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A COMPARISON OF MOLADS OF TISHRI AND REAL NEW MOONS 2

For Selected Historical Years

This page is a follow-up to the directory that examines the 121 years from 1900 to 2020. The format is basically the same. For each year we examine the Molad of Tishri and the date of Tishri 1 against the real new moon conjunction for that month. Then we also examine the date of Nisan 1 against the real new moon conjunction for that month. For years before the 350's A.D. we also look at the time of first visibility of the new crescent.

All the results for each year are then summarized.

If you are looking for the data for a specific year in the past, and it is not included in the list here, just send a request to the webmaster, and I'll be happy to send you the correct data for that year.

It is known that Hillel II established the present Jewish calendar in 358 / 359 A.D., though some minor variations may well have continued in use amongst the Jews into the 1200's A.D.

The sequence in which the seven leap years are intercalated into every 19-year period has a major effect on whether years start earlier or later in the seasons. The Jewish calendar today uses the same sequence that was established by Hillel II. The leap years in this sequence are: 3, 6, 8, 11, 14, 17, and 19. THIS SEQUENCE I will here refer to as "Today's Sequence of Leap Years".

When this sequence is extrapolated back into Old Testament times, it produces some really bad results, meaning that the annual feasts appear completely in the wrong seasons. In an effort to minimize those bad results the Church taught that before approximately 255 A.D. the Jewish calendar was determined according to a different sequence of leap years. That sequence of leap years was claimed to be: 2, 5, 7, 10, 13, 16, and 18. THIS SEQUENCE I will here refer to as "The Alternate Sequence".

To illustrate the problems with the Jewish calendar, for all examples involving years before 255 A.D. I will present the results according to BOTH sequences of leap years. In some cases both sequences of leap years produce the same results, while in other cases they produce results that are one new moon apart. In such cases where there are two different dates, one of those two dates clearly has to be incorrect.

Now for years AFTER 359 A.D. we can accept with reasonable confidence that the dates we calculate according to today's sequence of leap years are the ones that were accepted by the Jews.

HOWEVER, all the dates for the Jewish calendar that we can calculate for years BEFORE 359 A.D. ARE PURELY HYPOTHETICAL!

There is not one shred of evidence that the present calculated Jewish calendar was being used during the First Century A.D., irrespective of which "sequence of leap years" we may wish to talk about. On the other hand, there is a large amount of evidence that during the First Century A.D. the Jews used a calendar which started every month based on "reliable witnesses having seen the first new crescent of the moon", which had nothing to do with any pre-ordained sequence of leap years having to be followed. See the directory with "Quotations From Jewish Authorities" for further information in this regard.

From the examination of the 121 years from 1900 to 2020 we already know that the Jewish calendar achieves an enormously mixed bag of results, including some correct ones. For example, there are MANY YEARS in that 121-year period when the Jewish calendar starts the year in such a way that:

- ALL the Holy Days are based on starting the first and the seventh months on the actual new moon conjunction days;

- ALL the Holy Days are based on starting both, the first and the seventh months, on the days following the new moon conjunction days;

- ALL the Holy Days are based on starting both, the first and the seventh months, two days after the new moon conjunction days;

- The Spring Holy Days are based on starting the first month on the new moon day, but the Autumn Holy Days are based on starting the seventh month one day after the new moon day;

- The Spring Holy Days are based on starting the first month one day before the new moon day, but the Autumn Holy Days are based on starting the seventh month on the new moon day;

- The Spring Holy Days are based on starting the first month one day after the new moon day, but the Autumn Holy Days are based on starting the seventh month on the new moon day;

- the Spring Holy Days are based on starting the first month one day after the new moon day, but the Autumn Holy Days are based on starting the seventh month two days after the new moon day;

- the Spring Holy Days are based on starting the first month two days after the new moon day, but the Autumn Holy Days are based on starting the seventh month one day after the new moon day;

- MOST years (close to 70%) start in the spring, but many years also start in the winter;

- Postponements are, from an astronomical perspective, applied or withheld very randomly to all of the above examples, totally ignoring the relationship between the molads and the real new moons; etc.

As already stated, this is an enormously mixed bag of results. It follows that, whichever of the above configurations someone may promote as correct, it is easy to find examples to support that choice. However, there is no consistency of any kind in trying to establish some meaningful and consistently recognizable link in the Jewish calendar between the start of every month and the actual new moons.

So we need to recognize that in the TOTALLY HYPOTHETICAL examples for years preceding 359 A.D., irrespective of which sequence of leap years may be applied, there is nothing whatsoever that proves the existence of the present calculated Jewish calendar. In those cases where the calculations achieve the same result as was achieved by visual observations of the new crescents, it does nothing to enhance the reputation of "the calculated calendar". It only proves that visual observations were in fact the deciding criterion. In those cases where the calculations achieve a result that differs from the dates based on visual observations, it demonstrates the flaws inherent in the calculated calendar. The present Jewish calendar's only claim to consistency is that it is "consistently inconsistent"! We can depend on that inconsistency!

Theoretical calculations that require the result to achieve a certain day of the week (be it a Wednesday or a Saturday or a Monday, etc.) are nothing more than theoretical nonsense! If those same days of the week can be achieved by starting the months with "the first visibility of the new crescent", THEN we can attach a certain significance to that result. But whether or not theoretical calculations happen to agree

with the results of visual observation of the new crescents is totally immaterial ... as evidenced by the numerous different configurations that are achieved in the 121-year period from 1900 to 2020.

So the hypothetical examples below are presented purely for interest, and because some people, in an effort to drum up some support amongst the churches of God for the calculated Jewish calendar, have tried to gain some mileage out of some of those years.

FIRST VISIBILITY OF THE NEW CRESCENT

It is well documented that during New Testament times and also in late Old Testament times months were started based on reliable witnesses having seen the first new crescent of the moon. Now while in very rare cases visibility of the new crescent may be possible about 17 hours after the conjunction, it is far more reliable to take approximately 18 hours after the time of the lunar conjunction as the guideline for first visibility of the new crescent.

That gives us the following fairly reliable guidelines for determining whether the new crescent was visible immediately after sunset on one specific day, or whether it would only have been visible immediately after sunset the following day. Here are the guidelines:

IF the lunar conjunction took place at any time in the 18 hours between midnight and the end of the day at sunset, around 6:00 p.m. (i.e. between 00:00 a.m. and 6:00 p.m.), THEN first visibility would have been from impossible to highly unlikely at that sunset following the conjunction. In that case first visibility would only have been possible immediately after the second sunset following the conjunction.

BUT IF the lunar conjunction took place at any time in the 6 hours between sunset and midnight (i.e. between approximately 6:00 p.m. and 11:59 p.m.), THEN first visibility would have been from guaranteed to highly likely (barring adverse atmospheric conditions) immediately after the sunset following the conjunction.

Now for those cases where the lunar conjunction actually occurred in the two hour border period between 11:00 p.m. and 1:00 a.m. a closer scrutiny of the exact data will give us the correct answer. But for all other times of conjunction the answers will be immediately apparent.

With these guidelines we will then also examine first visibility of the new crescent for the years preceding the 350's A.D.

Three points to keep in mind in all of the examples below:

1) All the times below are given in local Jerusalem time, which is 2 hours 21 minutes ahead of Greenwich Mean Time.

2) In order to accurately determine sunset times for specific dates, we need to convert Julian dates into Gregorian dates, in which calendar sunset times stay fairly consistent for the same day of the month in different years. In the Julian calendar, because it drifts away from the seasons, sunset times for the same day of the month can vary considerably. For example: sunset time on September 1 in 515 B.C. is really the same as sunset time on August 25 in the Gregorian calendar, but sunset time on September 1 in 1500 A.D. according to the Julian calendar is really the same as sunset time on September 11 in the Gregorian calendar. So the difference in sunset times for September 1 in the Julian calendar may differ by over 20 minutes between 515 B.C. and 1500 A.D. These differences have been taken into account in the evaluation of sunset times in the examples below.

To make this quite clear: There are three purposes for showing the corresponding Gregorian dates.

The first purpose is to help us establish whether the year started in the spring or whether it started in the winter. For example a Julian calendar date of March 23 for Nisan 1 would seem to be safely within spring; however if that date in Gregorian calendar terms is only March 19, then we would immediately see that it was in fact still before the end of winter.

The second purpose for providing the corresponding Gregorian calendar dates is to help us establish in borderline cases whether a lunar conjunction took place shortly before sunset, or whether it only took place shortly after sunset, since we can establish sunset times for Jerusalem fairly accurately if we know the specific day of the month in Gregorian calendar terms.

The third purpose for the Gregorian dates is to allow for a meaningful comparison between the new moons that were selected in past centuries to start the year, and the new moons that are today selected to start the year.

3) The "dates of first visibility" refer to the day that started at sunset the previous evening. Thus a "date of first visibility" of "September 2" means that first visibility of the new crescent was possible immediately after sunset on September 1. Think of the days for first visibility in the same way as we usually present dates for Passover, where we always make the note "Observed after sunset the previous evening". The dates for first visibility carry the same implied note of "Observed after sunset the previous evening".

The times for the new moon conjunctions are taken from the Astro-Calendar of the Online Bible, produced by Larry Pierce. Where the times applying to the past 100 years are accurate to within two minutes, the times for dates in the first millennium B.C. are claimed to be accurate to within 5 minutes. That is certainly accurate enough for our purposes.

In the data below all dates prior to 1600 A.D. are in the Julian calendar, except where it explicitly states "Tishri 1 Gregorian Date" and "Nisan 1 Gregorian date".

Here are these historical years I have chosen as examples:

YEAR: 515 B.C. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 31, at 5:29:43 p.m.

TISHRI 1:

September 1

TISHRI 1 GREGORIAN DATE:

August 26

ACTUAL 7TH NEW MOON:

August 31, at 2:52 a.m.

DATE OF FIRST VISIBILITY:

September 2

NISAN 1:

March 8

ACTUAL 1ST NEW MOON:

March 8, at 0:07 a.m.

DATE OF FIRST VISIBILITY:

March 9

NISAN 1 GREGORIAN DATE:

March 2, 6 days earlier than Julian

EVALUATION OF DATA FOR 515 B.C.:

1) The Molad of Tishri was over 2 hours AFTER the new moon, but still on the same day as the new moon.

