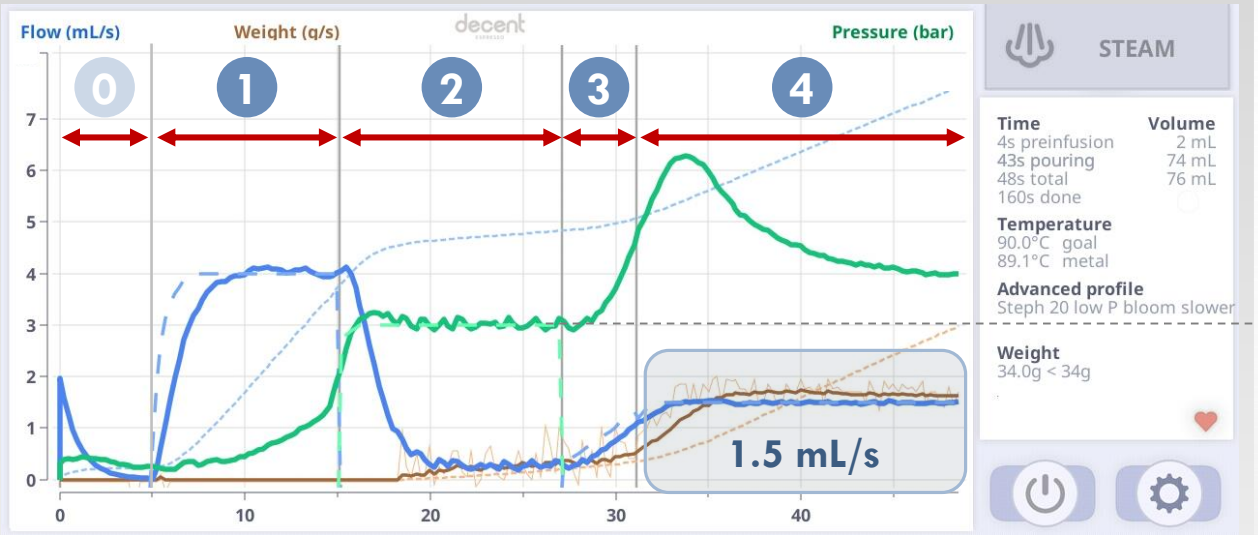
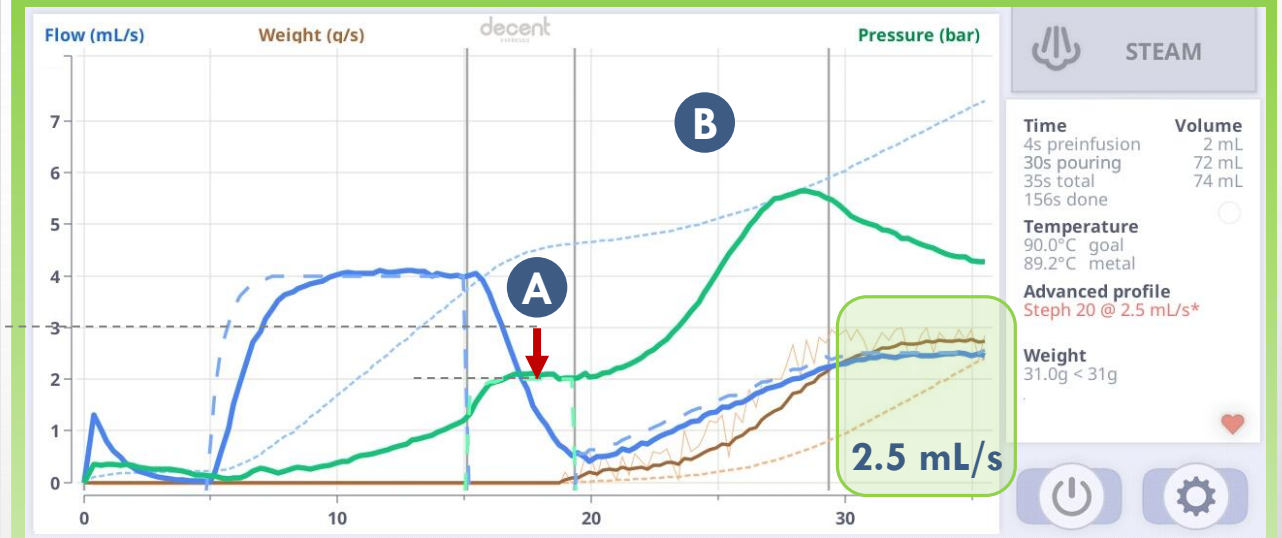
HIGHER EXTRACTION FLOW RATES WITHOUT CHANNELING?

