendor.

At the FORCE library, information about specific vendors of the technology database is available in hardcopy and for review on-site. FORCE is currently in the process of obtaining hardcopy information for all the vendors listed on the website. Furthermore, KCI continues the investigation of new technologies and the monitoring of updates to the Website and library files. In addition, the library contains all *Biocycle* and *Compost Science & Utilization* issues in wall mounted magazine holders.

Although intensive coordination and planning took place this quarter regarding the RFT/FORCE Equipment Demonstration Event, FORCE and RFT have cancelled the Technology Equipment Demonstration Event on April 27th and 28th and have decided to reschedule to this coming winter. A cancellation and rescheduling notice went out to people and organizations that had been contacted earlier, especially those who were planning to attend. Rescheduling was decided due to low participation responses and low vendor interest due to the time of year of the event. It was a lesson learned that the best time of the year to hold this event is early December or February, since these

dates do not conflict with any other industry events and have been successful for the event in years past. In addition, FORCE intends to take the lead on this effort and partner with RFT, SWANA, P2, DEP and DOT on this event as well as have a one day organics workshop.

3.2 Feedstock Procurement/Processing: \$ 0

No feedstock was procured in this quarter.

3.3 Administrative Costs – Supplies and Travel: \$ 3,863.54

Various administrative office supplies and costs are charged to this line item, such as telephone services, satellite-internet access, utilities, etc. Travel expenses are reported and billed in task 4.4.

4.0 MARKET DEVELOPMENT, EDUCATION, AND TRAINING

The following provides an update on the website, outreach and education material developed, 1-800-#, USCC listserv, and industry articles and publications featuring FORCE activities.

4.1 Education, Outreach, and Website: \$ 24,327.85

Website:

Advanced Network Solutions (ANS) completed revamping the new website and therefore FORCE is proud to present the new FORCE website, which was launched on March 31st, 2005. Please visit the FORCE website at www.floridaforce.org. We welcome any feedback you would like to provide us. Although it is up, there are some "behind the scenes" items that ANS is still working on. Consequently, you may run into a glitch here and there, but those will be sorted out during the first weeks of April. An email announcement was sent out to all solid waste, waste reduction, recycling, and composting organizations as well as industry related publications and media contacts. Pintsized Graphics, Inc. will continue to provide only hosting service for the website.

Some of the features of the new website include: completely searchable website; new layout and background; several searchable organics directories; a standard form to contact a FORCE specialist; progress and final grant reports; composting testing labs searchable directory; educational materials available for download; previous newsletters; and announcements about events related to FORCE and the organics industry, among many other features.

To date the website has received approximately 4,300 hits. We hope the new site and the promotion of it will increase its usage. Additionally, we believe during the upgrade to the new site, we may have lost a few counts in between due to a downtime of the counter. The email address on the website, info@floridaforce.org, receives approximately ½ dozen emails per month regarding assistance on subject matter that could include, but not be limited to, yard waste composting at

universities to vermicomposting. Inquiries are met with research information to the party requesting the organics information.

Outreach Material:

The following outreach and educational materials, previously developed by FORCE in earlier quarters, were uploaded to the FORCE website.

1. Spring, Summer and Fall 2004 Newsletters
2. Benefits of Using Compost in Florida
3. Compost Testing Chart
4. Tips of the Trade for Marketing Organics in Florida
5. FL Golf Courses & Golf Property Directory
6. FL Nurseries & Plant Growers Directory
7. FL Sod & Landscape Companies Directory
8. FL Soil Distributors Directory
9. FL Vegetable and Fruit Growers Directory

Newsletter:

In an attempt to enhance communications and better serve Florida's organics recycling industry, FORCE will continue to offer a periodic e-newsletter. During this quarter, FORCE did not send out any newsletter. However, FORCE intends to prepare and send out an electronic newsletter next quarter. FORCE will also evaluate the periodicity in which it will produce the upcoming electronic newsletters. Previously it has been done quarterly, but this periodicity might change in the future. Through the new website, visitors can request to be added to the FORCE electronic newsletter distribution list.