2) Tishri 1 was on the day AFTER the new moon conjunction.

3) Nisan 1 was ON the actual new moon day.

4) This Jewish year started 19 days before the end of winter.

5) No postponements were applied for this year.

6) For 515 B.C. the annual Feasts and Holy Days would have been observed based on starting Nisan on the new moon day, and starting Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started one day before first visibility.

YEAR: 515 B.C. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

September 30, at 6:13:47 a.m.

TISHRI 1:

October 1

TISHRI 1 GREGORIAN DATE:

September 25

ACTUAL 7TH NEW MOON:

September 29, at 6:00 p.m.

DATE OF FIRST VISIBILITY:

October 1

NISAN 1:

April 7

ACTUAL 1ST NEW MOON:

April 6, at 8:44 a.m.

DATE OF FIRST VISIBILITY:

April 8

NISAN 1 GREGORIAN DATE:

April 1, 6 days earlier than Julian

EVALUATION OF DATA FOR 515 B.C.:

1) The Molad of Tishri was over 12 hours AFTER the new moon. Sunset on September 29 was likely to have been at 5:55 p.m., so the new moon conjunction at 6:00 p.m. was therefore at the very beginning of September 30.

2) Tishri 1 was on the day AFTER the new moon conjunction.

3) Nisan 1 was on the day AFTER the new moon day.

4) This Jewish year started in the spring.

5) A one day postponement was applied to the Molad date.

6) For 515 B.C. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, Nisan started one day before first visibility, and Tishri started on the day of first visibility.

8) Comparing the two leap year sequences: Clearly the Alternate Sequence is superior to Today's Sequence, which would have started the year 19 days before the end of winter.

YEAR: 458 B.C. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 31, at 7:08:53 p.m.

TISHRI 1:

September 2

TISHRI 1 GREGORIAN DATE:

August 28

ACTUAL 7TH NEW MOON:

August 31, at 10:24 p.m.

DATE OF FIRST VISIBILITY:

September 2

NISAN 1:

March 9

ACTUAL 1ST NEW MOON:

March 7, at 1:34 p.m.

DATE OF FIRST VISIBILITY:

March 9

NISAN 1 GREGORIAN DATE:

March 4, 5 days earlier than Julian

EVALUATION OF DATA FOR 458 B.C.:

1) The Molad of Tishri was over 3 hours BEFORE the new moon, but still on the new moon day.

2) Tishri 1 was on the day AFTER the new moon conjunction.

3) Nisan 1 was two days AFTER the new moon day.

4) This Jewish year started 17 days before the end of winter.

5) A one day postponement was applied to the Molad date.

6) For 458 B.C. the annual Feasts and Holy Days would have been observed based on starting Nisan two days after the new moon day, and starting Tishri one day after the new moon.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started on the day of first visibility.

YEAR: 458 B.C. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

September 30, at 7:52:57 a.m.

TISHRI 1:

September 30

TISHRI 1 GREGORIAN DATE:

August 28

ACTUAL 7TH NEW MOON:

September 30, at 8:33 a.m.

DATE OF FIRST VISIBILITY:

October 2

NISAN 1:

April 6

ACTUAL 1ST NEW MOON:

April 6, at 5:46 a.m.

DATE OF FIRST VISIBILITY:

April 8

NISAN 1 GREGORIAN DATE:

April 1, 5 days earlier than Julian

EVALUATION OF DATA FOR 458 B.C.:

1) The Molad of Tishri was within one hour of the new moon and on the new moon day.

2) Tishri 1 was ON the day of the new moon conjunction.

3) Nisan 1 was also ON the day of the new moon conjunction.

4) This Jewish year started in the spring.

5) No postponements were applied for this year.

6) For 458 B.C. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri on the new moon day.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started two days before first visibility.

8) Comparing the two leap year sequences: Clearly the Alternate Sequence is superior to Today's Sequence, which would have started the year 17 days before the end of winter.

YEAR: 420 B.C. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 31, at 4:15:00 a.m.

TISHRI 1:

September 1

TISHRI 1 GREGORIAN DATE:

August 27

ACTUAL 7TH NEW MOON:

August 31, at 2:25 a.m.

DATE OF FIRST VISIBILITY:

September 2

NISAN 1:

March 8

ACTUAL 1ST NEW MOON:

March 6, at 9:28 p.m.

DATE OF FIRST VISIBILITY:

March 8

NISAN 1 GREGORIAN DATE:

March 3, 5 days earlier than Julian

EVALUATION OF DATA FOR 420 B.C.:

1) The Molad of Tishri was less than two hours after the new moon, and on the new moon day.

2) Tishri 1 was one day AFTER the new moon conjunction.

3) Nisan 1 was also one day AFTER the new moon conjunction.

4) This Jewish year started 18 days before the end of winter.

5) A one day postponement was applied to the Molad date.

6) For 420 B.C. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, Nisan started on the day of first visibility, and Tishri

started one day before first visibility.

YEAR: 420 B.C. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

September 29, at 4:59:03 p.m.

TISHRI 1:

October 1

TISHRI 1 GREGORIAN DATE:

September 26

ACTUAL 7TH NEW MOON:

September 29, at 7:34 p.m.

DATE OF FIRST VISIBILITY:

October 1

NISAN 1:

April 7

ACTUAL 1ST NEW MOON:

April 5, at 6:41 a.m.

DATE OF FIRST VISIBILITY:

April 7

NISAN 1 GREGORIAN DATE:

April 2, 5 days earlier than Julian

EVALUATION OF DATA FOR 420 B.C.:

1) The Molad of Tishri was over two hours BEFORE the new moon, and this placed the molad one the day before the new moon. Where 4:59 p.m. was before sunset, 7:34 p.m. was after sunset.

2) Tishri 1 was on the day AFTER the new moon conjunction.

3) Nisan 1 was two days AFTER the day of the new moon conjunction.

4) This Jewish year started in the spring.

5) A two day postponement was applied to the Molad date.

6) For 420 B.C. the annual Feasts and Holy Days would have been observed based on starting Nisan two days after the new moon day, and starting Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started on the day of first visibility.

8) Comparing the two leap year sequences: Clearly the Alternate Sequence is superior to Today's Sequence, which would have started the year 18 days before the end of winter.

YEAR: 325 B.C. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 30, at 3:00:17 p.m.

TISHRI 1:

September 1

TISHRI 1 GREGORIAN DATE:

August 27

ACTUAL 7TH NEW MOON:

August 30, at 7:03 p.m.

DATE OF FIRST VISIBILITY:

September 1

NISAN 1:

March 8

ACTUAL 1ST NEW MOON:

March 6, at 7:39 a.m.

DATE OF FIRST VISIBILITY:

March 8

NISAN 1 GREGORIAN DATE:

March 3, 5 days earlier than Julian

EVALUATION OF DATA FOR 325 B.C.:

1) The Molad of Tishri was 4 hours before the new moon, and this placed the molad one the day before the new moon. Where 3:00 p.m. was before sunset, 7:03 p.m. was after sunset.

2) Tishri 1 was one day AFTER the new moon conjunction.

3) Nisan 1 was two days AFTER the new moon conjunction.

4) This Jewish year started 18 days before the end of winter.

5) A two day postponement was applied to the Molad date.

6) For 325 B.C. the annual Feasts and Holy Days would have been observed based on starting Nisan two days after the new moon day, and starting Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started on the day of first visibility.

YEAR: 325 B.C. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

September 29, at 3:44:20 a.m.

TISHRI 1:

September 29

TISHRI 1 GREGORIAN DATE:

September 24

ACTUAL 7TH NEW MOON:

September 29, at 5:36 a.m.

DATE OF FIRST VISIBILITY:

October 1

NISAN 1:

April 5

ACTUAL 1ST NEW MOON:

April 4, at 11:17 p.m.

DATE OF FIRST VISIBILITY:

April 6

NISAN 1 GREGORIAN DATE:

March 31, 5 days earlier than Julian

EVALUATION OF DATA FOR 325 B.C.:

1) The Molad of Tishri was almost two hours BEFORE the new moon, but still on the new moon day.

2) Tishri 1 was ON the day of the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started in the spring.

5) No postponements were applied for this year.

6) For 325 B.C. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri on the new moon days.

7) Regarding first visibility of the new crescent, Nisan started one day before first visibility, and Tishri started two days before first visibility.

8) Comparing the two leap year sequences: Clearly the Alternate Sequence is superior to Today's Sequence, which would have started the year 18 days before the end of winter.

YEAR: 249 B.C. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 30, at 9:12:30 a.m.

TISHRI 1:

August 30

TISHRI 1 GREGORIAN DATE:

August 26

ACTUAL 7TH NEW MOON:

August 29, at 6:50 p.m.

DATE OF FIRST VISIBILITY:

August 31

NISAN 1:

March 6

ACTUAL 1ST NEW MOON:

March 6, at 5:39 p.m.

DATE OF FIRST VISIBILITY:

March 8

NISAN 1 GREGORIAN DATE:

March 2, 4 days earlier than Julian

EVALUATION OF DATA FOR 249 B.C.:

1) The Molad of Tishri was over 14 hours after the new moon, but still on the new moon day.

2) Tishri 1 was ON the day of the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started 19 days before the end of winter.

5) No postponements were applied for this year.

6) For 249 B.C. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri on the new moon days.

7) Regarding first visibility of the new crescent, Nisan started two days before first visibility, and Tishri started one day before first visibility.

YEAR: 249 B.C. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

September 28, at 9:56:33 p.m.

TISHRI 1:

September 29

TISHRI 1 GREGORIAN DATE:

September 25

ACTUAL 7TH NEW MOON:

September 28, at 7:47 a.m.

DATE OF FIRST VISIBILITY:

September 30

NISAN 1:

April 5

ACTUAL 1ST NEW MOON:

April 5, at 3:24 a.m.

DATE OF FIRST VISIBILITY:

April 7

NISAN 1 GREGORIAN DATE:

April 1, 4 days earlier than Julian

EVALUATION OF DATA FOR 249 B.C.:

1) The Molad of Tishri was over 14 hours after the new moon, but this placed it on the day after the new moon day.

2) Tishri 1 was one day AFTER the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started in the spring.

5) No postponements were applied for this year.

