

Fast Lager Fermentations

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Alternate Seminar Title

How to make lager style beers in time frames typical of ales that are almost indistinguishable from beers made with traditional lager regimens.

Why would we want to do this?

- Need the beer soon
- Equipment shortage
- Save energy
- Return on investment

How did I get into this?

I heard it on the Brewing Network
(about 2005)

Dortmunder Export With Peach
(2005, 2007)

Narziss Lager Fermentation

Commonly described as fermenting 2/3 of the fermentation at 46-50F, then 68F for the final 1/3, then moving to cold storage.
(George Fix, Brewing Techniques, 1993)

Standard Lager Fermentation

Commonly described as fermenting at 46-50F for one to two weeks, followed by a diacetyl rest of 1-2 days at 61-65F, then moving to cold storage.

Modified Narziss Lager Fermentation

Ferment at 46-50F until 50% to terminal gravity, then 51-55F until 75% to terminal gravity, then 56-60F until 90% to terminal gravity, then 61-65F until terminal gravity, then fine, carbonate, and enjoy.

Modified Narziss Lager Fermentation

Temp	Percent Of Fermentation	Percent Of Completion
50F	50	50*
53F	25	75
57F	15	90
62F	10	100

* The replication or growth phase of the fermentation, where esters, diacetyl, and acetaldehyde byproducts are created, takes place at 50F.

Bohemian Pilsner

Batch size: 12 gallons

OG: 1.050

IBU: 38

Mash: 154F Boil: 90 min

92% Weyerman Pilsner

7% Carapils

1% Acidulated

18 IBU Saaz 60 min

16 IBU Saaz 30 min

2 IBU Saaz 10 min

2 IBU Saaz 1 min

WLP833 German Bock (5 liter)



WLP833 GERMAN BOCK LAGER YEAST

Attenuation 70-76%

Flocculation Medium

Optimum Ferment Temp 48-55F

Alcohol Tolerance Medium-High

Narziss Fermentation Plan

Temp	Percent Of Fermentation	Percent Of Completion	Gravity
50F	50	50	1.050
53F	25	75	
57F	15	90	
62F	10	100	???

Force Fermentation Test

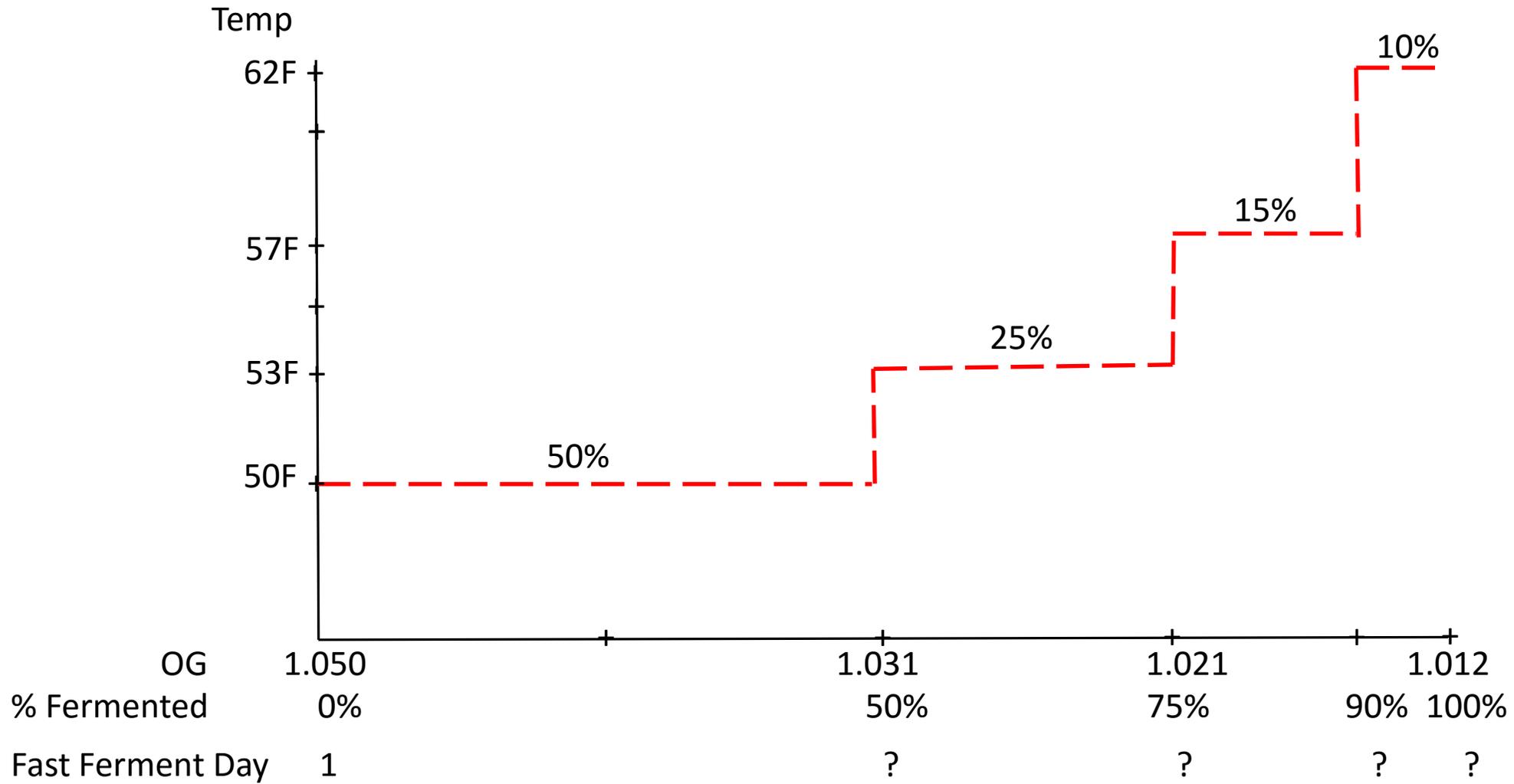
- Fill a container with 6 ounces of wort from the pitched and oxygenated batch.
- Add extra yeast
- Ferment at 76-80F
- Agitate/Stirplate
- Terminal in 24-36 hours



