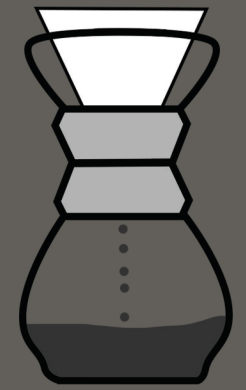


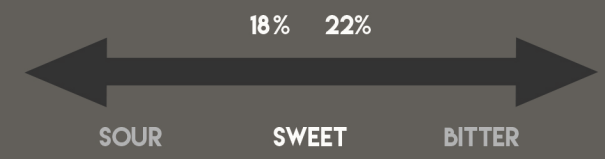
EXTRACTION

WEAK/STRONG REFERS TO INTENSITY OF THE FLAVOR. UNDER-EXTRACTED/OVER-EXTRACTED EXPRESSES WHAT FLAVOR COMPONENTS ARE EXTRACTED - EASY TO CONFUSE,



WE ARE ONLY TALKING ABOUT EXTRACTION, MEANING GREAT FLAVOR, WHETHER WEAK OR STRONG

FOR HOT BREW METHODS, ACIDIC NOTES ARE FIRST TO BE EXTRACTED. THEY **CONTRIBUTE** GREAT FLAVOR, BUT ALONE TASTE SOUR. THAT IS UNDER-EXTRACTED A PROPERLY EXTRACTED COFFEE, WHERE **18-22%** OF THE COFFEE SOLIDS IN THE GRIND END UP IN THE CUP, WILL TASTE **SWEET** AND **BALANCED**.



BREWED PAST IDEAL, COFFEE BEGINS TO TAKE ON A BITTERNESS. COFFEE IS COMMONLY CALLED 'BITTER' WHEN THERE IS A FLAVOR COMPONENT WE DON'T LIKE. UNDERSTANDING THE DIFFERENCE BETWEEN 'BITTER' AND 'SOUR' AND 'WEAK' AND 'STRONG' IS IMPORTANT TO MAKING ADJUSTMENTS FOR THE PERFECT BREW

TIME

MORE WATER/COFFEE CONTACT TIME MEANS MORE EXTRACTION. MOST HOT BREW METHODS START AT ABOUT **4 MINUTES** BREW TIME FOR BEST EXTRACTION. ADJUST TIME TO EXTRACT MORE OR LESS. BATCH SIZE AND COFFEE GROUND BED DEPTH ALSO REQUIRE TIME ADJUSTMENTS



TURBULENCE

POPULARITY OF POUR OVER COFFEE METHODS IS BECAUSE OF EXTRACTION EVEN-NESS.

A FRESH COFFEE WILL 'BLOOM' IN CONTACT WITH WATER, ALLOWING WATER TO FLOW THROUGH THE COFFEE GROUNDS FOR AN EVEN AND COMPLETE EXTRACTION. "PULSE" COFFEE BREWERS MIMIC THAT ACTION.

OTHER EXAMPLES OF TURBULENCE ARE SIMPLY STIRRING A COFFEE IN A IMMERSION PROCESS TO CREATE MORE COFFEE/WATER CONTACT.

FRESH COFFEE MEANS MORE 'BLOOM' AND BETTER EXTRACTION. USE COFFEE DURING THE APPX 14-DAYS AFTER ROASTING WHILE IT DEGASSES.

