

KRAFTED SPIRIT

A KRAFTED SPIRIT MANUAL

The Prep Bench

*Fermentation, Extraction, Clarification and Texture
for the Modern Bar Programme*

PAUL WALKER

The Prep Bench

*Fermentation, Extraction, Clarification and Texture
for the Modern Bar Programme*

*"For the bartenders who arrive an hour before service to strain something
— and for the operators who finally understood why."*

Paul Walker

Beverage Director & Consultant, Krafted Spirit

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INTRODUCTION

The work before the drink

Most of the work that makes a serious bar serious happens before anyone orders a drink.

By the time a guest is handed a cocktail, the interesting decisions have already been made: what was fermented three weeks ago, what was clarified yesterday, which syrup was reduced this morning and which acid blend was dialled in to replace a lemon that, in this part of the world, arrived tired and expensive.

I have spent much of my working life in and around the prep side of bars, most of it now in the Gulf, where the gap between a programme that buys everything in and one that makes its own components is wide and getting wider. The premium guest in Dubai or Abu Dhabi can tell, even without the vocabulary for it, the difference between a sour built on fresh-pressed acid and one built on a flat bottled mix.

This book sets out twenty-five preparation techniques spanning six families: fermentation and bio-transformation; extraction and infusion;

acid, salt and reduction; sweeteners and bases; clarification and freezing; and texture. For each I have tried to answer the same practical questions: what is it, what is it good for, how is it broadly done, does it work for non-alcoholic drinks, and what kit does it demand.

Any prices mentioned are indicative starting points. If you are sourcing into the UAE, add freight, import duty and commissioning on top. A piece of kit that looks affordable on a supplier's website looks rather different once it has been shipped, cleared and installed.

Three ideas run through the chapters: *suitability* — every technique has serves it flatters and fights; the *alcoholic and non-alcoholic question* — the great majority of these techniques work on both sides; and *cost and consequence* — what you spend, what each batch costs, and what operational realities come attached.

"The components are the programme. Everything else is presentation."

— PAUL WALKER



An elegant contemporary hotel cocktail bar in the Gulf at dusk — the commercial context in which this manual is conceived.

Who is this for? The people who have to make the decisions and then live with them: beverage directors and bar managers building or refreshing a programme; F&B leaders weighing the cost of an in-house prep operation against buying components in; operators deciding where a finite fit-out budget should go; and the serious bartenders who want to understand these methods properly rather than copy a viral version of them.

You do not need a science background. You do need to be willing to think commercially — to ask not just whether a technique is impressive, but whether it is worth the bench space, the lead time and the training it will cost you.

What this book is not is a recipe collection. The how-to passages are deliberately broad: enough to understand the shape of each method and judge whether it belongs in your programme, not a step-by-step formula to follow blind. The bars that do this well treat their exact specifications as house knowledge worth protecting. My aim is to give you the map, not to walk every path for you.

CHAPTER ONE

The Case for Making It Yourself

Components, control, suitability and the non-alcoholic imperative

The components are the programme

Walk into the back of a bar that takes itself seriously and you will find the evidence before you ever taste a drink — a shelf of labelled jars at various stages of becoming something, syrups dated in marker pen, a dropper bottle of house bitters, a tray of citrus husks waiting to be turned into oleo saccharum.

It is tempting to treat the bar's ingredients as a purchasing problem. You can buy syrups, cordials, bitters and ready-made mixes, and for many bars that is the correct decision. But at the premium end, bought-in components are a ceiling on how good and how different the drinks can be. Everything you buy, a competitor can buy too.

Making your own components also buys control. Fresh citrus in the Gulf is inconsistent and expensive; an acid blend lets you hit the same brightness every night. A house syrup is built for the serve it goes into — not for shelf life.

"A house ferment, a proprietary bitters blend, a cordial built around a flavour nobody else is using — these cannot be replicated by a rival with a supplier catalogue."