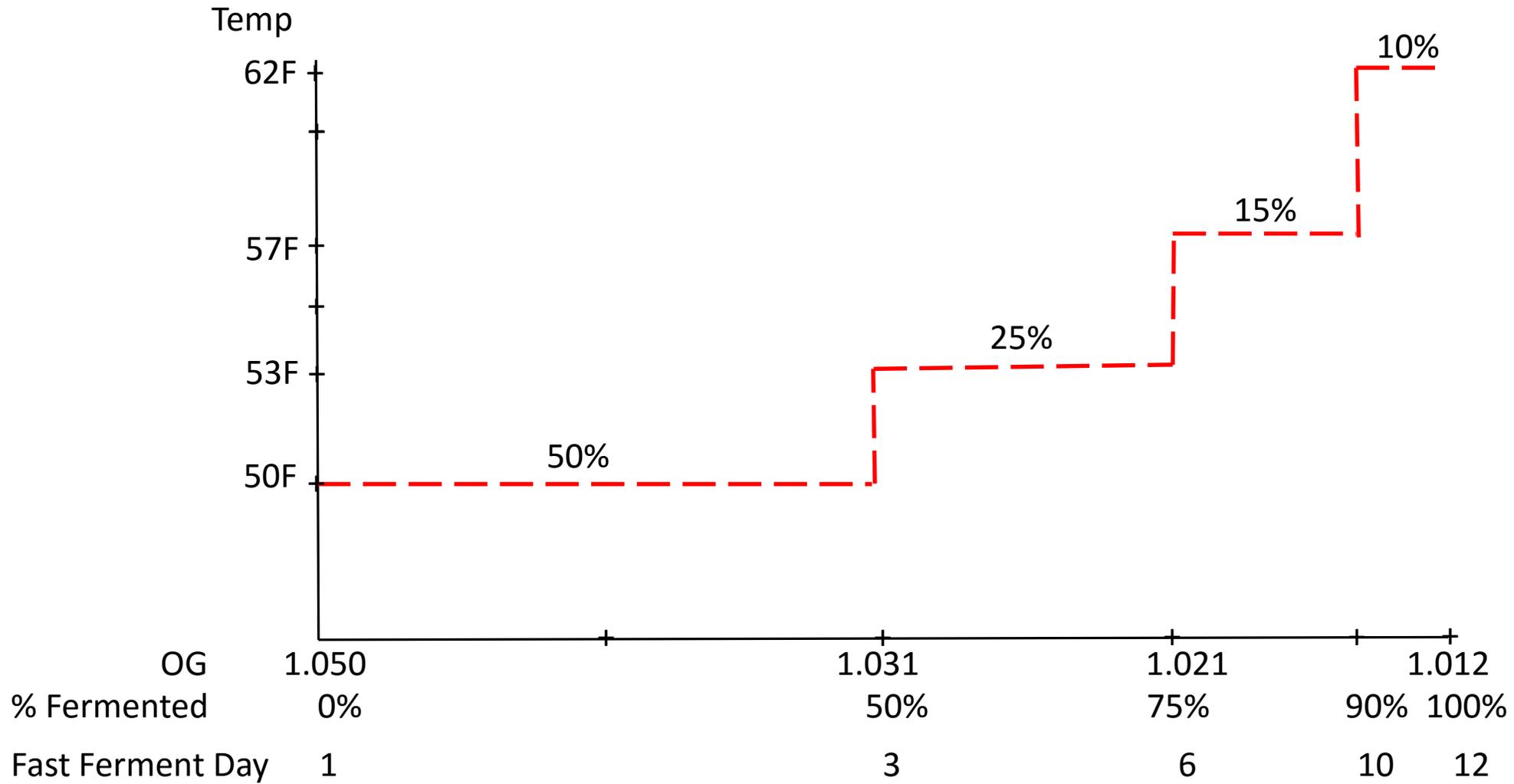
Narziss Fermentation Plan

Temp	Percent Of Fermentation	Percent Of Completion	Gravity
50F	50	50	1.050
53F	25	75	1.031
57F	15	90	1.016
62F	10	100	1.012