HYBRID “LEVER-BLOOMING” PROFILE – DECENT ESPRESSO DE1 PRO V1.1

STÉPHANE RIBES – FEBRUARY 2020

HIGHER FLOW RATES WITHOUT CHANNELING? ADAPTATIONS TO THE “LEVER-BLOOMING” PROFILE





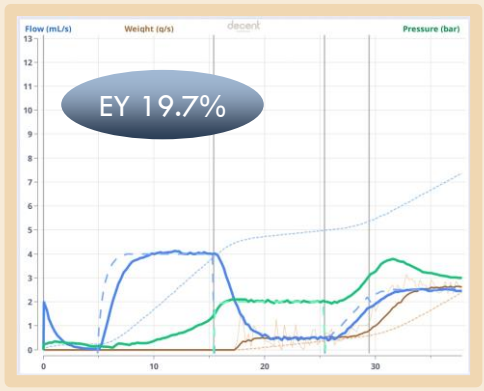
1. Preinfusion – 4 mL/s – ends when 80% of the target pressure of step 2 is reached
2. “Pressurized bloom” (pressure priority step)
3. Smooth transition to reach the targeted flow rate of the final extraction stage
4. Flow priority extraction with stop at weight (BR: 1:2.4)
0. Optional initial step “lock portafilter” to prevent exposure of the puck to the hot machine environment during the final warm-up of the brew water

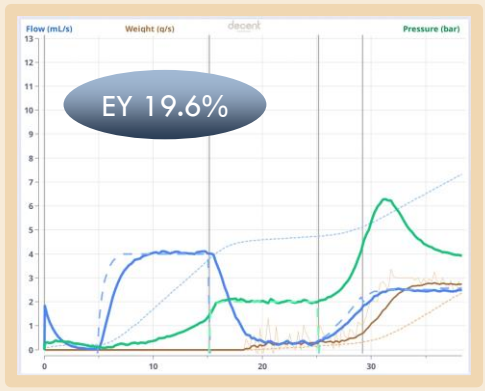
A. With a higher final extraction flow rate but the same coffee dose, a coarser grind will be necessary to stay in the same range of extraction pressure. Consequently, the **target pressure of step 2 “pressurized bloom” can be reduced**, in order to avoid too much drippage before the actual extraction phase

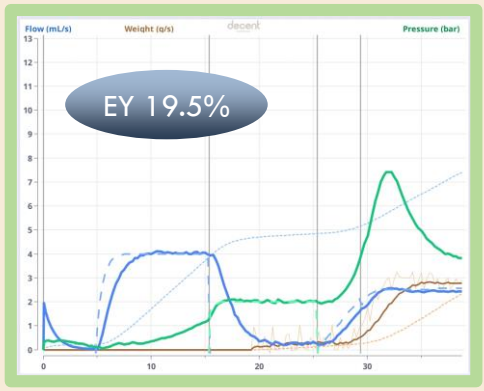
B. During our tests, we found that a **gentler increase in flow rate** (step 3) was necessary to avoid sour shots, presumably limiting the extent of puck channeling

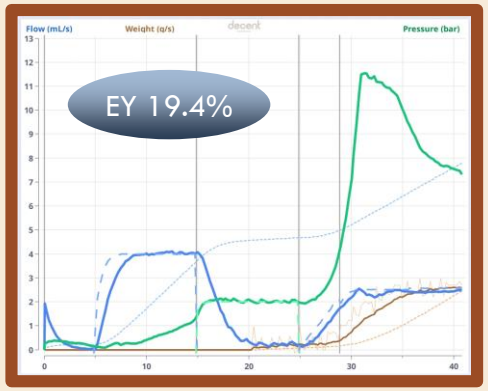
2.5 ML/S EXTRACTION – IMPACT OF THE RATE OF FLOW RISE DURING THE DIALING IN PROCESS

