

COMPOSTING INDUSTRY POTENTIAL OPPORTUNITIES IN EGYPT

**RESOURCE RECOVERY SYSTEMS INT'L
STERLING, CO.**

**AFRO-SIAN ENGINEERING
CAIRO, EGYPT**

AFRO-ASIAN ENGINEERING
"AFRO"

IN COOPERATION WITH

RESOURCE SYSTEMS RECOVERY INT'L

&

LUFT MACHINE & SUPPLY
STERLING, CO.

AFRO

- EGYPTIAN FAMILY OWNED.
- FOUNDED 1961.

MAIN CONTRACTING FOR

- MAJOR IRRIGATION PUMPING STATIONS.
- NATIONAL PROJECT FOR IRRIGATION IMPROVEMENT.
- NATIONAL PROJECT FOR RURAL ELECTRIFICATION.

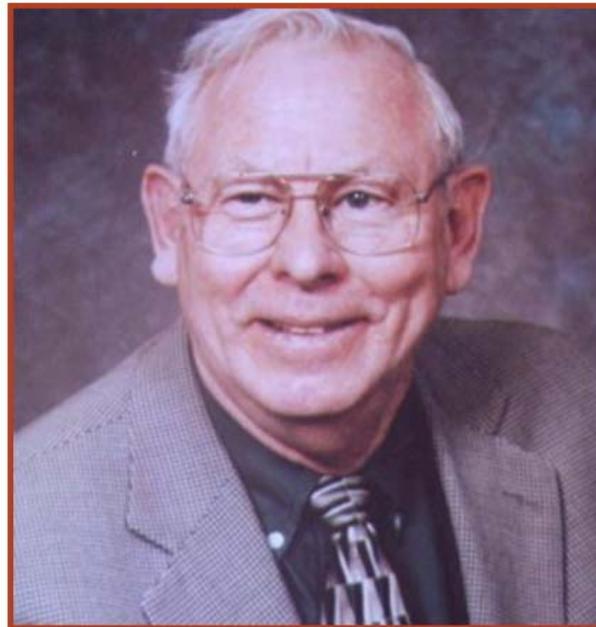
Resource Recovery Systems International

"King of the Windrow"

Resource Recovery Systems International, Inc. (RRSI) is a family-owned corporation involved in the manufacture, sale and lease of KW windrow composting equipment. RRSI also provides consultation on composting projects in the U.S. and internationally.

Owner, Les Kuhlman, Ph.D.

Dr. Kuhlman's consulting activity is primarily associated with the design and start-up phases of a composting business or project, as well as with trouble shooting existing operations. International consulting activities include a wide range of clients and organic wastes.



Clientele:

Clients have included the United Nations Industrial Development Organization (UNIDO) for a project in the Middle East, sugar mills in the Philippines, a public/private large scale pilot project in Britain involving MSW and sewage sludge, a green waste composting operation in Chile, a one-million-ton/year project (sludge and straw) in Egypt, and a waste management project in the UAE.

Upcoming Events:

Please join us at the U.S. Composting Council's 11th Annual Conference in Houston, Texas, January 26-29, 2009

Welcome

Model Choices:



KW 114

Traversing a Windrow of Cattle Manure. Our Most Popular Model. Click the "more" link to go to the KW 114 information page. [More--](#)



Composting

DEFINITION

Compost

is a combination of decomposed plants and animal materials and other organic materials that are being decomposed largely through aerobic decomposition into a rich black soil



Composting

DISCOVERY

Prehistoric farming people discovered that if they mixed manure from their domesticated animals with straw and other organic waste, such as crop residues, the mixture would gradually change into a fertile soil-like material that was good for crops.

Composting as a recognized practice dates to at least the early Roman era since Pliny the Elder (AD 23-79) who refers to compost in his writings.

Composting

START OF MODERN COMPOSTING 1

Traditionally, composting was to pile organic materials and let them stand for about a year, but it was modernized beginning in the 1920s in Europe as a tool for organic farming.

The first industrial station for the transformation of urban organic materials into compost was set up in Austria in 1921.

Composting

START OF MODERN COMPOSTING 2

It was in India, that modern composting got its big start. Sir Albert Howard, a government agronomist, developed the Indore method, named after a city in India.

It calls for 3 parts of garden clippings to 1 part manure or kitchen waste arranged in layers and mixed periodically.

Howard published it on organic gardening in the 1940 book “**An Agricultural Testament**”.

Composting

ADVANTAGES

GOOD FOR PLANTS:

- Adds numerous naturally occurring nutrients to the soil
- Holds moisture, raising efficiency of irrigation to plants.
- Retains Oxygen for plant by making soil structure granular.

• GOOD FOR SOIL:

- Raises its water holding capacity, ideal for desert reclamation.
- Prevents water from running off and eroding the soil.