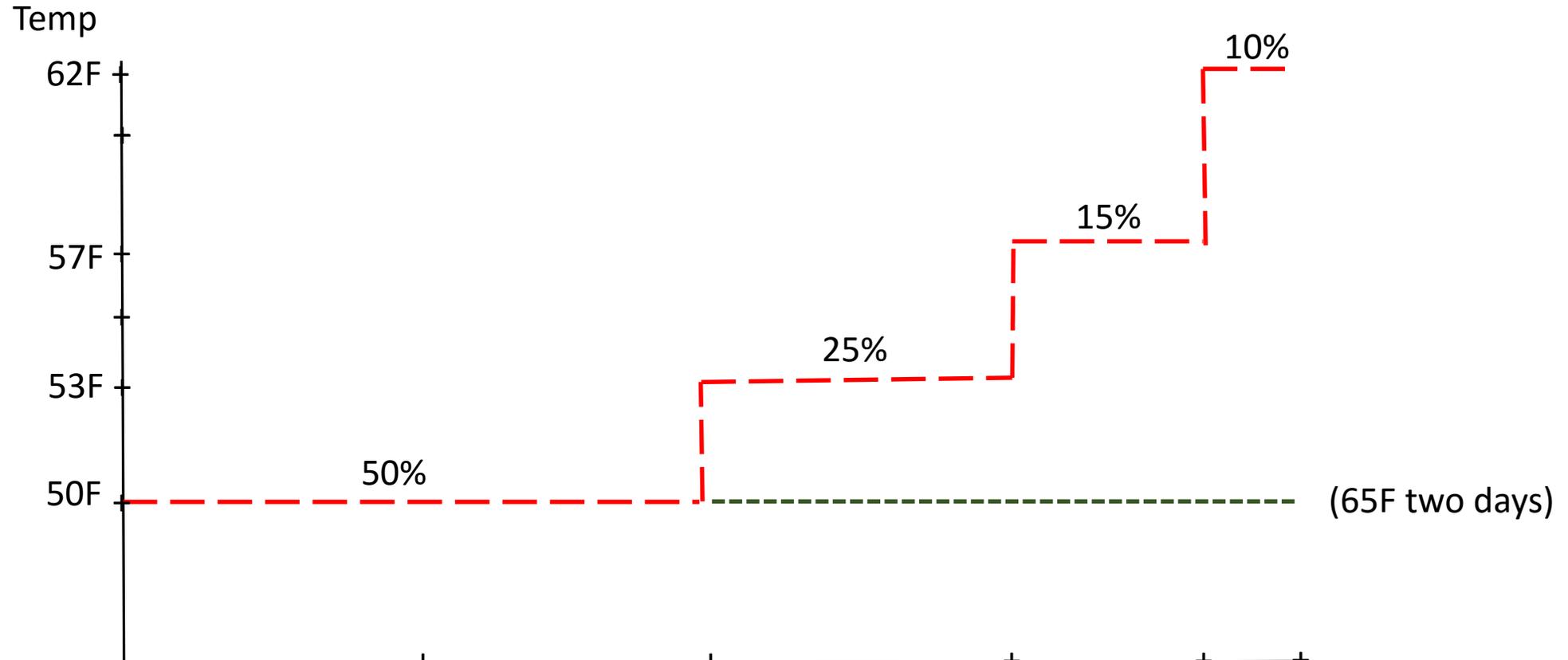
Narziss Fermentation Plan



Narziss Fermentation Plan



Narziss Fermentation Plan



	OG	1.050	1.031	1.021	1.012
% Fermented	0%		50%	75%	90% 100%
Fast Ferment Day	1		3	6	10 12
Std Ferment Day	1		3	7	12 15



Diacetyl Test

- Collect two three ounce samples from the fermentor into covered sanitized containers.
- Put one sample in the refrigerator
- Put the second sample in a 140-160F bath for twenty minutes
- Put the heated sample in the refrigerator
- If you can taste/smell diacetyl in the unheated sample, the beer has diacetyl
- If you can't taste/smell the diacetyl in the unheated sample but you can in the heated sample, the beer has acedolactate.

Labwork (White Labs)

Diacetyl*

Narziss Fermentation .010 ppm

Standard Fermentation .013 ppm

* Flavor threshold .1 ppm

Post Ferment Actions

Standard Fermentation

Ramp the temperature down 5F per day.

Lager at 32-38F for 3 to 5 weeks.

Modified Narziss Fermentation

Crash the beer to 35-38F

Fine or filter

Carbonate

Consume

Questions?





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