Pressurized bloom: **10 sec** – Flow rate increase: **4 sec** 13g in, 31g out – 31s to 35s shots

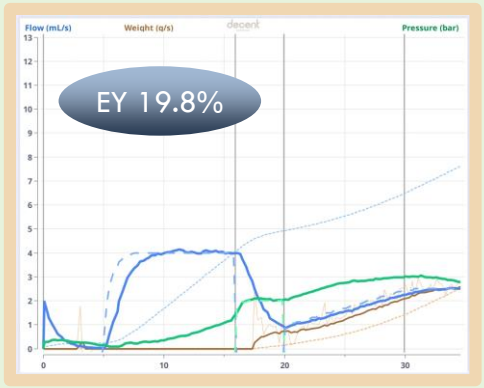


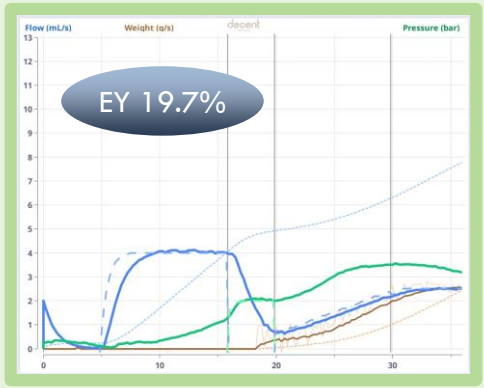


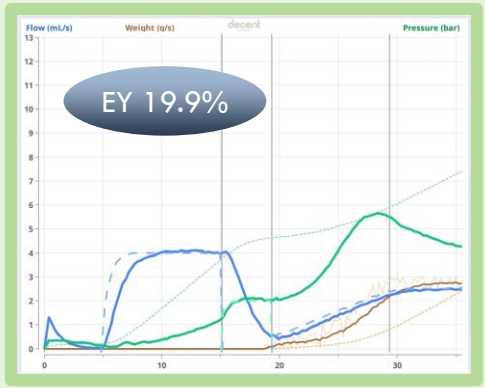


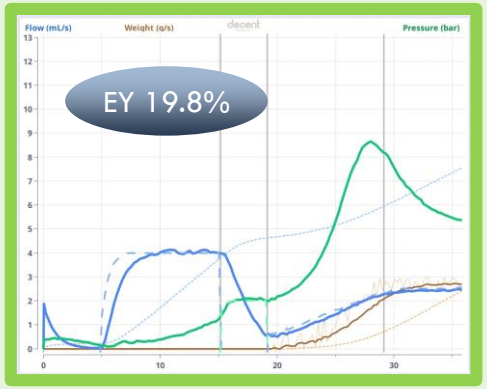


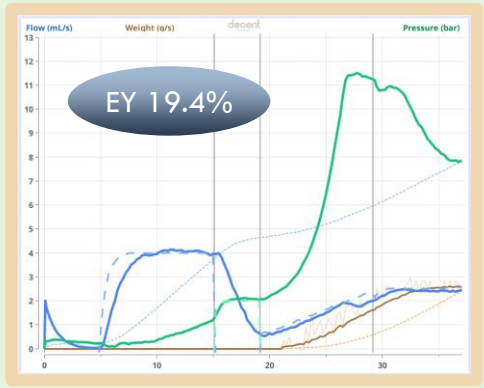
Gs **EK2.6** **EK2.4** **EK2.2** **EK2.1** **EK2.0**