Suitability: matching method to serve

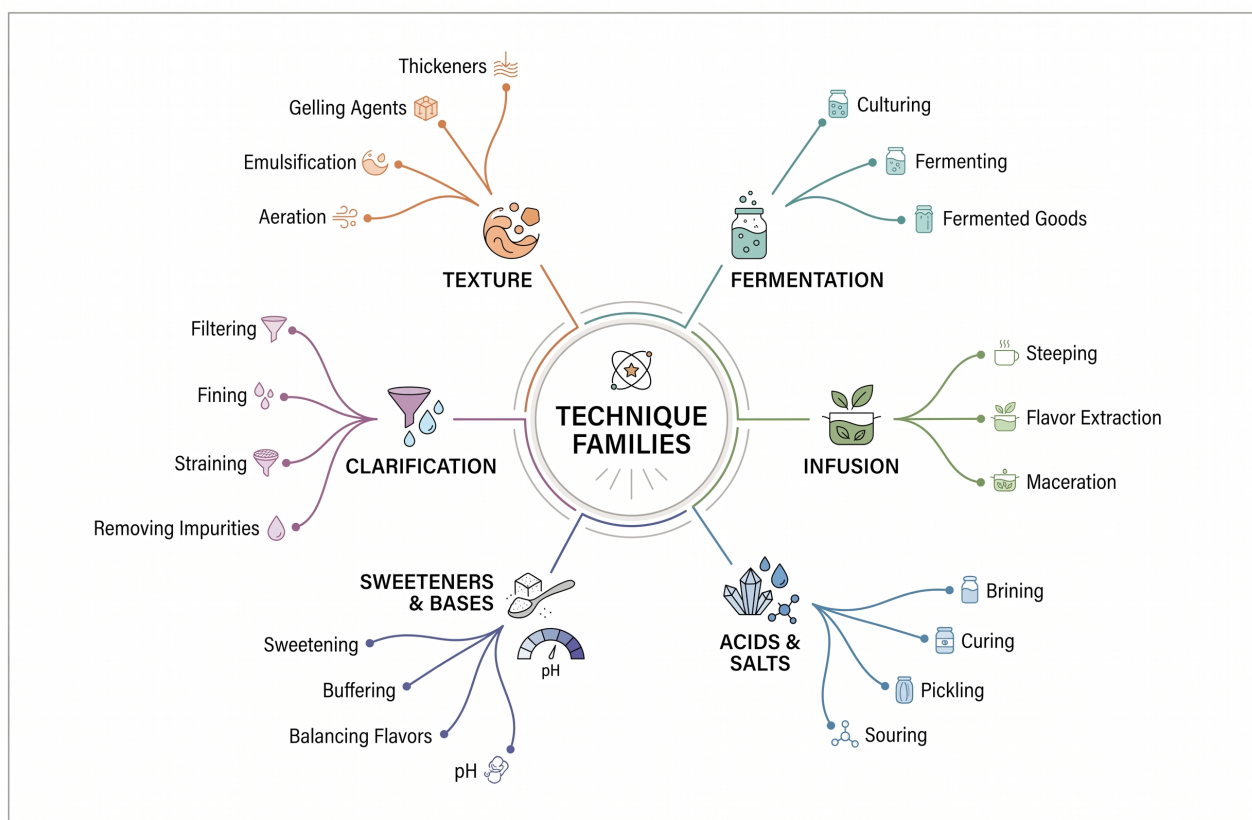
Every technique here has serves it flatters and serves it fights. A milk-wash clarification produces a silky punch that is sublime in the right drink and pointless in a serve that wanted texture and colour. The question is never "can we do this?" but "should we, for this drink, this venue, this guest and this price point?" A technique used because it is fashionable is worse than no technique at all — it spends effort announcing that the bar has confused activity with quality.

The non-alcoholic imperative

Sophisticated low- and no-alcohol drinking has moved from a fringe accommodation to a central part of any luxury programme. The overwhelming majority of these methods work on both sides of the menu — shrubs, cordials, clarified juices, infusions, foams, airs, acids and salines all behave the same whether or not there is alcohol in the glass. Treating the no-alcohol offer as a first-class citizen of the prep bench is, increasingly, simply what the market expects.

THE SIX FAMILIES

How the techniques relate



The six preparation technique families — fermentation, infusion, clarification, acids & salts, sweeteners and texture — and how they connect.

THE PREP BENCH

CHAPTER TWO

Fermentation and Bio- transformation

*The oldest and slowest work on the bench, rewarding patience
with flavours that simply cannot be bought.*

Fermentation

Fermentation uses wild or cultured yeast and bacteria to transform sugars into alcohol, acids and complex new flavour compounds — creating genuine novelty that no supplier can sell you. The equipment is modest: crocks, airlocks and a pH meter. What it demands is not kit but conditions — dedicated, temperature-stable storage and the discipline to track and discard anything that goes wrong.