This newsletter provides updates on upcoming training workshops and events throughout the state, the status of FORCE grant projects and grant opportunities, website updates and pertinent organics recycling information. The goal is to provide timely, relevant and useful information as well as to solicit feedback from readers. Should the DEP like to include information in this newsletter, please contact Stacie Stokes or Miriam Zimms. Kessler Consulting will now be responsible for coordinating, editing, writing and distributing the newsletter. This function was previously being performed by the FORCE Coordinator, Joan Bradshaw.

The next electronic newsletter is anticipated to be distributed in May.

FORCE 1-800 Number:

The FORCE toll-free line is being monitored by Stacie Stokes, FORCE Specialist. Calls continually come in and staff provides answers, solutions, and/or direction as appropriate. On average, this toll-free number receives about ½ dozen calls per month.

USCC Listserv:

The USCC listserv is monitored by KCI regularly for items of relevance to the FORCE program. Additionally, industry journals and the Florida Clipping Services are monitored for articles of relevance to the project and appropriate articles are forwarded to TAG members.

Industry Articles and Publications:

FORCE staff prepared a press release that was sent at the end of January 2005 to the *Sumter County Times and the Villages Daily Sun*, both local newspapers of Sumter County. The article mentioned a television program about home composting and it explained the composting process. Unfortunately, FORCE believes that this article was not released by any of the newspapers. A copy of this piece is attached.

Research Education Project:

UF/Dr. Monica Ozores-Hampton Organics Training Project:

This project is completed according to the original contract. All three of the trainings have been delivered; however, a contract extension and funding use through September 30, 2005 was approved on January 18, 2005 by the Board of County Commissioners. A copy of the contract extension is attached. Dr. Hampton has requested to hold an additional training for the Citrus Industry with the remaining funds available. This training is pending approval from the Director's until there is full accountability of funds remaining. FORCE staff is in the process of reconciling Monica Ozores-Hampton invoices and calculating the remaining balance in the grant.

There was no quarterly report submitted from Monica Ozores-Hampton this quarter. A final report will be prepared and final reimbursements will be requested next quarter.

4.2 Technical Advisory Group (TAG) Committee Meetings & Updates: \$ 2,978.00

The TAG was notified that the FORCE/RFT Equipment Demonstration Event was cancelled and rescheduled. The cancellation and rescheduling announcement was forwarded to each TAG member for them to notify the companies in their industry, if any previous announcements about the event had been made. The TAG approved the Year 5 Operating Plan and Budget submitted to the DEP.

4.3 Market Development: \$ 13,419.13

The information below provides an update on the status of the State Organics Regulatory Report and the other R&D projects funded through FORCE. In addition, charges for the following equipment have been made in this line item: 1) Industrial riding lawn mower, 2) Small tractor with accessories, and 3) Spreader equipment (for compost). This equipment is utilized to help support activities on the demonstration farm such as Dr. Rockwood's R&D project and keep the farm looking presentable for tours and public outreach.

State Organics Regulatory Research Report:

This quarter the first draft report went through a series of internal modifications since FORCE has learned more about compost regulations from the Sumter County Composting Facility operations and its permits. In particular, an analysis of the Florida Regulations as they pertain to the existing restriction on the Sumter County facility to accept only Class B or better sludge, was included in the report.

Research, Demonstration, Education, Marketing, and Outreach Projects (Grant Projects):

UF/Dr. Rockwood's Forestry Project:

A contract extension through March 21, 2006 was approved on January 18, 2005 by the Board. A copy of the contract extension is attached. As requested by Dr. Rockwood, the Director's have also approved a renewal of funds; the proper paperwork is expected to be done in the upcoming weeks.

Equipment approved by the DEP during the last quarter has been purchased and includes a Kubota tractor with a bucket, a bush hog, a mower, and a compost spreader.