• GOOD FOR THE ENVIRONMENT:

- Makes good use of Bio waste & leftovers, which are typically burned, in EGYPT's case, polluting air, or left to rot, polluting water.
- Limits the use of natural gas, petrochemicals, and other nonrenewable resources that are used in making synthetic fertilizers.

RESOURCE SYSTEMS RECOVERY INT'L

TYPES OF COMPOSTING MACHINES

KW SERIES

KW 414 PL (PULL TYPE)



KW 414 PL (PULL TYPE)



KW 512



KW 512

Standard Specs:

- Caterpillar, Cummins or John Deere Engines.
- McLaughlin Body Company Cab (John Deere) with Dimensions of 4' x 4' x 5'; Heater & Air Conditioning.
- KW New Style Drum. Tube is 16" in Diameter with 1/2" Wall and 3 7/16" Shaft Running the Full Length of the Drum. Flails are Fixed to Holders Welded to the Drum. Flails are hard surfaced for longer wear.
- Belt Driven, Clutch Engaged or Hydraulic Variable-Speed Drum.
- Wheels Driven Hydraulically Using Wheel Hubs (Planetary Gears).
- Tunnel Lining of Rubber. Rubber Flaps Covering Both Front and Rear Tunnels.



**In a windrow of biosolids mixed with lime and kiln dust.
Engine Horsepower: 225.
Tunnel Size: 5' H x 12' W**

KW 614



KW 614 LP traversing a windrow of cattle manure on the first pass. Note how well it chops

KW 614

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Traversing a windrow of cattle manure.

Our most popular model.

Engine Horsepower: 300-360.