Tepache mid-ferment — pineapple rind in golden liquid with a light surface fizz.

Koji and enzymatic ferments

Koji (*Aspergillus oryzae*) breaks starches and proteins into sugars and umami compounds, building deep savoury complexity — koji-cured fruit, amazake, shio-koji pastes. Needs a temperature- and humidity-controlled proofer, but produces flavours still rare on cocktail menus.

Housemade vinegars

Acetic fermentation converts a low-alcohol base into a signature acid with *Acetobacter* culture. The kit is almost nothing — a crock and a vinegar mother — but needs a stable, undisturbed spot and a tolerance for timelines of weeks to months.

Tepache-style ferments

A short pineapple ferment using natural yeasts that produces a mildly alcoholic, tangy base in two to four days. Vibrant and funky — perfect for tiki serves. Needs no special equipment; the only catch is shelf life of about a week refrigerated.

CHAPTER THREE

Extraction and Infusion

Mastering this family gives a programme its house spirits, its aromatics and a good deal of its identity.

Infusions

Steeping fruit, herbs or botanicals in a spirit or non-alcoholic base to transfer flavour over time. Simple in principle — sealed container, out of light, taste at intervals, then strain. A sous-vide bath makes it consistent and repeatable across batches. The basic kit is just jars and strainers.



Spirits infusing with vanilla, chilli, lavender and citrus peel.



Citrus peels macerating in sugar, oils glistening.

Oleo saccharum

Oil sugar — extracting citrus oil into sugar by macerating peels overnight, then dissolving into a fragrant syrup. Rounder and more aromatic than plain sugar. No equipment beyond a bowl and a muddler. An elegant way to use the husks a busy bar would otherwise discard.

Tinctures and bitters

High-proof extractions of herbs, spices, bark or botanicals dashed to season a drink. A proprietary bitters used across several drinks gives a menu a signature thread that cannot be bought in. Cheap equipment — but raises a licensing question in the UAE worth confirming before committing.



Amber dropper bottles of house bitters and tinctures.

Oak and tannin extraction

Toasted oak chips draw out vanilla and spice notes in days. Tips into bitterness quickly — punishes inattention, rewards a light hand.

Smoked syrups and infusions

Cold- or hot-smoke infused into a liquid builds a consistent, bottleable smoky note — freeing the bartender from a fiddly per-glass flourish.

CHAPTER FOUR

Acid, Salt and Reduction

The least glamorous and most important family in the book.

"The precise structural work of tuning acidity, salinity and concentration is what separates a drink that merely tastes nice from one that tastes finished."

Shrubs

A sweet-sour drinking vinegar made from fruit, sugar and vinegar, used as a tangy mixer or cocktail component. Its value is bright acidity and fruit depth without relying on fresh citrus alone — a meaningful advantage in a market where good citrus is inconsistent and expensive.

A shrub keeps for months refrigerated. It works in both alcoholic and non-alcoholic serves — a shrub and soda is a complete non-alcoholic drink in its own right. For a programme building out its non-alcoholic offer, shrubs do a great deal of work for very little outlay.



Bottled fruit shrubs in jewel tones — a preserved, acid-bright larder.

Acid adjustment and blends

Measured citric, malic, tartaric or phosphoric acid dissolved at a known concentration and dosed to a target pH. One of the highest-leverage techniques in the book: costs almost nothing, removes a major source of nightly variability, and gives a bar control over the single most important structural element of a sour.



Citric, malic and tartaric acid powders beside a digital pH meter.

Saline and mineral balancing

Adding a small, precise amount of salt or mineral solution to round out sweetness, lift fruit flavour and balance acidity. Used correctly it makes a margarita or daiquiri taste sharper and more complete without tasting remotely salty — working below the threshold of detection. A dropper bottle of saline solution on the station is one of the highest-return additions a bar can make.

Reductions

Concentrating the flavour and sugar of wine, vermouth or a spirit by gentle heat to produce a rich, complex syrup. It suits stirred cocktails especially well. Non-alcoholic wine or verjus reduces just as well as the alcoholic versions, making it a useful tool for giving a sophisticated non-alcoholic stirred drink the weight it would otherwise lack.

CHAPTER FIVE

Sweeteners and Bases

Sweetness is structural — the backbone ingredients that carry both sugar and flavour through a drink.



