

HAVE YOU EATEN THIS PLANT BEFORE?



PHOTO BY DINESH VALKE  
/ UNIVERSITY OF WISCONSIN

 *swipe to find out*

**YOU VERY LIKELY HAVE!**



*swipe to learn more*

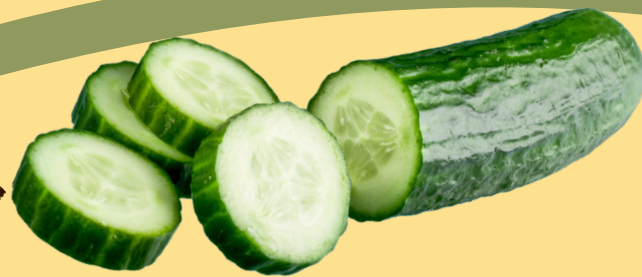
# CUCUMBER

MADE BY NATURE - GUIDED BY US

CUCUMIS SATIVUS F. HARDWICKII - THE WILD ANCESTOR OF CUCUMBER - PRODUCED TINY, VERY BITTER FRUITS WITH SPINES AND ONLY A FEW GRAMS OF EDIBLE MATERIAL. THIS WAS THE REALITY OF CUCUMBER THOUSANDS OF YEARS AGO.



THOUSANDS OF YEARS LATER



THROUGH DOMESTICATION & GENERATIONS OF CAREFUL SELECTION, HUMANS DEVELOPED THE MODERN CUCUMBER WE KNOW TODAY: LARGE, NON-BITTER & JUICY. READY FOR US TO ENJOY.

# OLD TRAITS

- Tiny fruits (2-5 cm), round or oval
- Very bitter - high cucurbitacin level
  - Thich rind & large, hard seeds
  - Spiny/warty surface
  - Small yields - fruits fall off easily
- Long, sprawling vines with heavy branching
- High natural genetic variation in fruit shape, colour & striping



# NEW TRAITS

- Large fruits (15-30+ cm), elongated & uniform
- Non-bitter, cucurbitacins largely bred out
  - Thin skin, tender & edible
  - Smooth or lightly spined fruit surface
  - High yield, many fruits per plant
  - Compact or controlled vines
- Selected for taste, colour, shelf life & market quality
  - Seedless cultivars available

# WHY WE CANT STOP HERE!

MODERN BREEDING IS STILL NEEDED TO DEVELOP CUCUMBERS THAT ADDRESS TOMORROW'S NEEDS BECAUSE:

- They don't handle heat well, leading to flower and fruit drop.
  - New diseases are spreading fast (mildew & virus).
  - Many varieties perform best only in greenhouses.
  - Wild traits can boost resilience and stress tolerance.
- Cucumbers use lots of water & efficiency must improve.
  - Flavour and aroma can still be enhanced.
- Consumers want more choices: seedless, mini, smooth, snack-size.

BECAUSE THE CUCUMBERS WE ENJOY TODAY WEREN'T BUILT FOR CURRENT AND FUTURE GROWING CONDITIONS. BREEDING GIVES US TASTIER, CRUNCHIER CUCUMBERS THAT STAY FRESH LONGER, GROW WITH LESS WATER, RESIST NEW DISEASES, AND ADAPT TO WARMER SUMMERS – ALL WHILE KEEPING FARMING SUSTAINABLE.