Tunnel Size: 6' H x 14' W

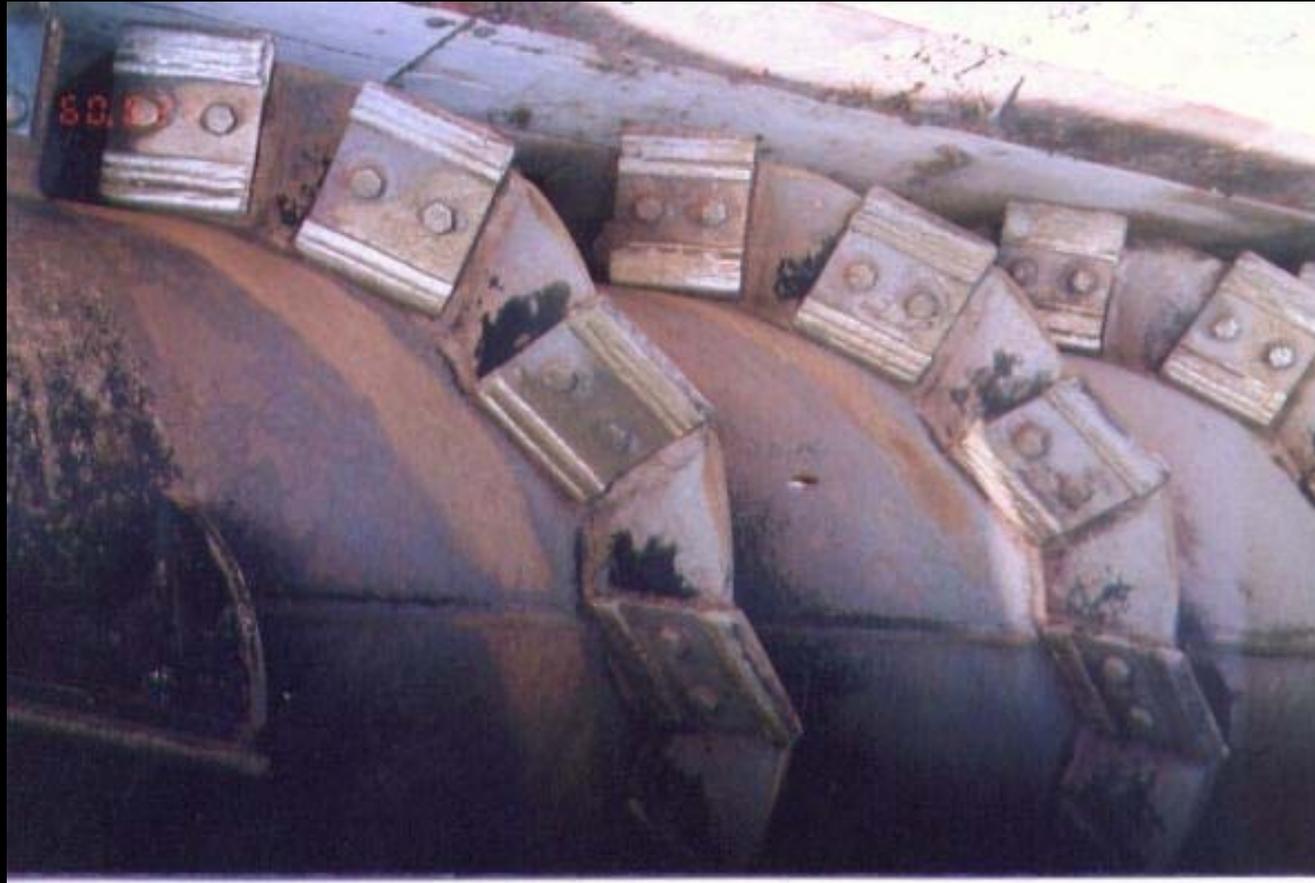
KW 514 Drum



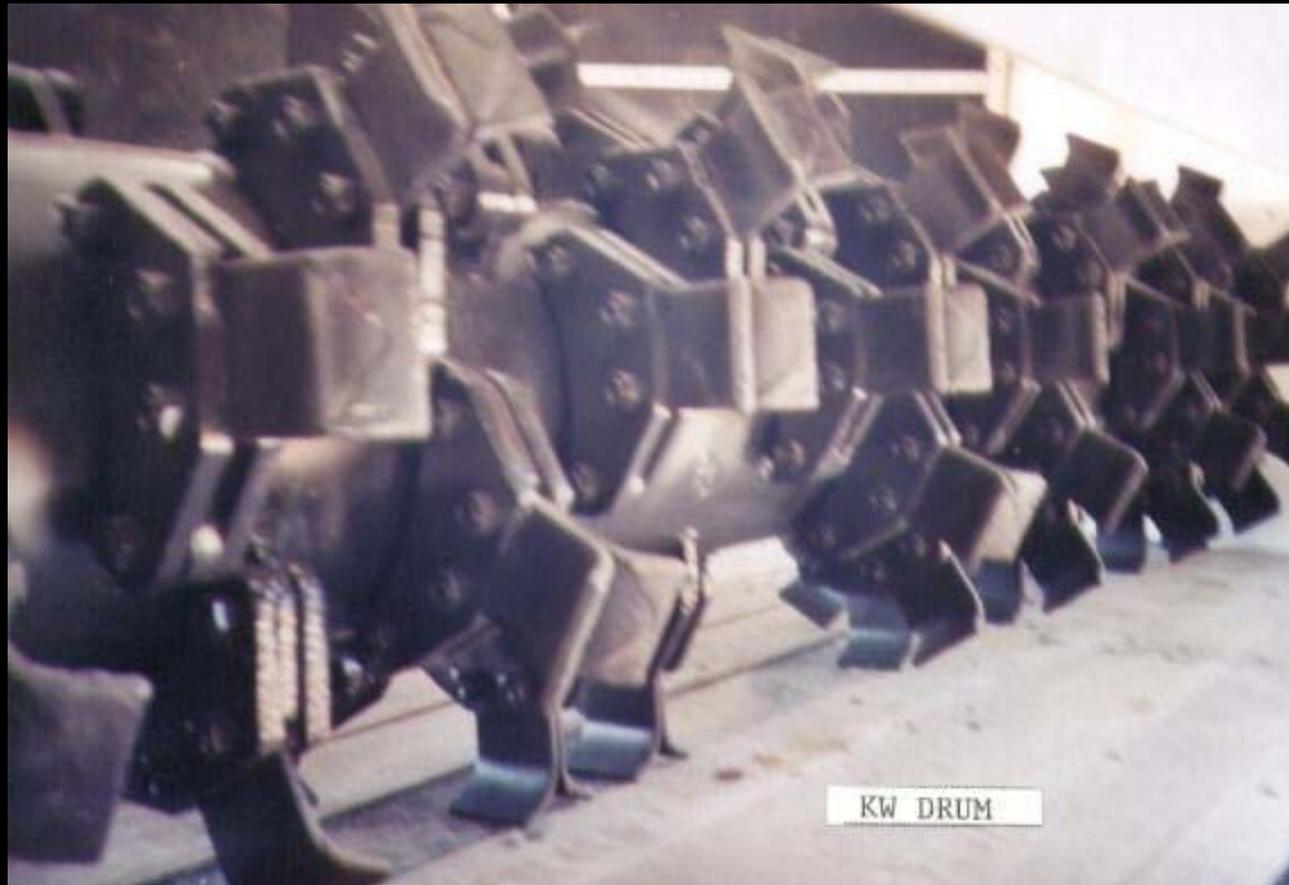
KW 616 Drum



KW Drum Crowder



KW New Drum



POTENTIAL COMPOSTING RELATED PROJECTS **IN EGYPT 1**

- EGYPTIAN COUNTRYSIDE IS PACKED WITH BIOLOGICAL LEFTOVERS.
- THE MOST WIDESPREAD IS RICE STRAW, UNUSEFUL FOR ANIMAL FEEDING .
- THE CURRENT WAY OF DISPOSING IS BURNING CAUSING A HUGE ENVIRONMENTAL AND HEALTH PROBLEMS DUE TO AIR POLLUTION.
- USING RICE STRAW AS A FILLING MATERIAL IN COMPOSTING SEEMS THE BEST SOLUTION FOR MANY ECOLOGICAL PROBLEMS,
- THROUGH FINANCING OWNERSHIP OF SMALL TYPE /TRACTOR POWERED COMPOSTING MACHINES , FOR YOUNG BUSNIESMEN IN VILLAGES, TO COMPOST AND CLEANUP ALL BIOLOGICAL LEFTOVERS AROUND THEIR VILLAGES, AND SOLVING RICE STRAW BURNING PROBLEM SIMULTANEOUSLY.



POTENTIAL COMPOSTING RELATED PROJECTS **IN EGYPT 2**

ANOTHER LARGE SCALE POTENTIAL IS THE BIOLOGICAL CONTENT IN DOMESTIC WASTE IN EGYPTIAN CITIES.