Cordials

A concentrated, sweetened fruit or botanical syrup used as a flavour and sweetness base. Closer to a traditional British cordial than an American syrup, it can headline a mocktail or extend a spirit-forward serve. Elderflower, rhubarb and spiced berry cordials are menu staples for good reason.

The method: combine fruit or botanical with sugar at a high ratio for shelf stability, heat gently to dissolve, add acid for balance and preservation, then bottle. A well-made cordial keeps for several weeks to months refrigerated. A bar serious about its zero-proof list should treat its cordial library as carefully as its spirit selection.



House cordials — elderflower, rhubarb, spiced berry — the non-alcoholic programme's backbone.

Super juice

A citrus-stretching technique, popularised by Trash Tiki, that blends whole citrus — peel and pith included — with citric and malic acid and water to replicate fresh juice at a fraction of the fruit cost and waste. For a high-volume programme it is transformative in the literal commercial sense.

A blender and a fine strainer are the only equipment, alongside inexpensive acid powders. Super juice keeps one to two weeks refrigerated — considerably longer than fresh juice, which begins to degrade within hours. From a handful of lemons you get the yield of many times that number, with better consistency and far less waste.



Super juice production — whole citrus blended with acid powder for maximum yield and consistency.

"A technique that looks like an indulgence — super juice, say — can turn out to be the cheapest thing on the bench once waste and yield are properly accounted for."

CHAPTER SIX

Clarification and Freezing

Transformation through removal and through cold — from near-magical milk-punch clarity to the frontier of what cold can do to a drink.



Two coupe glasses — one cloudy, one crystal-clear milk-washed punch — illustrating the transformation clarification achieves.

Milk wash clarification

Milk's proteins bind and remove tannins, pigments and impurities from a liquid, leaving a clarified, silky drink. You curdle warm milk by adding the acidic cocktail mixture to it, let the curds form and settle, then filter slowly through a fine cloth until the liquid runs clear. Cheesecloth or coffee filters are enough to begin; a centrifuge speeds the process dramatically. Plant-based milks can be used for a non-alcoholic version.

Freeze clarification

Slow freezing and thawing separates clear liquid from cloudy solids and ice crystals, with no heat, enzymes or fining agents. The only equipment is a standard freezer — making this the most accessible clarification technique by some distance. It is slower and lower-yielding than a centrifuge, but needs no special kit and no consumables.

Agar and pectinase

Agar sets a liquid into a gel; breaking and filtering the gel releases clarified liquid. Pectinase uses enzymes to break down pectin, allowing solids to drop naturally. Both are useful middle paths — more effective than freezing, far cheaper than a centrifuge.



Ultra-low chest freezer — cold vapour rising around a spirit undergoing directional freezing.

Switching

The most advanced technique in the book, belonging to Iain McPherson of Panda & Sons in Edinburgh. It directionally freezes a spirit to separate water from alcohol, then replaces the frozen-out water with another flavoured liquid to restore the original strength. The results are genuinely novel: a white rum texturised with coconut milk, or a spirit finished with the frozen water of another. Requires an ultra-low chest freezer and is firmly a technique for a venue with a development kitchen or lab space.

THE PREP BENCH

CHAPTER SEVEN

Texture

The dimension bartenders talk about least and guests feel most — fat washing, foams, airs and vacuum compression.

Fat washing

Infusing a spirit with a fat — butter, bacon fat, olive oil, nut oils — for mouthfeel and flavour, then removing the solidified fat, leaving the character behind without the grease. It builds savoury, rich cocktail bases: a brown-butter Old Fashioned, a bacon-washed bourbon.

The method: combine melted fat with the spirit, rest it to infuse, then chill until the fat solidifies and can be strained off. No special kit is needed beyond a fine strainer. Fat washing is one of the most effective ways to give a spirit-forward drink a luxurious, rounded weight.



A jar of spirit with solidified fat risen to the top — ready to be strained.



Vacuum-compressed watermelon — glistening, translucent and jewel-like.

Vacuum compression

A vacuum chamber forces liquid into the cell structure of a fruit or vegetable, intensifying its flavour, colour and texture. It produces visually striking, intensely flavoured fruit garnishes — compressed watermelon, melon, cucumber — that read as far more deeply infused than a simple soak. On the right serve, a single piece of intensely infused, glassy fruit does more for the impression of craft than any number of conventional garnishes.