6) For 249 B.C. the annual Feasts and Holy Days would have been observed based on starting Nisan on the day of the new moon, and starting Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, Nisan started two days before first visibility, and Tishri started one day before first visibility.

8) Comparing the two leap year sequences: Clearly the Alternate Sequence is superior to Today's Sequence, which would have started the year 19 days before the end of winter.

YEAR: 167 B.C. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

September 22, at 10:28:53 p.m.

TISHRI 1:

September 23

TISHRI 1 GREGORIAN DATE:

September 20

ACTUAL 7TH NEW MOON:

September 22, at 5:37 p.m.

DATE OF FIRST VISIBILITY:

September 24

NISAN 1:

March 30

ACTUAL 1ST NEW MOON:

March 30, at 2:32 a.m.

DATE OF FIRST VISIBILITY:

April 1

NISAN 1 GREGORIAN DATE:

March 27, 3 days earlier than Julian

EVALUATION OF DATA FOR 167 B.C.:

1) The Molad of Tishri was almost 5 hours after the new moon, and this placed it on the day after the new moon day. (Sunset for September 19 Gregorian is 6:00 p.m., so the new moon was still before sunset.)

2) Tishri 1 was one day AFTER the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started in the spring.

5) No postponements were applied for this year.

6) For 167 B.C. the annual Feasts and Holy Days would have been observed based on starting Nisan on the day of the new moon, and starting Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, Nisan started two days before first visibility, and Tishri started one day before first visibility.

YEAR: 167 B.C. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

September 22, at 10:28:53 p.m.

TISHRI 1:

September 23

TISHRI 1 GREGORIAN DATE:

September 20

ACTUAL 7TH NEW MOON:

September 22, at 5:37 p.m.

DATE OF FIRST VISIBILITY:

September 24

NISAN 1:

March 30

ACTUAL 1ST NEW MOON:

March 30, at 2:32 a.m.

DATE OF FIRST VISIBILITY:

April 1

NISAN 1 GREGORIAN DATE:

March 27, 3 days earlier than Julian

EVALUATION OF DATA FOR 167 B.C.:

For the year 167 B.C. both sequences of leap years produce the same results. That year was year #4 in 19-year cycle #190, and for year #4 the results are always the same for both these sequences of leap years.

YEAR: 78 B.C. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 30, at 2:10:00 p.m.

TISHRI 1:

September 1

TISHRI 1 GREGORIAN DATE:

August 30

ACTUAL 7TH NEW MOON:

August 30, at 3:32 p.m.

DATE OF FIRST VISIBILITY:

September 1

NISAN 1:

March 8

ACTUAL 1ST NEW MOON:

March 6, at 11:39 a.m.

DATE OF FIRST VISIBILITY:

March 8

NISAN 1 GREGORIAN DATE:

March 6, 2 days earlier than Julian

EVALUATION OF DATA FOR 78 B.C.:

1) The Molad of Tishri was about one hour before the new moon and still on the day of the new moon.

2) Tishri 1 was two days AFTER the new moon conjunction.

3) Nisan 1 was two days AFTER the new moon conjunction.

4) This Jewish year started 15 days before the end of winter.

5) A two day postponement was applied to the Molad date.

6) For 78 B.C. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri two days after the new moon day.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started on the day of first visibility.

YEAR: 78 B.C. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

September 29, at 2:54:03 a.m.

TISHRI 1:

September 29

TISHRI 1 GREGORIAN DATE:

September 27

ACTUAL 7TH NEW MOON:

September 29, at 1:08 a.m.

DATE OF FIRST VISIBILITY:

October 1

NISAN 1:

April 5

ACTUAL 1ST NEW MOON:

April 5, at 4:31 a.m.

DATE OF FIRST VISIBILITY:

April 7

NISAN 1 GREGORIAN DATE:

April 3, 2 days earlier than Julian

EVALUATION OF DATA FOR 78 B.C.:

1) The Molad of Tishri was over one hour after the new moon, and it was on the new moon day.

2) Tishri 1 was ON the day of the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started in the spring.

5) No postponements were applied for this year.

6) For 78 B.C. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri on the day of the new moon.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started two days before first visibility.

8) Comparing the two leap year sequences: Clearly the Alternate Sequence is superior to Today's Sequence, which would have started the year 15 days before the end of winter.

YEAR: 21 B.C. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 29, at 3:49:10 p.m.

TISHRI 1:

August 30

TISHRI 1 GREGORIAN DATE:

August 28

ACTUAL 7TH NEW MOON:

August 29, at 7:50 a.m.

DATE OF FIRST VISIBILITY:

August 31

NISAN 1:

March 6

ACTUAL 1ST NEW MOON:

March 5, at 2:14 p.m.

DATE OF FIRST VISIBILITY:

March 7

NISAN 1 GREGORIAN DATE:

March 4, 2 days before Julian

EVALUATION OF DATA FOR 21 B.C.:

1) The Molad of Tishri was about 8 hours after the new moon, but still on the new moon day.

2) Tishri 1 was one day AFTER the new moon conjunction.

3) Nisan 1 was one day AFTER the new moon conjunction.

4) This Jewish year started 17 days before the end of winter.

5) A one day postponement was applied to the Molad date.

6) For 21 B.C. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started one day before first visibility.

YEAR: 21 B.C. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

September 28, at 4:33:13 a.m.

TISHRI 1:

September 29

TISHRI 1 GREGORIAN DATE:

September 27

ACTUAL 7TH NEW MOON:

September 28, at 1:39 a.m.

DATE OF FIRST VISIBILITY:

September 30

NISAN 1:

April 5

ACTUAL 1ST NEW MOON:

April 3, at 10:29 p.m.

DATE OF FIRST VISIBILITY:

April 5

NISAN 1 GREGORIAN DATE:

April 3, 2 days before Julian

EVALUATION OF DATA FOR 21 B.C.:

1) The Molad of Tishri was about 3 hours after the new moon, and it was on the new moon day.

2) Tishri 1 was one day AFTER the new moon conjunction.

3) Nisan 1 was one day AFTER the new moon conjunction.

4) This Jewish year started in the spring.

5) A one day postponement was applied to the Molad date.

6) For 21 B.C. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, Nisan started on the day of first visibility, and Tishri started one day before first visibility.

8) Comparing the two leap year sequences: Clearly the Alternate Sequence is superior to Today's Sequence, which would have started the year 17 days before the end of winter.

YEAR: 5 B.C. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

September 1, at 5:12:10 p.m.

TISHRI 1:

September 2

TISHRI 1 GREGORIAN DATE:

August 31

ACTUAL 7TH NEW MOON:

September 1, at 8:30 p.m.

DATE OF FIRST VISIBILITY:

September 3

NISAN 1:

March 9

ACTUAL 1ST NEW MOON:

March 8, at 7:07 a.m.

DATE OF FIRST VISIBILITY:

March 10

NISAN 1 GREGORIAN DATE:

March 7, 2 days earlier than Julian

EVALUATION OF DATA FOR 5 B.C.:

1) The Molad of Tishri was over 3 hours before the new moon, and it on the day before the new moon day.

2) Tishri 1 was ON the day of the new moon conjunction.

3) Nisan 1 was one day AFTER the new moon conjunction.

4) This Jewish year started 14 days before the end of winter.

5) A one day postponement was applied to the Molad date.

6) For 5 B.C. the annual Feasts and Holy Days would have been observed based on starting Nisan one day after the new moon day, and starting Tishri on the new moon day.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started one day before the day of first visibility.

YEAR: 5 B.C. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

October 1, at 5:56:13 a.m.

TISHRI 1:

October 2

TISHRI 1 GREGORIAN DATE:

September 30

ACTUAL 7TH NEW MOON:

October 1, at 11:36 a.m.

DATE OF FIRST VISIBILITY:

October 3

NISAN 1:

April 8

ACTUAL 1ST NEW MOON:

April 6, at 7:13 p.m.

DATE OF FIRST VISIBILITY:

April 8

NISAN 1 GREGORIAN DATE:

April 6, 2 days earlier than Julian

EVALUATION OF DATA FOR 5 B.C.:

1) The Molad of Tishri was over 5 hours before the new moon, and it was on the new moon day.

2) Tishri 1 was one day AFTER the new moon conjunction.

3) Nisan 1 was one day AFTER the new moon conjunction.

4) This Jewish year started in the spring.

5) A one day postponement was applied to the Molad date.

6) For 5 B.C. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, Nisan started on the day of first visibility, and Tishri started one day before first visibility.

8) Comparing the two leap year sequences: Clearly the Alternate Sequence is superior to Today's Sequence, which would have started the year 14 days before the end of winter.

YEAR: 26 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 31, at 1:36:47 p.m.

TISHRI 1:

September 2

TISHRI 1 GREGORIAN DATE:

August 31

ACTUAL 7TH NEW MOON:

August 30, at 11:20 p.m.

DATE OF FIRST VISIBILITY:

September 1

NISAN 1:

March 9

ACTUAL 1ST NEW MOON:

March 7, at 9:40 p.m.

DATE OF FIRST VISIBILITY:

March 9

NISAN 1 GREGORIAN DATE:

March 7, 2 days earlier than Julian

EVALUATION OF DATA FOR 26 A.D.:

1) The Molad of Tishri was over 14 hours after the new moon, and it was on the new moon day.

2) Tishri 1 was two days AFTER the new moon conjunction.

3) Nisan 1 was one day AFTER the new moon conjunction.

4) This Jewish year started 14 days before the end of winter.

5) A two day postponement was applied to the Molad date.

6) For 26A.D. the annual Feasts and Holy Days would have been observed based on starting Nisan one day after the new moon day, and starting Tishri two days after the new moon day.

7) Regarding first visibility of the new crescent, Nisan started on the day of first visibility, and Tishri started one day after first visibility.

YEAR: 26 A.D. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

September 30, at 2:20:50 a.m.

TISHRI 1:

September 30

TISHRI 1 GREGORIAN DATE:

September 28

ACTUAL 7TH NEW MOON:

September 29, at 1:18 p.m.

DATE OF FIRST VISIBILITY:

October 1

NISAN 1:

April 6

ACTUAL 1ST NEW MOON:

April 6, at 6:51 a.m.