From January – March 2005, activities included upgrading the irrigation system for the 2004 planting from drip tape to a Netafirm polyhose with emitters; weeding of the plantings with Department of Corrections (DOC) assistance; and arranging with Chuck Jett for Fusillade and compost applications and other maintenance, utilizing a tractor and related implements recently acquired by FORCE for this project. On March 18, an onsite review of the project was conducted by FORCE Superintendent and Kessler Consulting, Inc. staff. A future site visit has been arranged for the 2005 NSF-sponsored Summer Science Program, involving a one day visit to FORCE on June 21, 2005, by participating Alachua County School science teachers and students.

A site visitation was conducted by Don Rockwood on March 18, 2005 with the goal to document the findings year to date. The following lists the different tree species being utilized in this R&D project include and the results of using compost or fertilizer are underlined below:

- Cottonwood (*P. deltoides*) performs better with compost than fertilizer over its 1st year growth.
- Cypress performs better with compost than fertilizer over its 1st year growth.
- Eucalyptus *Amplifolia* performs better with fertilizer than compost over its 1st year growth.
- *E. grandis* performs better with fertilizer than compost over its 1st year growth.

The full quarterly report submitted by Dr. Rockwood is attached.

Ronnie Barron and Jim Stevens, Organic Matters (OM) – Food Waste to Animal Feed Project:

A contract extension and funding use through September 30, 2005 was approved on January 18, 2005 by the Board. A copy of the contract extension is attached.

During this quarter, fencing and traps have been finished to separate 6 different pastures, but at the moment only 3 are being used, since 3 are pending a water line. At the beginning of 2005 Double S was feeding approximately 250 head of company owned cattle, including approximately 21 calves, and also feeding 150 cattle head for other owners (clients). These other owners want to test the results of feeding cattle with the project's alternative (food waste) cattle feed. Since this project has already had positive results from feeding cattle with this feedstock, OM plans to increase its feeding to 600 head of company owned cattle and 200 heads of its clients' cattle by June. Cattle brought to the ranch consist of any type of breed. The first two batches of cattle sold consisted of 63 and 23 cattle. The first batch was overweight. The project team will find out from OM to whom the cattle is being sold as well as what the marketing impacts are to overweight cattle and what OM will do to keep the cattle at the preferred and optimal weight for market sale.

Cattle are currently being fed 100% by-products from the food waste stream. The sources of food waste are: Bagels from Bagel Bites, Dominos pizza dough, Lykes hotdog casings, Bakery waste from Publix Bakery, Deep stacked poultry litter from GoldKist and Citrus pulp waste from Cutrale Citrus.

Several attempts were made to utilize ice cream waste as part of the feed mix in December 2004 and January 2005, but its use was discontinued for several reasons, particularly because it is difficult to handle and to contain. It is quickly perishable, quicker than the other waste streams used, mainly because of dairy content. It had to be mixed with all the other waste streams within three days, otherwise it went bad. Ice cream waste was delivered to Bartow location and each load was mixed with citrus pulp and chicken litter immediately after delivery. Then this mix was delivered to the Ranch. It was observed by the ranch hand that the chicken litter prolongs the life of the ice cream a little longer.

Cattle are kept at the OM Ranch between 90-120 days in order to reach the desired weight gain. Each cow receives about 20 pounds of feed a day and has gained about 2.5 pounds of weight a day for a feed to weight conversion rate of eight pounds of feed for each pound of gain. Available data shows that the average incoming weight of cattle is 850 lbs. (from 141 cattle) and the outgoing cattle weight is 1,075 lbs. (from 119 cattle) – that's about a 225 lbs weight gain over a 90-120 day period.

The full quarterly report prepared by Jim Stevens of OM with technical assistance from Kessler Consulting, Inc. is attached. It is the intent of KCI to have OM prepare these reports on their own in the future now that they understand the importance of the reporting requirements and documentation of activity.

Note: This project is in the first stage of reaching a commercial size. These numbers are very preliminary and will become much more meaningful as the operation matures.

