What is 100 Dates!?
• 100 Dates! is a DNA sequencing project led by NYU Abu Dhabi scientists.
• Goal is to sequence the genomes of 100 date varieties.
• Data will provide essential information for many biotechnology applications and for answering outstanding questions about date palm domestication.
• Data will be publicly available through an interactive online database.

How to sequence a date palm genome?

**Step 1. Extract DNA**
DNA is extracted from a palm frond. DNA is a long coiled molecule made of 600+ million nucleotides (A, T, G, or C) in palms whose sequence of A,T,G,and C’s differs among varieties.

**Step 2. Cut DNA into millions of pieces before sequencing**
DNA Cut using soundwaves
Chemically attach DNA “adapters”

100 million+ small pieces of DNA whose identity (sequence) and order in the genome are unknown

**Step 3. Sequence and assemble with supercomputer**
Adapters are attached to a glass flow cell and fragments sequenced using chemical elongation and fluorescence imaging
High throughput sequencing is a combination of chemistry, imaging and computing.

Supercomputers assemble the newly sequenced pieces of the puzzle using the Khalas genome (Malek et al 2011) as a guide.

**Step 4. Add processed genome to database**
Explore your favorite date genome at our publicly available soon-to-be released 100 Dates! interactive database.

UPDATE!
Genomes for Halawi and Khisab now complete

**How to learn more?**
• 100 Dates! is developing rapidly, visit our website frequently at: http://puruggananlab.bio.nyu.edu/100Dates.php
• Join 100 Dates! on facebook for breaking news and updates: www.facebook.com/100Dates