DATE OF FIRST VISIBILITY:

April 8

NISAN 1 GREGORIAN DATE:

April 4, 2 days earlier than Julian

EVALUATION OF DATA FOR 26 A.D.:

1) The Molad of Tishri was over 13 hours after the new moon, and it was on the day following the new moon day.

2) Tishri 1 was one day AFTER the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started in the spring.

5) No postponements were applied for this year.

6) For 26 A.D. the annual Feasts and Holy Days would have been observed based on starting Nisan on the new moon day, and starting Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, Nisan started two days before first visibility, and Tishri started one day before first visibility.

8) Comparing the two leap year sequences: Clearly the Alternate Sequence is superior to Today's Sequence, which would have started the year 14 days before the end of winter.

YEAR: 27 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

September 19, at 11:09:30 a.m.

TISHRI 1:

September 20

TISHRI 1 GREGORIAN DATE:

September 18

ACTUAL 7TH NEW MOON:

September 18, at 10:17 p.m.

DATE OF FIRST VISIBILITY:

September 20

NISAN 1:

March 27

ACTUAL 1ST NEW MOON:

March 26, at 8:19 p.m.

DATE OF FIRST VISIBILITY:

March 28

NISAN 1 GREGORIAN DATE:

March 25, 2 days earlier than Julian

EVALUATION OF DATA FOR 27 A.D.:

1) The Molad of Tishri was about 13 hours after the new moon, and it was on the new moon day.

2) Tishri 1 was one day AFTER the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started in the spring.

5) A one day postponement was applied to the Molad date.

6) For 27 A.D. the annual Feasts and Holy Days would have been observed based on starting Nisan on the new moon day, and starting Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, Nisan started one day before first visibility, and Tishri started one day before first visibility.

YEAR: 27 A.D. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

September 19, at 11:09:30 a.m.

TISHRI 1:

September 20

TISHRI 1 GREGORIAN DATE:

September 18

ACTUAL 7TH NEW MOON:

September 18, at 10:17 p.m.

DATE OF FIRST VISIBILITY:

September 20

NISAN 1:

March 27

ACTUAL 1ST NEW MOON:

March 26, at 8:19 p.m.

DATE OF FIRST VISIBILITY:

March 28

NISAN 1 GREGORIAN DATE:

March 25, 2 days earlier than Julian

EVALUATION OF DATA FOR 27 A.D.:

For the year 27 A.D. both sequences of leap years produce the same results. That year was year #7 in 19-year cycle #200, and for year #7 the results are always the same for both these sequences of leap years.

YEAR: 30 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

September 16, at 2:19:33 a.m.

TISHRI 1:

September 16

TISHRI 1 GREGORIAN DATE:

September 14

ACTUAL 7TH NEW MOON:

September 16, at 5:34 a.m.

DATE OF FIRST VISIBILITY:

September 18

NISAN 1:

March 23

ACTUAL 1ST NEW MOON:

March 22, at 8:09 p.m.

DATE OF FIRST VISIBILITY:

March 24

NISAN 1 GREGORIAN DATE:

March 21, 2 days earlier than Julian

EVALUATION OF DATA FOR 30 A.D.:

1) The Molad of Tishri was about 3 hours before the new moon, and it was on the new moon day.

2) Tishri 1 was ON the day of the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started barely in the spring.

5) No postponements were applied for this year.

6) For 30 A.D. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri on the new moon day.

7) Regarding first visibility of the new crescent, Nisan started one day before first visibility, and Tishri started two days before first visibility.

YEAR: 30 A.D. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

September 16, at 2:19:33 a.m.

TISHRI 1:

September 16

TISHRI 1 GREGORIAN DATE:

September 14

ACTUAL 7TH NEW MOON:

September 16, at 5:34 a.m.

DATE OF FIRST VISIBILITY:

September 18

NISAN 1:

March 23

ACTUAL 1ST NEW MOON:

March 22, at 8:09 p.m.

DATE OF FIRST VISIBILITY:

March 24

NISAN 1 GREGORIAN DATE:

March 21, 2 days earlier than Julian

EVALUATION OF DATA FOR 30 A.D.:

For the year 30 A.D. both sequences of leap years produce the same results. That year was year #10 in 19-year cycle #200, and for year #10 the results are always the same for both these sequences of leap years.

YEAR: 31 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

September 5, at 11:08:13 a.m.

TISHRI 1:

September 6

TISHRI 1 GREGORIAN DATE:

September 4

ACTUAL 7TH NEW MOON:

September 5, at 3:40 p.m.

DATE OF FIRST VISIBILITY:

September 7

NISAN 1:

March 13

ACTUAL 1ST NEW MOON:

March 12, at 00:43 a.m.

DATE OF FIRST VISIBILITY:

March 14

NISAN 1 GREGORIAN DATE:

March 11, 2 days earlier than Julian

EVALUATION OF DATA FOR 31 A.D.:

1) The Molad of Tishri was over 4 hours before the new moon, and it was on the new moon day.

2) Tishri 1 was one day AFTER the day of the new moon conjunction.

3) Nisan 1 was one day AFTER the day of the new moon conjunction.

4) This Jewish year started 10 days before the end of winter.

5) A one day postponement was applied to the Molad date.

6) For 31 A.D. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started one day before first visibility.

YEAR: 31 A.D. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

October 4, at 11:52:17 p.m.

TISHRI 1:

October 6

TISHRI 1 GREGORIAN DATE:

October 4

ACTUAL 7TH NEW MOON:

October 5, at 5:12 a.m.

DATE OF FIRST VISIBILITY:

October 7

NISAN 1:

April 12

ACTUAL 1ST NEW MOON:

April 10, at 1:56 p.m.

DATE OF FIRST VISIBILITY:

April 12

NISAN 1 GREGORIAN DATE:

April 10, 2 days earlier than Julian

EVALUATION OF DATA FOR 31 A.D.:

1) The Molad of Tishri was over 5 hours before the new moon, and it was on the new moon day.

2) Tishri 1 was one day AFTER the day of the new moon conjunction.

3) Nisan 1 was two days AFTER the day of the new moon conjunction.

4) This Jewish year started in the spring.

5) A one day postponement was applied to the Molad date.

6) For 31 A.D. the annual Feasts and Holy Days would have been observed based on starting Nisan two days after the new moon day, and starting Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, Nisan started on the day of first visibility, and Tishri started one day before first visibility.

8) Comparing the two leap year sequences: Clearly the Alternate Sequence is superior to Today's Sequence, which would have started the year 10 days before the end of winter.

YEAR: 66 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

September 8, at 5:04:17 a.m.

TISHRI 1:

September 8

TISHRI 1 GREGORIAN DATE:

September 6

ACTUAL 7TH NEW MOON:

September 8, at 10:11 a.m.

DATE OF FIRST VISIBILITY:

September 10

NISAN 1:

March 15

ACTUAL 1ST NEW MOON:

March 14, at 7:42 p.m.

DATE OF FIRST VISIBILITY:

March 16

NISAN 1 GREGORIAN DATE:

March 13, 2 days earlier than Julian

EVALUATION OF DATA FOR 66 A.D.:

1) The Molad of Tishri was over 5 hours before the new moon, and it was on the new moon day.

2) Tishri 1 was ON the day of the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started 8 days before the end of winter.

5) No postponements were applied for this year.

6) For 66 A.D. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri on the new moon days.

7) Regarding first visibility of the new crescent, Nisan started one day before first visibility, and Tishri started two days before first visibility.

YEAR: 66 A.D. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

October 7, at 5:48:20 p.m.

TISHRI 1:

October 9

TISHRI 1 GREGORIAN DATE:

October 7

ACTUAL 7TH NEW MOON:

October 7, at 10:07 p.m.

DATE OF FIRST VISIBILITY:

October 9

NISAN 1:

April 15

ACTUAL 1ST NEW MOON:

April 13, at 9:56 a.m.

DATE OF FIRST VISIBILITY:

April 15

NISAN 1 GREGORIAN DATE:

April 13, 2 days earlier than Julian

EVALUATION OF DATA FOR 66 A.D.:

1) The Molad of Tishri was over 4 hours before the new moon, and it was just barely still on the new moon day. (October 5 Gregorian sunset in Jerusalem is at 5:40 p.m.)

2) Tishri 1 was one day AFTER the day of the new moon conjunction.

3) Nisan 1 was two days AFTER the day of the new moon conjunction.

4) This Jewish year started in the spring.

5) A two day postponement was applied to the Molad date.

[COMMENT: The Jewish calculations always assume a 6:00 p.m. sunset time. Therefore they reckoned 5:48 p.m. as part of October 7. In actual fact on October 7 Julian (or October 5 Gregorian) sunset was at 5:40 p.m. and therefore 5:48 p.m. was already part of October 8. So while the Jewish calendar technically ascribed the molad to the wrong day, in actual fact the molad was still on the new moon day. Anyway, the Jewish calendar always postpones all molad times between noon and 6:00 p.m. to the next day; and so it makes no difference to their final results if they make a wrong decision about a molad time that is either just before or just after sunset.]

6) For 66 A.D. the annual Feasts and Holy Days would have been observed based on starting Nisan two days after the new moon day, and starting Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started on the day of first visibility.

8) Comparing the two leap year sequences: Clearly the Alternate Sequence is superior to Today's Sequence, which would have started the year 8 days before the end of winter.

YEAR: 69 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

September 4, at 8:14:20 p.m.

TISHRI 1:

September 5

TISHRI 1 GREGORIAN DATE:

September 3

ACTUAL 7TH NEW MOON:

September 4, at 9:16 a.m.

DATE OF FIRST VISIBILITY:

September 6

NISAN 1:

March 12

ACTUAL 1ST NEW MOON:

March 11, at 8:38 p.m.

DATE OF FIRST VISIBILITY:

March 13

NISAN 1 GREGORIAN DATE:

March 10, 2 days earlier than Julian

EVALUATION OF DATA FOR 69 A.D.:

1) The Molad of Tishri was about 11 hours after the new moon, and it was on the day after the new moon day.

2) Tishri 1 was one day AFTER the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started 11 days before the end of winter.

5) No postponements were applied for this year.

6) For 69 A.D. the annual Feasts and Holy Days would have been observed based on starting Nisan on the new moon day, and starting Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started one day before first visibility.

YEAR: 69 A.D. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

October 4, at 8:58:23 a.m.