Robert Broom, GOC – Vapor and Odor Control at FORCE Sumter County, FL:

This project completed its pilot period on January 28, 2005; however a contract extension through September 30, 2005 was approved by the Board on January, 18, 2005. A copy of the contract extension is attached.

Sumter County entered a period of evaluating the installed system and deciding which odor control system to keep. The mechanisms of the installed system worked properly, but this system did not solve or eliminate odor completely. No odor complaints were received from off-site properties. However, some minor concerns have been expressed by staff in the biosolids area. A new system similar to the one Sumter County already installed is being proposed to replace the existing system. This minor permit modification is currently under review by the DEP Tampa office. Since this project also relates to a permit condition in the counties permit(s) a minor permit modification was requested of the DEP regional office to change systems. Upon approval by the local office the system will be changed.

The County is currently reviewing extending this project and testing another odor control system for two reasons: 1) extend the odor duration evaluation over more seasons and 2) obtain comparative equipment operation and economic data for analysis. Regardless, a final report regarding the original odor control system will be prepared and final reimbursements will be requested next quarter. When the DEP Tampa office approves the new system, it is possible that an additional addendum to this project will be made to fund the 2nd odor control system through FORCE; the County will notify the Tallahassee DEP office and request approval.

4.4. Conferences and Meetings: \$ 4,766.42

FORCE facility staff attended the *US Composting Council Conference* in San Antonio, Texas from Monday, January 24th until Wednesday, January 26th to obtain additional operational training in relation to the digester as well as utilizing various feedstocks for innovative research applications. A presentation about FORCE was given by Miriam Zimms (MZ), Kessler Consulting, Inc. (KCI) at the conference as well as MZ gathered equipment information from vendors to include in the technology database on the website and discussed the RFT/FORCE demonstration event. Reimbursement by County staff for this travel is being billed to this task. KCI is only billing for MZ hours attending the conference on behalf of FORCE; no travel will be charged by KCI.

4.5 Demonstration Farm Operations: \$ 13,984.00

See section: 4.3 – UF/Rockwood project update, which is occurring on the FORCE 40-acre farm.

5.0 EVALUATION, MONITORING, AND TESTING

5.1 SAC Protocol Development: \$ 0

The SAC Protocol is in the early stages of being implemented for the feedstock testing projects. FORCE staff is working diligently to locate a laboratory that has the equipment and technology and who can get the test results back in a timely fashion as well as one lab that can perform the 36 tests required by the SAC Protocol. In addition, the project team has decided to also perform the same testing required by the County's composting permit in order to compare the Year 5 feedstock items to the FORCE – Sumter County produced compost. In addition, the project team is considering utilizing the scientific expertise of one of the SAC members to assist with the proper implementation of the SAC protocol. We will be in contact with the FORCE DEP Contract Manager to possibly discuss this further in the future.

5.2 Feedstock and Products Testing: \$ 0

The Year 5 Operating Plan Feedstock Testing Schedule is being revised due to the unavailability of chicken mortalities and chicken manure. FORCE staff has been in contact with the Florida Poultry Federation to obtain a date for availability. The schedule is expected to be finalized at the beginning of next quarter to be included in the revised version of the Year 5 Operating Plan.

5.3 Environmental Monitoring: \$ 0

No activity to report during this period. Activity is expected in the following quarter.

6.0 PROJECT MANAGEMENT

It is the intent of the County to continue to house FORCE on-site at its existing location for the duration of the existing contract period and beyond. No impact to FORCE is expected as a result of the activities regarding the future changes to the Solid Waste, Recycling, and Composting Facility. FORCE will continue on in Year 5 with no changes and will seek additional funding to continue the project beyond Year 5 or to help support statewide organics education, outreach and research. The FORCE digester will continue to operate and process MSW/Biosolids for compost production as well as the feedstock listed in the Year 5 Operating plan, regardless of any potential future changes at the facility. The County commits to this obligation and hopes to do more research feedstock testing in years to come in the digester tube warranting funding availability.