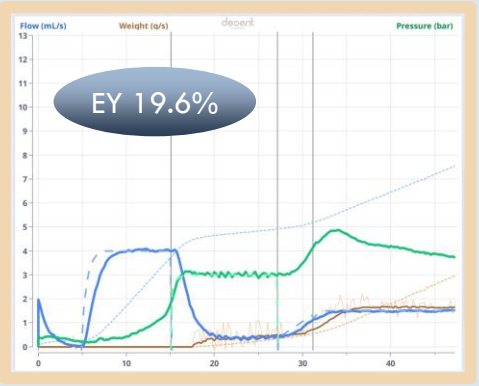


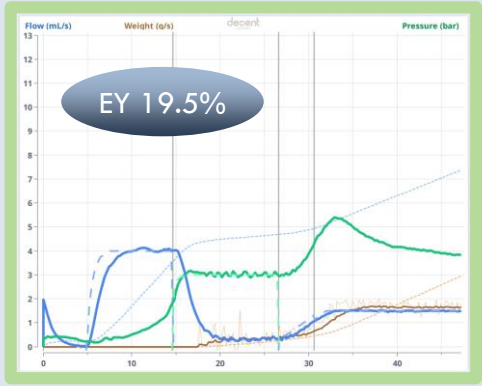


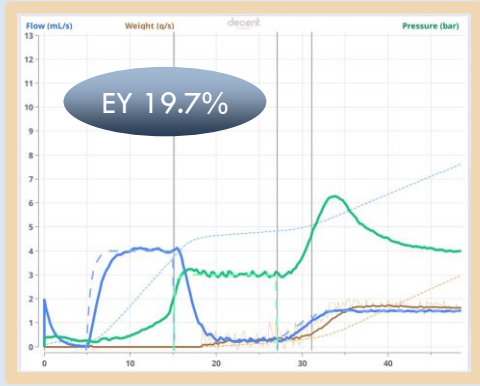
Pressurized bloom: **4 sec** – Flow rate increase: **10 sec** 13g in, 31g out – 29s to 32s shots

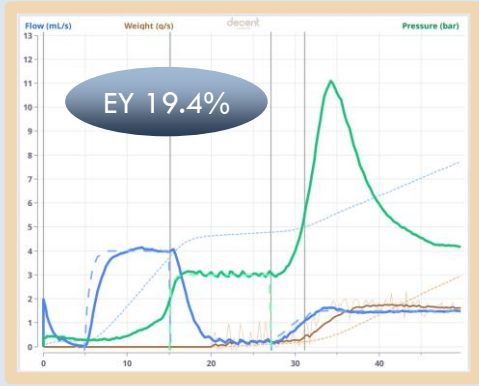
1.5 ML/S EXTRACTION – IMPACT OF THE RATE OF FLOW RISE DURING THE DIALING IN PROCESS

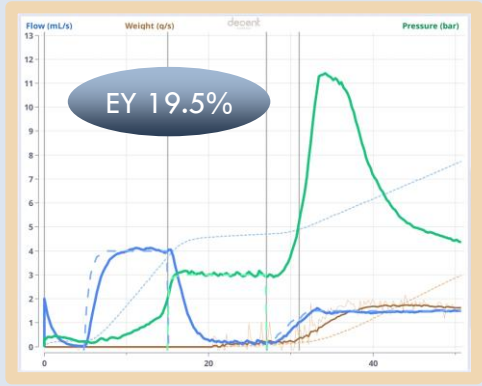
Pressurized bloom: **12 sec** – Flow rate increase: **4 sec** 14g in, 34g out – 42s to 45s shots