TISHRI 1:

October 5

TISHRI 1 GREGORIAN DATE:

October 3

ACTUAL 7TH NEW MOON:

October 4, at 3:05 a.m.

DATE OF FIRST VISIBILITY:

October 6

NISAN 1:

April 11

ACTUAL 1ST NEW MOON:

April 10, at 4:41 a.m.

DATE OF FIRST VISIBILITY:

April 12

NISAN 1 GREGORIAN DATE:

April 9, 2 days earlier than Julian

EVALUATION OF DATA FOR 69 A.D.:

1) The Molad of Tishri was over 5 hours after the new moon, and it was on the new moon day.

2) Tishri 1 was one day AFTER the day of the new moon conjunction.

3) Nisan 1 was one day AFTER the day of the new moon conjunction.

4) This Jewish year started in the spring.

5) A one day postponement was applied to the Molad date.

6) For 69 A.D. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started one day before first visibility.

8) Comparing the two leap year sequences: Clearly the Alternate Sequence is superior to Today's Sequence, which would have started the year 11 days before the end of winter.

YEAR: 70 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

September 23, at 5:47:03 p.m.

TISHRI 1:

September 24

TISHRI 1 GREGORIAN DATE:

September 22

ACTUAL 7TH NEW MOON:

September 23, at 4:32 a.m.

DATE OF FIRST VISIBILITY:

September 25

NISAN 1:

March 31

ACTUAL 1ST NEW MOON:

March 30, at 9:42 p.m.

DATE OF FIRST VISIBILITY:

April 1

NISAN 1 GREGORIAN DATE:

March 29, 2 days earlier than Julian

EVALUATION OF DATA FOR 70 A.D.:

1) The Molad of Tishri was over 13 hours after the new moon, and still barely on the new moon day. [On September 23 Julian sunset would have been at 5:58 p.m.]

2) Tishri 1 was one day AFTER the day of the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started in the spring.

5) A one day postponement was applied to the Molad date.

6) For 70 A.D. the annual Feasts and Holy Days would have been observed based on starting Nisan on the new moon day, and starting Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started one day before first visibility.

YEAR: 70 A.D. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

September 23, at 5:47:03 p.m.

TISHRI 1:

September 24

TISHRI 1 GREGORIAN DATE:

September 22

ACTUAL 7TH NEW MOON:

September 23, at 4:32 a.m.

DATE OF FIRST VISIBILITY:

September 25

NISAN 1:

March 31

ACTUAL 1ST NEW MOON:

March 30, at 9:42 p.m.

DATE OF FIRST VISIBILITY:

April 1

NISAN 1 GREGORIAN DATE:

March 29, 2 days earlier than Julian

EVALUATION OF DATA FOR 70 A.D.:

For the year 70 A.D. both sequences of leap years produce the same results. That year was year #12 in 19-year cycle #202, and for year #12 the results are always the same for both these sequences of leap years.

YEAR: 132 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 29, at 4:13:37 a.m.

TISHRI 1:

August 29

TISHRI 1 GREGORIAN DATE:

August 28

ACTUAL 7TH NEW MOON:

August 28, at 1:49 p.m.

DATE OF FIRST VISIBILITY:

August 30

NISAN 1:

March 5

ACTUAL 1ST NEW MOON:

March 5, at 11:31 a.m.

DATE OF FIRST VISIBILITY:

March 7

NISAN 1 GREGORIAN DATE:

March 4, 1 day earlier than Julian

EVALUATION OF DATA FOR 132 A.D.:

1) The Molad of Tishri was over 14 hours after the new moon, and it was on the day after the new moon day.

2) Tishri 1 was one day AFTER the day of the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started 17 days before the end of winter.

5) No postponements were applied for this year.

6) For 132 A.D. the annual Feasts and Holy Days would have been observed based on starting Nisan on the new moon day, and starting Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, Nisan started two days before first visibility, and Tishri started one day before first visibility.

YEAR: 132 A.D. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

September 27, at 4:57:40 p.m.

TISHRI 1:

September 28

TISHRI 1 GREGORIAN DATE:

September 27

ACTUAL 7TH NEW MOON:

September 27, at 3:47 a.m.

DATE OF FIRST VISIBILITY:

September 29

NISAN 1:

April 4

ACTUAL 1ST NEW MOON:

April 3, at 8:19 p.m.

DATE OF FIRST VISIBILITY:

April 5

NISAN 1 GREGORIAN DATE:

April 3, 1 day earlier than Julian

EVALUATION OF DATA FOR 132 A.D.:

1) The Molad of Tishri was over 13 hours after the new moon, but it was still on the new moon day.

2) Tishri 1 was one day AFTER the day of the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started in the spring.

5) A one day postponement was applied to the Molad date.

6) For 132 A.D. the annual Feasts and Holy Days would have been observed based on starting Nisan on the new moon day, and starting Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started one day before first visibility.

8) Comparing the two leap year sequences: Clearly the Alternate Sequence is superior to Today's Sequence, which would have started the year 17 days before the end of winter.

YEAR: 246 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 29, at 7:31:57 a.m.

TISHRI 1:

August 29

TISHRI 1 GREGORIAN DATE:

August 29

ACTUAL 7TH NEW MOON:

August 28, at 7:39 p.m.

DATE OF FIRST VISIBILITY:

August 30

NISAN 1:

March 5

ACTUAL 1ST NEW MOON:

March 5, at 9:07 a.m.

DATE OF FIRST VISIBILITY:

March 7

NISAN 1 GREGORIAN DATE:

March 5, same as Julian

EVALUATION OF DATA FOR 246 A.D.:

1) The Molad of Tishri was almost 12 hours after the new moon, but it was still on the new moon day.

2) Tishri 1 was ON the day of the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started 16 days before the end of winter.

5) No postponements were applied for this year.

6) For 246 A.D. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri on the new moon day.

7) Regarding first visibility of the new crescent, Nisan started two days before first visibility, and Tishri started one day before first visibility.

YEAR: 246 A.D. THE ALTERNATE SEQUENCE

MOLAD OF TISHRI:

September 27, at 8:16:00 p.m.

TISHRI 1:

September 28

TISHRI 1 GREGORIAN DATE:

September 28

ACTUAL 7TH NEW MOON:

September 27, at 12:46 p.m.

DATE OF FIRST VISIBILITY:

September 29

NISAN 1:

April 4

ACTUAL 1ST NEW MOON:

April 3, at 5:26 p.m.

DATE OF FIRST VISIBILITY:

April 5

NISAN 1 GREGORIAN DATE:

April 4, same as Julian

EVALUATION OF DATA FOR 246 A.D.:

1) The Molad of Tishri was over 7 hours after the new moon, and it was on the day after the new moon day.

2) Tishri 1 was one day AFTER the day of the new moon conjunction.

3) Nisan 1 was one day AFTER the new moon conjunction. [On April 3 sunset was only at 6:21 p.m.]

4) This Jewish year started in the spring.

5) No postponements were applied for this year.

6) For 246 A.D. the annual Feasts and Holy Days would have been observed based on starting both

Nisan and Tishri one day after the new moon day.

7) Regarding first visibility of the new crescent, both Nisan and Tishri started one day before first visibility.

8) Comparing the two leap year sequences: Clearly the Alternate Sequence is superior to Today's Sequence, which would have started the year 16 days before the end of winter.

A NOTE BEFORE WE CONTINUE!

For years from 360 A.D. onwards we will only examine them in terms of today's sequence of leap years, as nobody has attempted to apply "the alternate sequence" of leap years to such dates for the present Jewish calendar (even though they would produce far better results from a seasonal point of view). Also we will no longer evaluate the dates in terms of "first visibility of the new crescent", since that was from then onwards no longer a consideration for the Jewish calendar. Visual observation of the new crescents had ceased with Hillel II.

To continue with our examination of historical dates:

YEAR: 360 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 28, at 10:50:17 a.m.

TISHRI 1:

August 28

TISHRI 1 GREGORIAN DATE:

August 29

ACTUAL 7TH NEW MOON:

August 28, at 6:01 a.m.

NISAN 1:

March 4

ACTUAL 1ST NEW MOON:

March 4, at 6:17 a.m.

NISAN 1 GREGORIAN DATE:

March 5, 1 day later than Julian

EVALUATION OF DATA FOR 360 A.D.:

1) The Molad of Tishri was over 4 hours after the new moon, and it was on the new moon day.

2) Tishri 1 was ON the day of the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started 16 days before the end of winter.

5) No postponements were applied for this year.

6) For 360 A.D. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri on the new moon day.

YEAR: 379 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 29, at 3:23:20 a.m.

TISHRI 1:

August 29

TISHRI 1 GREGORIAN DATE:

August 30

ACTUAL 7TH NEW MOON:

August 28, at 2:32 p.m.

NISAN 1:

March 5

ACTUAL 1ST NEW MOON:

March 5, at 7:03 a.m.

NISAN 1 GREGORIAN DATE:

March 6, 1 day later than Julian

EVALUATION OF DATA FOR 379 A.D.:

1) The Molad of Tishri was almost 13 hours after the new moon, and it was on the day after the new moon day.

2) Tishri 1 was one day AFTER the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started 15 days before the end of winter.

5) No postponements were applied for this year.

6) For 379 A.D. the annual Feasts and Holy Days would have been observed based on starting Nisan on the new moon day, and starting Tishri one day after the new moon day.

YEAR: 436 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 28, at 5:02:30 a.m.

TISHRI 1:

August 29

TISHRI 1 GREGORIAN DATE:

August 30

ACTUAL 7TH NEW MOON:

August 28, at 5:49 a.m.

NISAN 1:

March 5

ACTUAL 1ST NEW MOON:

March 4, at 3:51 a.m.

NISAN 1 GREGORIAN DATE:

March 6, 1 day later than Julian

EVALUATION OF DATA FOR 436 A.D.:

1) The Molad of Tishri was less than one hour before the new moon, and it was on the new moon day.

2) Tishri 1 was one day AFTER the new moon conjunction.

3) Nisan 1 was one day AFTER the new moon conjunction.

4) This Jewish year started 15 days before the end of winter.

5) A one day postponement was applied to the Molad date.

6) For 436 A.D. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri one day after the new moon day.

YEAR: 550 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 28, at 8:20:50 a.m.