RRSI / AFRO JV, HAD SOLD AND OPERATED 21 COMPOSTERS TO THE EGYPTIAN MUNICIPALITIES. COVERING LESS THAN 2 % OF THE NATIONAL DEMAND

THE EXPORT POTENTIAL IS HUGE.

POTENTIAL COMPOSTING RELATED PROJECTS **IN EGYPT 3**

DIRECT APPLICATION OF UNTREATED SLUDGE BY-PRODUCED IN WASTE-WATER TREATMENT PLANTS, TO LANDS AS A FERTILIZER CARRIES MANY DANGERS TO THE PUBLIC HEALTH.

. RRSI DESIGNED/SUPERVISED CAIRO COMPOST STATION, 1ST PRODUCER OF COMPOST USING SLUDGE FROM BERKA WWTP AS A BIO SOURCE, AND RICE STRAW AS FILLING MATERIAL.

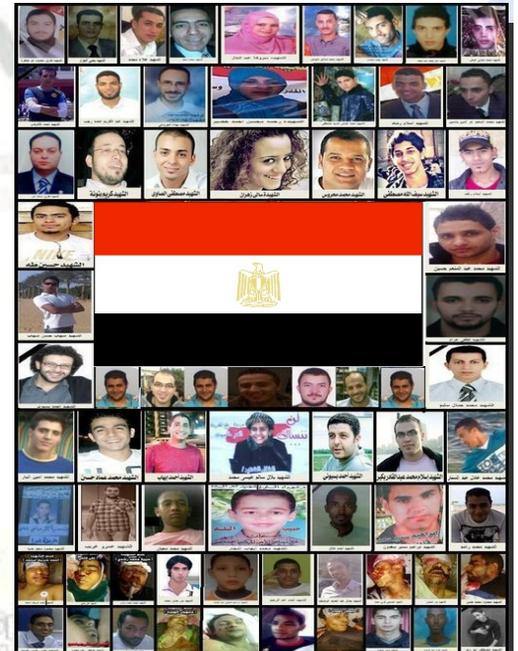
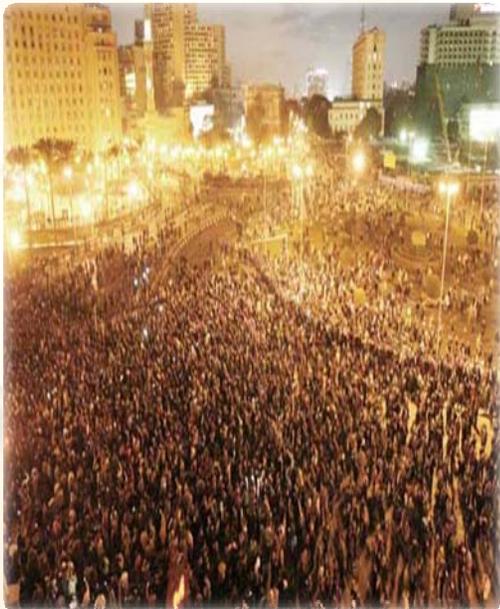
IT WAS AN IMMEDIATE SUCCESS, VISITED AND APPLAUDED BY THE EGYPTIAN PRIME-MINISTER & EPA CHAIRMAN.

THERE ARE OVER 150 WWTP WAITING FOR FINANCE TO LAUNCH SIMILAR PROJECTS.



USTDA

UNITED STATES TRADE AND DEVELOPMENT AGENCY





THANK YOU

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28°13'38.03" N 30°38'12.20" E elev 546 ft

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Eye alt 658.24 mi