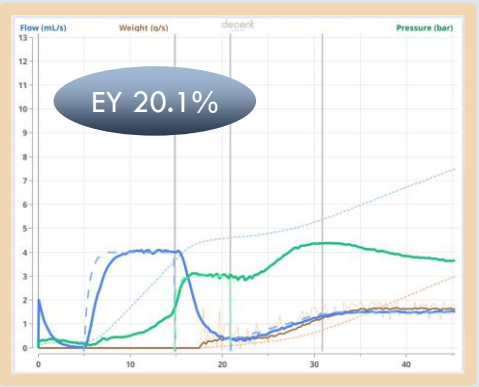


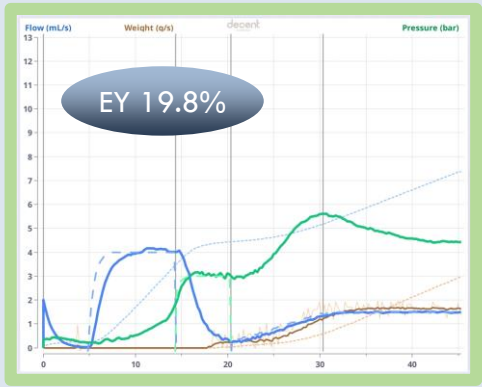


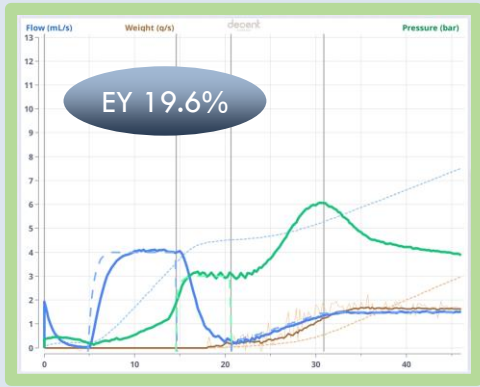


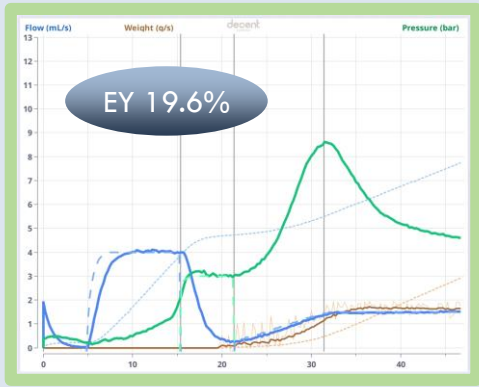


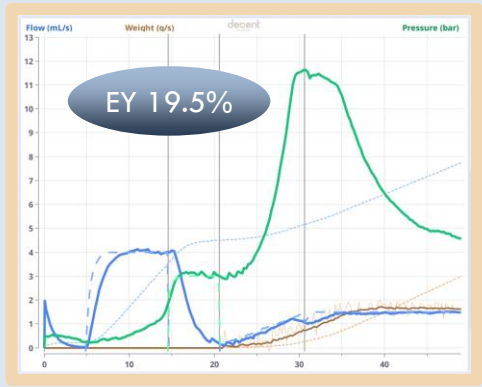
Gs **EK2.3** **EK2.2** **EK2.1** **EK2.03** **EK1.95**











Pressurized bloom: **4 sec** – Flow rate increase: **12 sec** 14g in, 34g out – 40s to 44s shots

HIGHER FLOW RATES WITHOUT CHANNELING? TEST PROTOCOL

- **Decent Espresso Machine DE1PRO v1.1** with a (red) Cafelat 8.0 mm silicone gasket
- IMS SI 200 IM screen (no spacer)

- Mahlkönig EK43 S grinder – SSP burrs "High Uniformity" with Silver Knight coating

- Montille water (Le Mont Dore, France) – **adjusted to 50 ppm eq. $CaCO_3$ alkalinity and 125 ppm eq. $CaCO_3$ total hardness,** with sodium carbonate and Epsom salts

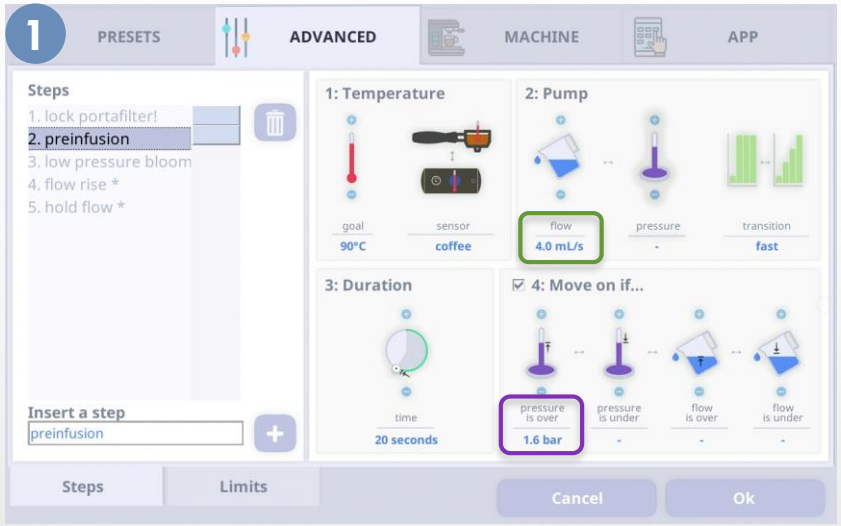
- Complete drying of the basket and shower screen before each shot, with a clean tissue