TISHRI 1:

August 29

TISHRI 1 GREGORIAN DATE:

August 31

ACTUAL 7TH NEW MOON:

August 28, at 2:41 a.m.

NISAN 1:

March 5

ACTUAL 1ST NEW MOON:

March 4, at 2:05 p.m.

NISAN 1 GREGORIAN DATE:

March 7, 2 days later than Julian

EVALUATION OF DATA FOR 550 A.D.:

1) The Molad of Tishri was over 5 hours after the new moon, and it was on the new moon day.

2) Tishri 1 was one day AFTER the new moon conjunction.

3) Nisan 1 was one day AFTER the new moon conjunction.

4) This Jewish year started 14 days before the end of winter.

5) A one day postponement was applied to the Molad date.

6) For 550 A.D. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri one day after the new moon day.

YEAR: 664 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 27, at 11:39:10 a.m.

TISHRI 1:

August 27

TISHRI 1 GREGORIAN DATE:

August 30

ACTUAL 7TH NEW MOON:

August 26, at 11:48 p.m.

NISAN 1:

March 3

ACTUAL 1ST NEW MOON:

March 3, at 8:33 p.m.

NISAN 1 GREGORIAN DATE:

March 6, 3 days later than Julian

EVALUATION OF DATA FOR 664 A.D.:

1) The Molad of Tishri was almost 12 hours after the new moon, and it was on the new moon day.

2) Tishri 1 was ON the day of the new moon conjunction.

3) Nisan 1 was one day BEFORE the new moon conjunction.

4) This Jewish year started 15 days before the end of winter.

5) No postponements were applied for this year.

6) For 664 A.D. the annual Feasts and Holy Days would have been observed based on starting Nisan one day BEFORE the new moon day, and starting Tishri on the new moon day.

YEAR: 740 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 27, at 5:51:23 a.m.

TISHRI 1:

August 27

TISHRI 1 GREGORIAN DATE:

August 31

ACTUAL 7TH NEW MOON:

August 27, at 4:10 a.m.

NISAN 1:

March 3

ACTUAL 1ST NEW MOON:

March 2, at 10:28 p.m.

NISAN 1 GREGORIAN DATE:

March 7, 4 days later than Julian

EVALUATION OF DATA FOR 740 A.D.:

1) The Molad of Tishri was over one hour after the new moon, and it was on the new moon day.

2) Tishri 1 was ON the day of the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started 14 days before the end of winter.

5) No postponements were applied for this year.

6) For 740 A.D. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri on the new moon day.

YEAR: 911 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 27, at 10:48:53 a.m.

TISHRI 1:

August 27

TISHRI 1 GREGORIAN DATE:

September 1

ACTUAL 7TH NEW MOON:

August 26, at 8:56 p.m.

NISAN 1:

March 3

ACTUAL 1ST NEW MOON:

March 3, at 7:22 p.m.

NISAN 1 GREGORIAN DATE:

March 8, 5 days later than Julian

EVALUATION OF DATA FOR 911 A.D.:

YEAR: 1006 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 26, at 9:34:10 p.m.

TISHRI 1:

August 27

TISHRI 1 GREGORIAN DATE:

September 2

ACTUAL 7TH NEW MOON:

August 26, at 3:53 p.m.

NISAN 1:

March 3

ACTUAL 1ST NEW MOON:

March 2, at 5:20 p.m.

NISAN 1 GREGORIAN DATE:

March 9, 6 days later than Julian

EVALUATION OF DATA FOR 1006 A.D.:

1) The Molad of Tishri was over 5 hours after the new moon, and it was on the day after the new moon day.

2) Tishri 1 was one day AFTER the new moon conjunction.

3) Nisan 1 was one day AFTER the new moon conjunction.

4) This Jewish year started 12 days before the end of winter.

5) No postponements were applied for this year.

6) For 1006 A.D. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri one day after the new moon day.

YEAR: 1120 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 26, at 00:52:30 a.m.

TISHRI 1:

August 26

TISHRI 1 GREGORIAN DATE:

September 2

ACTUAL 7TH NEW MOON:

August 26, at 1:58 a.m.

NISAN 1:

March 2

ACTUAL 1ST NEW MOON:

March 1, at 3:11 p.m.

NISAN 1 GREGORIAN DATE:

March 9, 7 days later than Julian

EVALUATION OF DATA FOR 1120 A.D.:

1) The Molad of Tishri was about one hour before the new moon, and it was on the new moon day.

2) Tishri 1 was ON the day of the new moon conjunction.

3) Nisan 1 was one day AFTER the new moon conjunction.

4) This Jewish year started 12 days before the end of winter.

5) No postponements were applied for this year.

6) For 1120 A.D. the annual Feasts and Holy Days would have been observed based on starting Nisan one day after the new moon day, and starting Tishri on the new moon day.

YEAR: 1272 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 25, at 1:16:57 p.m.

TISHRI 1:

August 27

TISHRI 1 GREGORIAN DATE:

September 3

ACTUAL 7TH NEW MOON:

August 25, at 3:27 a.m.

NISAN 1:

March 3

ACTUAL 1ST NEW MOON:

March 1, at 12:11 p.m.

NISAN 1 GREGORIAN DATE:

March 10, 7 days later than Julian

EVALUATION OF DATA FOR 1272 A.D.:

1) The Molad of Tishri was over 9 hours after the new moon, and it was on the new moon day.

2) Tishri 1 was two days AFTER the new moon conjunction.

3) Nisan 1 was two days AFTER the new moon conjunction.

4) This Jewish year started 11 days before the end of winter.

5) A two day postponement was applied to the Molad date.

6) For 1272 A.D. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri two days after the new moon day.

YEAR: 1405 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

August 25, at 9:08:20 a.m.

TISHRI 1:

August 25

TISHRI 1 GREGORIAN DATE:

September 3

ACTUAL 7TH NEW MOON:

August 24, at 9:43 p.m.

NISAN 1:

March 1

ACTUAL 1ST NEW MOON:

March 1, at 9:46 a.m.

NISAN 1 GREGORIAN DATE:

March 10, 9 days later than Julian

EVALUATION OF DATA FOR 1405 A.D.:

1) The Molad of Tishri was almost 12 hours after the new moon, and it was on the new moon day.

2) Tishri 1 was ON the day of the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started 11 days before the end of winter.

5) No postponements were applied for this year.

6) For 1405 A.D. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri on the new moon day.

NOTE!

FROM HERE ONWARDS ALL THE DATES ARE GIVEN IN THE GREGORIAN CALENDAR. NO JULIAN CALENDAR DATES ARE GIVEN.

YEAR: 1766 A.D. TODAY'S SEQUENCE OF LEAP YEARS

MOLAD OF TISHRI:

September 4, at 11:36:23 a.m.

TISHRI 1:

September 4

ACTUAL 7TH NEW MOON:

September 4, at 12:04 p.m.

NISAN 1:

March 11

ACTUAL 1ST NEW MOON:

March 11, at 1:33 a.m.

EVALUATION OF DATA FOR 1766 A.D.:

1) The Molad of Tishri was within one hour of the new moon, and it was on the new moon day.

2) Tishri 1 was ON the day of the new moon conjunction.

3) Nisan 1 was ON the day of the new moon conjunction.

4) This Jewish year started 10 days before the end of winter.

5) No postponements were applied for this year.

6) For 1766 A.D. the annual Feasts and Holy Days would have been observed based on starting both Nisan and Tishri on the new moon day.

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SUMMARY OF THE RESULTS

We have now examined the Jewish calendar for 30 different years in the past.

9 of those years are B.C. dates (i.e. 515, 458, 420, 325, 249, 167, 78, 21, 5 B.C.)

9 of those years are A.D. dates before the time of Hillel II (i.e. 26, 27, 30, 31, 66, 69, 70, 132, 246 A.D.)

12 of those years are AFTER HILLEL II and before 1900 (i.e. 360, 379, 436, 550, 664, 740, 911, 1006, 1120, 1272, 1405, 1766 A.D.)

For the 18 years before the time of Hillel II we examined every year for two possible sequences of leap years: the one that is currently employed by the Jewish calendar, and an alternate sequence that has been used by the Church, although totally without any authority to support that it was ever employed by the Jews themselves.

These 18 comparisons make abundantly clear why the Church used the alternate sequence in its calendar programs. It is because the present sequence of leap years, when extrapolated back into B.C. times, produces results that are completely in the wrong seasons of the year. These gross seasonal errors are conveniently hidden when we only consider B.C. dates in terms of the Julian calendar; but they become immediately apparent when we convert all dates into the Gregorian calendar with its fixed placing of the annual seasons.

Our examination has shown that without exception the results produced by the alternate sequence of leap years are seasonally far more in agreement with biblical requirements for a correct calendar, than are the results achieved by extrapolating the present sequence of leap years back into times before Hillel II.

However, the problems with the present sequence of leap years did not stop at the time of Hillel II. The errors were simply less gross than they were for dates 800 years before Hillel II. But the seasonal errors with the Jewish calendar continued after the time of Hillel II, and those seasonal errors are still with us

today. But once again, today the seasonal errors of the present Jewish calendar are less gross than they were at the time of Hillel II. Whereas at Hillel's time 11 years out of every 19 years started the year in the winter, today only 6 years out of every 19 years start the year in the winter. So the error is smaller, but it has not been eradicated.

Now since the 30 years under examination here do not represent a continuous period of time, therefore the actual statistics involved are not really significant. However, what is significant is that for these 30 years we see exactly the same disregard for the times of the real new moons, as we have seen in the detailed analysis for the years from 1900 to 2020. Those details are summarized near the top of this article.

Briefly: the molad date may be the day before the new moon conjunction, or the day of the new moon conjunction, or the day after the new moon conjunction. Tishri 1 may be on the day of the new moon conjunction or one or two days after the new moon conjunction. The same is true for Nisan 1. Neither is there any consistent relationship between the start of a month (i.e. Nisan 1 and Tishri 1) and the day of the first visibility of the new crescent of the moon. The calculated Jewish calendar simply never achieves any CONSISTENT real relationship to the new moons. It only achieves a theoretical relationship (i.e. the molads), which theoretical relationship is then manipulated by means of postponements to conform to the requirements of traditions. The result is a total disregard for the actual new moons.