6.1 Personnel: \$ 10,555.75

Last Quarter, Christie Revennaugh and Stacie Stokes became part of the FORCE project team and joined as FORCE Specialists, after Joan Bradshaw left on December 1st, 2004. The County and FORCE Executive Staff clearly understood Ms. Bradshaw's desire to perform full time

environmental educational and outreach work and felt it was a more appropriate position for her skills. This quarter, Christie Revenaugh has returned to her original position at Sumter County Public Works. Ms. Revenaugh's help was needed to transition FORCE activities from Joan Bradshaw to the County driven FORCE project team and FORCE thanks her for a job well done.

Both Ms. Stokes and Ms. Revenaugh assisted with getting the office supplies and inventory, technology library, project files, and invoicing in order. It is now a more functional and organized organics office.

The County feels that at this time, the FORCE project team has the goals and management of the FORCE objectives on track with a working combination of team players that understand the County's commitment to organics and its commitment to the requirements of the DEP contract and project objectives for the State.

The FORCE office is currently being operated and various FORCE activities being coordinated by the FORCE specialist, Stacie Stokes. She will continue to develop the FORCE office into a statewide composting education and resource center. She will continue to be trained by MZ of KCI. In addition, Chuck Jett is the FORCE Superintendent for the project. In Year 5, the County will be adding Jimmy Wise as the FORCE digester specialist working with Stacie Stokes, DEP, KCI and Test America Laboratory staff to perform the feedstock testing presented in the operating plan for the upcoming year.

6.2 Administrative Fees – Indirect Costs: \$ 0

No activity to report this period.

6.3 Quarterly Reports, Annual Work Plans and Budgets: \$ 4,903.00

The quarterly report for the period ending December 31, 2004 was prepared and transmitted to the DEP. The Year 5 Operating Plan was prepared, reviewed by the TAG and transmitted to the DEP. A conference call was held on March 9, 2005 between DEP, FORCE staff and KCI to discuss specific items of the Year 5 Operating Plan. All of the items were approved during the call, except for Attachment A, Feedstock Testing Schedule. The DEP requested that a laboratory is found to be able to perform testing according to the SAC Protocol. After these two items have been finalized, the revised Year 5 Operating Plan will be submitted to the DEP for complete approval. It will be finalized in the next quarter and submitted to the DEP. It is anticipated that a few additional revisions will be made to the Year 5 Operating Plan and Attachments.

6.4 Project Coordination and Administration: \$ 11,026.46

The FORCE project team meets one time per month either by telephone conferencing or physical

meetings at the FORCE modular office or FORCE Director office at the County Administration building to discuss all facets of the project.

It is the goal of the project team to continue to pursue additional legislative and private sector funding. Avenues of funding continue to be vigorously investigated, including state funds, the potential for additional legislative funds, and other Federal grants in the areas of solid waste, energy, water, and agriculture.

During the past quarter FORCE received the contract for the Water Conservation and Pollution Prevention Assistance Grant offered by the Withlacoochee Regional Water Authority. A copy of the grant contract is attached. The project will develop an organics water efficient landscape demonstration and learning center to be developed at the newly constructed *West Central Florida Agricultural Education, Marketing and Development Center*.

In response to notification of EPA grant money from DEP staff, FORCE has reviewed the criteria for applying for a 2005 Resource Conservation Funds Grant and plans to submit a proposal to the EPA Region IV due April 15, 2005 regarding this solicitation. In addition, in the next quarter a grant proposal is expected to be submitted to the DOT to develop a closed organics loop marketing system between local government and the State's DOT department.

KCI continues to play its role as project technical consultant for the project and is working with the County on every task, where applicable. Details of these activities are listed on the copy of the invoices attached for services rendered to the project. In addition, KCI is training the FORCE specialists on all aspects of the project including contractual items, invoicing, R&D projects coordination, database maintenance, and administration.

Total Reimbursement Requested: \$ 96,819.24