Foams

Aerated toppers built with egg white, aquafaba or a foaming agent such as xanthan gum or methylcellulose. Dry-shake first to build structure, then shake with ice to chill. An iSi whipper gives a more stable, pourable foam for high-volume service. Aquafaba and plant-based foaming agents make them fully vegan and non-alcoholic-friendly.

Airs

A very light, low-density foam made by aerating liquid with a small amount of lecithin. Works as a delicate, ephemeral garnish-style topper — a citrus or herb air floated on the surface for aroma and visual drama. Made fresh to order, not batched. An air is the right technique when you want a whisper of aroma and a fleeting visual lift.

THE PREP BENCH

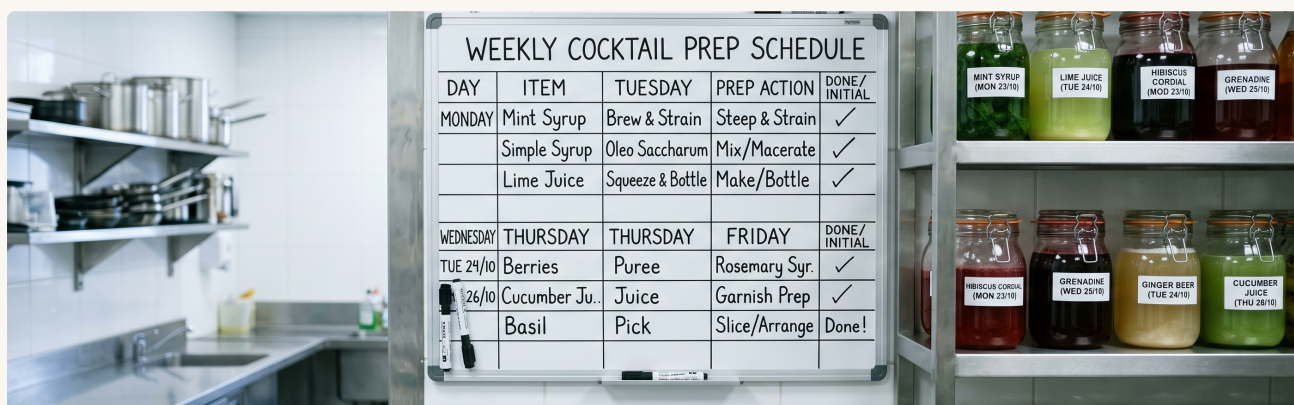
CHAPTER EIGHT

Building a Prep Programme

Knowing twenty-five techniques is not the same as running a prep programme — this is where they become a discipline.

Choosing what to make and what to buy

The first discipline is restraint. Every technique in this book is worth doing somewhere; almost none of them is worth doing everywhere. A house bitters that threads through eight drinks justifies itself easily. A koji ferment that flatters one cocktail on a seasonal menu may not, however impressive it is. Map each candidate against how many serves it supports and how long it keeps — the permanent residents are those with broad use and decent shelf life: acids, salines, cordials, shrubs, house bitters, super juice.



A wall-mounted prep schedule beside neatly labelled, dated house components — the hallmark of a disciplined programme.

Costing the bench

Cost per-serve and fully loaded: ingredients, equipment share, labour to make and maintain, and realistic wastage. Indicative equipment prices are international starting points — sourcing into the UAE adds freight, import duty and commissioning on top.

Food safety and UAE

Confirm local food-safety requirements before any fermented component reaches a menu. Keep dated records. High-proof tincture production raises a separate licensing question in the UAE — regulatory position first, technique second.

Making it survive a busy service

A prep programme finally proves itself not on a quiet development afternoon but on a busy Friday night. The design goal is resilience: components batched ahead and labelled clearly, so a serve does not depend on a single person's memory. Standardise what can be standardised; keep the fragile, made-to-order elements to the few serves that truly need them.

A FINAL THOUGHT

"The components are where a bar's character lives, but character is worth nothing if it collapses the moment the room fills up."

A well-built prep programme is one where the slow, careful work done on the bench in the morning makes the fast work at the pass in the evening easier, more consistent and more distinctive than a bar buying everything in could ever manage.

That is the whole case for the prep bench: not novelty for its own sake, but a programme that is unmistakably yours and that holds together when it matters most.

PAUL WALKER

Krafted Spirit

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