Now while the Jewish calendar dates for years preceding the establishment of the fixed calendar by Hillel II are only hypothetical (though the actual new moon data for those years is likely to be correct), it seems reasonably sound to accept that the Jewish calendar dates we have examined for years from 360 A.D. onwards are likely to be the dates that were actually used by the Jewish calendar.

So let's now examine some of the data for the years from 360 A.D. onwards. Drawing comparisons to years prior to 360 A.D. may be somewhat unfair for the present Jewish calendar, since such comparisons can only be theoretical. But comparisons between Jewish calendar data from 360 A.D. onwards and data from the past 50 years should be above any objections. What is true for the Jewish calendar today should also be true for the Jewish calendar from 360 A.D. onwards, and what was true for the Jewish calendar from 360 A.D. onwards should also be true for the Jewish calendar today.

Each Molad of Tishri calculation supposedly represents a specific new moon conjunction in the year. Now in practice the Molad of Tishri drifts around the actual new moon conjunctions from about 4 hours before the actual conjunction to as much as over 15 hours after the conjunction. But for the purposes of this particular investigation it does not make a difference that the molad calculations are not completely accurate; that inaccuracy is a different matter. The fact that the molad date is always within one day of the correct new moon date is close enough for the particular investigation at which we will now look.

In the following analysis I will use the correct new moon data, rather than the inaccurate molad dates. This will keep things consistently accurate, without in any way affecting the conclusions we will be able to draw.

What we will examine here is WHICH NEW MOON CONJUNCTION in the year is accepted. We will look at TWO PAIRS of TWO NEW MOONS EACH. The one pair of new moons involves the possible new moon for the Seventh Month (i.e. Tishri), and the other pair of new moons involves the possible new moon for the First Month (i.e. Nisan). [This is similar to examining the years before 360 A.D. according to the two different sequences of leap years.]

In the comparison afterwards we will focus only on the new moon for the month Tishri, since that is the new moon conjunction the whole Jewish calendar is based on. But in each case the same points will also apply to the new moon for the month Nisan, and I have here included the data for the new moons of

Nisan, because this illustrates how commonly the Jewish calendar starts the year in the winter.

The dates below have all been converted to Gregorian dates, to ensure a fair comparison.

CONSIDER THE FOLLOWING JEWISH CALENDAR FACTS:

THE YEAR 360 A.D.

The key 4 new moons that year were:

March 5, at 6:17 a.m.

April 3, at 3:27 p.m.

August 29, at 6:01 a.m.

September 27, at 11:46 p.m.

The Jewish calendar used the March 5 new moon to start Nisan.

The Jewish calendar used the August 29 new moon to start Tishri.

The Jewish calendar REJECTED the April 3 new moon for Nisan.

The Jewish calendar REJECTED the September 27 new moon for Tishri.

THE YEAR 379 A.D.

The key 4 new moons that year were:

March 6, at 7:03 a.m.

April 4, at 3:30 p.m.

August 29, at 2:32 p.m.

September 28, at 6:58 a.m.

The Jewish calendar used the March 6 new moon to start Nisan.

The Jewish calendar used the August 29 new moon to start Tishri.

The Jewish calendar REJECTED the April 4 new moon for Nisan.

The Jewish calendar REJECTED the September 28 new moon for Tishri.

THE YEAR 436 A.D.

The key 4 new moons that year were:

March 5, at 3:51 a.m.

April 3, at 8:43 p.m.

August 29, at 5:49 a.m.

September 27, at 2:50 p.m.

The Jewish calendar used the March 5 new moon to start Nisan.

The Jewish calendar used the August 29 new moon to start Tishri.

The Jewish calendar REJECTED the April 3 new moon for Nisan.

The Jewish calendar REJECTED the September 27 new moon for Tishri.

THE YEAR 550 A.D.

The key 4 new moons that year were:

March 6, at 2:05 p.m.

April 5, at 4:57 a.m.

August 30, at 2:41 a.m.

September 28, at 11:27 a.m.

The Jewish calendar used the March 6 new moon to start Nisan.

The Jewish calendar used the August 30 new moon to start Tishri.

The Jewish calendar REJECTED the April 5 new moon for Nisan.

The Jewish calendar REJECTED the September 28 new moon for Tishri.

THE YEAR 664 A.D.

The key 4 new moons that year were:

March 6, at 8:33 p.m.

April 5, at 8:39 a.m.

August 29, at 11:48 p.m.

September 28, at 10:25 a.m.

The Jewish calendar used the March 6 new moon to start Nisan.

The Jewish calendar used the August 29 new moon to start Tishri.

The Jewish calendar REJECTED the April 5 new moon for Nisan.

The Jewish calendar REJECTED the September 28 new moon for Tishri.

THE YEAR 740 A.D.

The key 4 new moons that year were:

March 6, at 10:28 p.m.

April 5, at 8:39 a.m.

August 31, at 4:10 a.m.

September 29, at 9:07 p.m.

[Comment: In 664 and also in 740 there was a conjunction at 8:39 a.m. on April 5, adjusted for Gregorian dates. The times are identical, and this is not a typing error.]

The Jewish calendar used the March 6 new moon to start Nisan.

The Jewish calendar used the August 31 new moon to start Tishri.

The Jewish calendar REJECTED the April 5 new moon for Nisan.

The Jewish calendar REJECTED the September 29 new moon for Tishri.

THE YEAR 911 A.D.

The key 4 new moons that year were:

March 8, at 7:22 p.m.

April 7, at 5:22 a.m.

August 31, at 8:56 p.m.

September 30, at 9:23 a.m.

The Jewish calendar used the March 8 new moon to start Nisan.

The Jewish calendar used the August 31 new moon to start Tishri.

The Jewish calendar REJECTED the April 7 new moon for Nisan.

The Jewish calendar REJECTED the September 30 new moon for Tishri.

THE YEAR 1006 A.D.

The key 4 new moons that year were:

March 8, at 5:20 p.m.

April 7, at 2:10 a.m.

September 1, at 3:53 p.m.

October 1, at 8:55 a.m.

The Jewish calendar used the March 8 new moon to start Nisan.

The Jewish calendar used the September 1 new moon to start Tishri.

The Jewish calendar REJECTED the April 7 new moon for Nisan.

The Jewish calendar REJECTED the October 1 new moon for Tishri.

THE YEAR 1120 A.D.

The key 4 new moons that year were:

March 8, at 3:11 p.m.

April 7, at 2:30 a.m.

September 2, at 1:58 a.m.

October 1, at 5:26 p.m.

The Jewish calendar used the March 8 new moon to start Nisan.

The Jewish calendar used the September 2 new moon to start Tishri.

The Jewish calendar REJECTED the April 7 new moon for Nisan.

The Jewish calendar REJECTED the October 1 new moon for Tishri.

THE YEAR 1272 A.D.

The key 4 new moons that year were:

March 8, at 12:11 p.m.

April 6, at 9:04 p.m.

September 1, at 3:27 a.m.

September 30, at 8:39 p.m.

The Jewish calendar used the March 8 new moon to start Nisan.

The Jewish calendar used the September 1 new moon to start Tishri.

The Jewish calendar REJECTED the April 6 new moon for Nisan.

The Jewish calendar REJECTED the September 30 new moon for Tishri.

THE YEAR 1405 A.D.

The key 4 new moons that year were:

March 10, at 9:46 a.m.

April 8, at 6:14 p.m.

September 2, at 9:43 p.m.

October 2, at 2:03 p.m.

The Jewish calendar used the March 10 new moon to start Nisan.

The Jewish calendar used the September 2 new moon to start Tishri.

The Jewish calendar REJECTED the April 8 new moon for Nisan.

The Jewish calendar REJECTED the October 2 new moon for Tishri.

THE YEAR 1633 A.D.

The key 4 new moons that year were:

March 10, at 4:42 a.m.

April 8, at 5:00 p.m.

September 3, at 5:31 p.m.

October 3, at 8:20 a.m.

The Jewish calendar used the March 10 new moon to start Nisan.

The Jewish calendar used the September 3 new moon to start Tishri.

The Jewish calendar REJECTED the April 8 new moon for Nisan.

The Jewish calendar REJECTED the October 3 new moon for Tishri.

THE YEAR 1690 A.D.

The key 4 new moons that year were:

March 11, at 1:11 a.m.

April 9, at 12:49 p.m.

September 3, at 3:31 p.m.

October 2, at 2:52 p.m.

The Jewish calendar used the March 11 new moon to start Nisan.

The Jewish calendar used the September 3 new moon to start Tishri.

The Jewish calendar REJECTED the April 9 new moon for Nisan.

The Jewish calendar REJECTED the October 2 new moon for Tishri.

THE YEAR 1766 A.D.

The key 4 new moons that year were:

March 11, at 1:33 a.m.

April 9, at 1:00 p.m.

September 4, at 12:04 p.m.

October 4, at 3:25 a.m.

The Jewish calendar used the March 11 new moon to start Nisan.

The Jewish calendar used the September 4 new moon to start Tishri.

The Jewish calendar REJECTED the April 9 new moon for Nisan.

The Jewish calendar REJECTED the October 4 new moon for Tishri.

THE YEAR 1880 A.D.

The key 4 new moons that year were:

March 11, at 3:09 a.m.

April 9, at 5:29 p.m.

September 4, at 7:12 p.m.

October 4, at 7:03 a.m.

The Jewish calendar used the March 11 new moon to start Nisan.

The Jewish calendar used the September 4 new moon to start Tishri.

The Jewish calendar REJECTED the April 9 new moon for Nisan.

The Jewish calendar REJECTED the October 4 new moon for Tishri.

TO SUMMARIZE:

We have now looked at 15 different years for the period from 360 A.D. up to 1880 A.D., spanning over 1500 years of the present Jewish calendar's operation. Many, many more examples could have been

cited to make the same points, that in all of these cases the Jewish calendar selected THE EARLIER NEW MOON, from a choice of two new moons, to start the Seventh Month and then also to start the First Month.

Now let's look at some examples from the last 50 years and on into our immediate future. We'll examine the same pairs of new moons.

THE YEAR 1959

The key 4 new moons that year were:

March 9, at 1:13 p.m.

April 8, at 5:51 a.m.

September 3, at 4:15 a.m.