WATER

IMPORTANT FOR FLAVOR AND EXTRACTION PROPERTIES

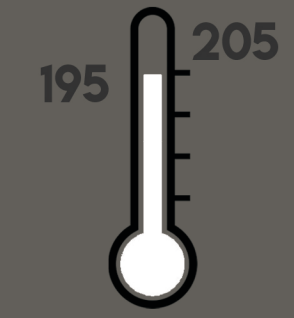
TDS (HARDNESS) 75-250 PPM
TOO SOFT & WATER SKATES AROUND COFFEE GROUNDS
TOO HARD & WATER CAN'T PULL ENOUGH COFFEE SOLIDS

CALCIUM HARDNESS 17-85 PPM
PH 6.5-7.5 (NEUTRAL)
ALKALINITY NEAR 40 PPM
SODIUM NEAR 10 PPM
CLEAN, FRESH, CLEAR, ODOR-FREE, CHLORINE-FREE



TEMPERATURE

IDEAL BREW TEMP 195-205, BUT NOT BOILING. CHEAPER BREWERS OFTEN CANNOT ACHIEVE OR HOLD THIS TEMPERATURE, RESULTING IN UNDER-EXTRACTION. AT HIGH ALTITUDES, WE'RE AT THE LOW END OF THE SCALE AND OFTEN NEED A FINER GRIND TO ACHIEVE GREAT EXTRACTION.



GRIND

FRESH

INSIDE YOUR COFFEE BEAN ARE ALL THE AROMATIC OILS AND FLAVOR COMPONENTS THAT WE LOVE. ONCE GROUND, THEY BEGIN TO ESCAPE AND THE DE-GAS PROCESS IS ACCELERATED. MEANING LESS BLOOM AND LESS FLAVOR. THE CLOSER TO BREW TIME YOU CAN GRIND, THE BETTER.

PARTICLE SIZE

THIS IS WHERE YOU CAN MAKE MAJOR FLAVOR ADJUSTMENTS!

THE MORE TIME THE GROUNDS WILL SPEND WITH WATER, GENERALLY THE MORE COARSE THE COFFEE SHOULD BE.

THERE IS A LOT OF ROOM IN BETWEEN THESE GENERALIZATIONS. PLAY WITH GRIND SIZE AND SEE WHAT A HUGE DIFFERENCE IT MAKES IN FLAVOR!

RATIO

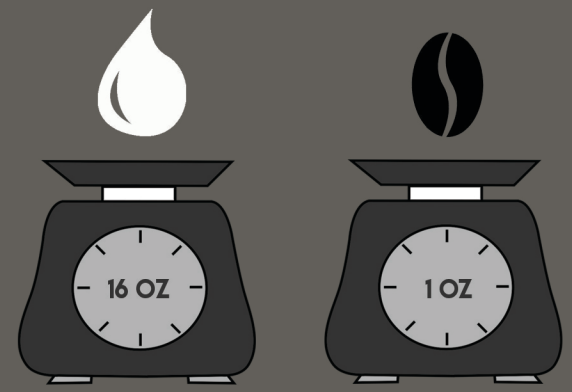
MATHEMATICALLY, TO ACHIEVE PROPER EXTRACTION WE NEED TO START WITH A PROPER BREW RATIO. (I.E. TOO MUCH COFFEE AND THE BREW CAN BE **UNDER-EXTRACTED**, BECAUSE THE WATER IS ONLY PICKING UP THE FIRST PART OF THE BREW)

FOR DRIP, FRENCH PRESS, SYPHON AND POUR-OVER THE RATIO SHOULD BE BETWEEN 15:1 AND 18:1 (I.E. 16 OUNCES OF WATER TO 1 OUNCE OF COFFEE GROUNDS, BY WEIGHT)

FOR ESPRESSO, 2:1 IS A RISTRETTO (THE MOST COMMON, MODERN SHOT RATIO)

COLDBREW IS TYPICALLY 8:1 RATIO AND FOLLOWS A DIFFERENT EXTRACTION PATH THAN HOT BREWS

TOO FINE = BITTER (OVER-EXTRACTED)
TOO COARSE = SOUR (UNDER-EXTRACTED)



PERCOLATOR AND COLDBREW (VERY COARSE - LIKE KOSHER SALT)



FRENCH PRESS (COARSE)



POUR OVER/DRIP (MEDIUM - LIKE TABLE SALT)



ESPRESSO (FINE)



TURKISH (SUPERFINE - LIKE POWDER)