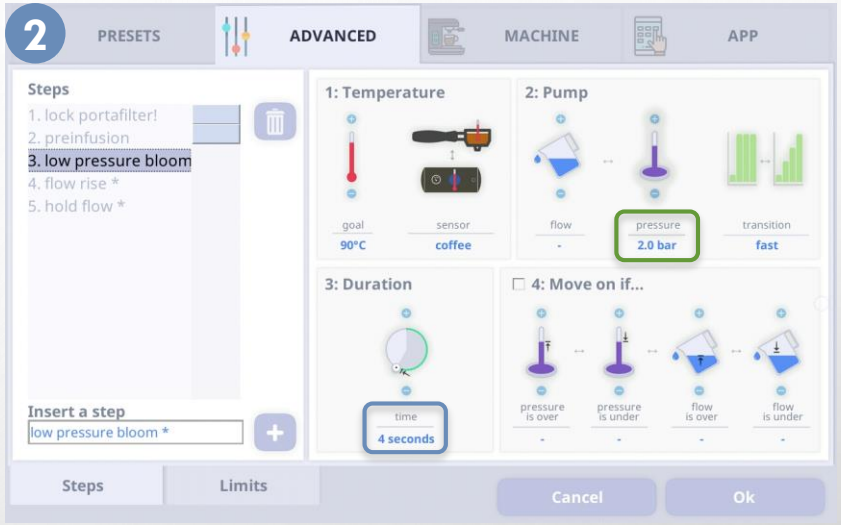
- Single dosing of frozen beans ground in a double walled stainless steel cup
- VST 15g ridgeless filter baskets
- 13g (2.5 mL/s extractions) or 14g (1.5 mL/s) of ground coffee – brew ratio: 2.4
- **WDT in the basket with a Londinium tool** (and a Decent funnel) – no vertical tapping – gentle raking of the coffee grounds with a hog tool, to obtain a uniform surface
- **Hog puck preparation tool** (thin pikes) in and out of the puck, with a stand to ensure a straight vertical movement (right picture →)
- **The Force Tamper with a 58.35 mm US curved smooth base** – used twice in a row

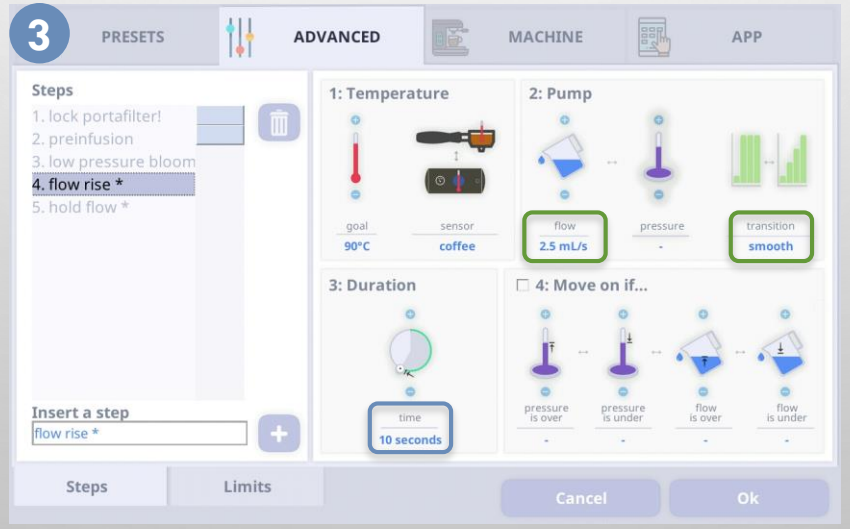
- TDS measurements: Atago PAL zeroed with adjusted Montille water – no filtering of the coffee samples – all samples measured at room temperature after vigorous stirring
  1 data point = average of 3 to 5 measurements of each coffee sample

HYBRID “LEVER-BLOOMING” PROFILE

2.5 ML/S EXTRACTION







- Combination of the Londinium and blooming profiles
- The initial step “lock portafilter!” is optional: it prevents exposure of the puck to the hot machine environment during the final warm-up of the brew water