October 2, at 2:50 p.m.

The Jewish calendar used the April 8 new moon to start Nisan.

The Jewish calendar used the October 2 new moon to start Tishri.

The Jewish calendar REJECTED the March 9 new moon for Nisan.

The Jewish calendar REJECTED the September 3 new moon for Tishri.

THE YEAR 1962

The key 4 new moons that year were:

March 6, at 12:52 p.m.

April 4, at 10:06 p.m.

August 30, at 5:30 a.m.

September 28, at 10:00 p.m.

The Jewish calendar used the April 4 new moon to start Nisan.

The Jewish calendar used the September 28 new moon to start Tishri.

The Jewish calendar REJECTED the March 6 new moon for Nisan.

The Jewish calendar REJECTED the August 30 new moon for Tishri.

THE YEAR 1967

The key 4 new moons that year were:

March 11, at 6:51 a.m.

April 10, at 00:41 a.m.

September 4, at 1:57 p.m.

October 3, at 10:44 p.m.

The Jewish calendar used the April 10 new moon to start Nisan.

The Jewish calendar used the October 3 new moon to start Tishri.

The Jewish calendar REJECTED the March 11 new moon for Nisan.

The Jewish calendar REJECTED the September 4 new moon for Tishri.

THE YEAR 1970

The key 4 new moons that year were:

March 7, at 8:04 p.m.

April 6, at 6:31 a.m.

September 1, at 00:21 a.m.

September 30, at 4:51 p.m.

The Jewish calendar used the April 6 new moon to start Nisan.

The Jewish calendar used the September 30 new moon to start Tishri.

The Jewish calendar REJECTED the March 7 new moon for Nisan.

The Jewish calendar REJECTED the September 1 new moon for Tishri.

THE YEAR 1978

The key 4 new moons that year were:

March 9, at 4:59 a.m.

April 7, at 5:38 p.m.

September 2, at 6:28 p.m.

October 2, at 8:59 a.m.

The Jewish calendar used the April 7 new moon to start Nisan.

The Jewish calendar used the October 2 new moon to start Tishri.

The Jewish calendar REJECTED the March 9 new moon for Nisan.

The Jewish calendar REJECTED the September 2 new moon for Tishri.

THE YEAR 1981

The key 4 new moons that year were:

March 6, at 12:52 p.m.

April 4, at 10:41 p.m.

August 29, at 5:04 p.m.

September 28, at 6:28 a.m.

The Jewish calendar used the April 4 new moon to start Nisan.

The Jewish calendar used the September 28 new moon to start Tishri.

The Jewish calendar REJECTED the March 6 new moon for Nisan.

The Jewish calendar REJECTED the August 29 new moon for Tishri.

THE YEAR 1986

The key 4 new moons that year were:

March 10, at 5:14 p.m.

April 9, at 8:30 a.m.

September 4, at 9:29 a.m.

October 3, at 9:14 p.m.

The Jewish calendar used the April 9 new moon to start Nisan.

The Jewish calendar used the October 3 new moon to start Tishri.

The Jewish calendar REJECTED the March 10 new moon for Nisan.

The Jewish calendar REJECTED the September 4 new moon for Tishri.

THE YEAR 1989

The key 4 new moons that year were:

March 7, at 8:39 p.m.

April 6, at 5:54 a.m.

August 31, at 8:05 a.m.

September 30, at 00:07 a.m.

The Jewish calendar used the April 6 new moon to start Nisan.

The Jewish calendar used the September 30 new moon to start Tishri.

The Jewish calendar REJECTED the March 7 new moon for Nisan.

The Jewish calendar REJECTED the August 31 new moon for Tishri.

THE YEAR 1997

The key 4 new moons that year were:

March 9, at 3:36 a.m.

April 7, at 1:23 p.m.

September 2, at 2:12 a.m.

October 1, at 7:12 p.m.

The Jewish calendar used the April 7 new moon to start Nisan.

The Jewish calendar used the October 1 new moon to start Tishri.

The Jewish calendar REJECTED the March 9 new moon for Nisan.

The Jewish calendar REJECTED the September 2 new moon for Tishri.

THE YEAR 2000

The key 4 new moons that year were:

March 6, at 7:38 a.m.

April 4, at 8:34 p.m.

August 29, at 12:40 p.m.

September 27, at 10:13 p.m.

The Jewish calendar used the April 4 new moon to start Nisan.

The Jewish calendar used the September 27 new moon to start Tishri.

The Jewish calendar REJECTED the March 6 new moon for Nisan.

The Jewish calendar REJECTED the August 29 new moon for Tishri.

THE YEAR 2005

The key 4 new moons that year were:

March 10, at 11:32 a.m.

April 8, at 10:54 p.m.

September 3, at 9:05 p.m.

October 3, at 12:47 p.m.

The Jewish calendar will use the April 8 new moon to start Nisan.

The Jewish calendar will use the October 3 new moon to start Tishri.

The Jewish calendar WILL REJECT the March 10 new moon for Nisan.

The Jewish calendar WILL REJECT the September 3 new moon for Tishri.

THE YEAR 2008

The key 4 new moons that year were:

March 7, at 7:34 p.m.

April 6, at 6:15 a.m.

August 30, at 10:18 p.m.

September 29, at 10:32 a.m.

The Jewish calendar will use the April 6 new moon to start Nisan.

The Jewish calendar will use the September 29 new moon to start Tishri.

The Jewish calendar WILL REJECT the March 7 new moon for Nisan.

The Jewish calendar WILL REJECT the August 30 new moon for Tishri.

THE YEAR 2011

The key 4 new moons that year were:

March 4, at 11:06 p.m.

April 3, at 4:52 p.m.

August 29, at 5:23 a.m.

September 27, at 1:28 p.m.

The Jewish calendar will use the April 3 new moon to start Nisan.

The Jewish calendar will use the September 27 new moon to start Tishri.

The Jewish calendar WILL REJECT the March 4 new moon for Nisan.

The Jewish calendar WILL REJECT the August 29 new moon for Tishri.

With this information at our fingertips, we can now examine some clear inconsistencies within the calculated Jewish calendar.

THE INCONSISTENCIES EXPOSED

Here are groups of different years compared, showing which of two new moons they selected for Tishri. (The same point applies to the new moons selected for Nisan.)

COMPARISON 1

A) For the years 360 and 436 A.D.

Both these years had new moons on August 29 and on September 27. In both cases the month of Tishri was started with the new moon of August 29.

B) For the years 1981 and 2000 and 2011

All three of these years had (or will have) new moons on August 29 and on September 27/28. In all three cases the new moon of August 29 is rejected for the start of the month Tishri, and in each case the new moon of September 27/28 is used to start the month Tishri.

QUESTION: IF the new moon of August 29 was the correct one to use for starting the month Tishri in 360 and 436 A.D., THEN WHY is that same new moon on August 29 not the correct one to use for starting Tishri in 1981 and in 2000 and in 2011?

COMPARISON 2

A) For the years 379 and 664 A.D.

Both these years also had new moons on August 29 and on September 28. In both cases the month Tishri was started with the new moon on August 29.

B) For the years 1962 and 2008

Both these years have (or will have) new moons on August 30 and on September 28/29. In both cases the new moon on August 30 is rejected for the start of the month Tishri, and in both cases the new moon of September 28/29 is used to start the month Tishri.

QUESTION: IF the new moon on August 29 was the correct one to use for starting Tishri in 379 and 664 A.D., THEN WHY is a new moon that is actually one day later still not the correct one to use for starting Tishri in 1962 and in 2008?

COMPARISON 3

A) For the years 550 and 740 A.D.

550 had new moons on August 30 and on September 28. 740 had new moons on August 31 and on September 30. In both cases the new moon on August 30/31 was used to start the month Tishri.

B) For the year 1989

1989 had new moons on August 31 and on September 30. The September 30 new moon was used to start the month Tishri.

QUESTION: IF the new moon on August 30/31 was the correct one to use for starting Tishri in 550 and 740 A.D., THEN WHY was the new moon on August 31 not the correct one to use for starting Tishri in 1989?

COMPARISON 4

A) For the year 911 A.D.

911 had new moons on August 31 and on September 30. The new moon on August 31 was used to start the month Tishri.

B) For the year 1970

1970 had new moons on September 1 and on September 30. The September 30 new moon was used to start the month Tishri.

QUESTION: IF the new moon on August 31 was the correct one to use for starting Tishri in 911 A.D., THEN WHY was the new moon on September 1 not also the correct one to use for starting Tishri in 1989? Why is what was acceptable in 911 no longer acceptable in 1970?

COMPARISON 5

A) For the years 1006 and 1120 A.D.

1006 had new moons on September 1 and on October 1. 1120 had new moons on September 2 and on October 1. The new moons on September 1/2 were used to start the month Tishri.

B) For the years 1978 and 1997

1978 had new moons on September 2 and on October 2. 1997 had new moons on September 2 and on October 1. The October 1/2 new moons were used to start the month Tishri.

QUESTION: IF the new moon on September 1/2 was the correct one to use for starting Tishri in 1006 and in 1120 A.D., THEN WHY was the new moon on September 2 not also the correct one to use for starting Tishri in 1978 and in 1997? Why is what was acceptable in 1120 no longer acceptable in 1997?

COMPARISON 6

A) For the years 1272 and 1405 A.D.

1272 had new moons on September 1 and on September 30. 1405 had new moons on September 2 and on October 2. The new moons on September 1/2 were used to start the month Tishri.

B) For the years 1959 and 2005

1959 had new moons on September 3 and on October 2. 2005 will have new moons on September 3 and on October 3. The October 2/3 new moons are used to start the month Tishri.

QUESTION: IF the new moon on September 1/2 was the correct one to use for starting Tishri in 1272 and in 1405 A.D., THEN WHY was the new moon on September 3 not also the correct one to use for starting Tishri in 1959 and in 2005? Why is what was acceptable in 1405 no longer acceptable 600 years later, in 2005?

COMPARISON 7

A) For the years 1766 and 1880

1766 and 1880 had new moons on September 4 and on October 4. The new moons on September 4 were used to start the month Tishri.

B) For the years 1967 and 1986

1967 and 1986 both had new moons on September 4 and on October 3. The October 3 new moons were used to start the month Tishri.

QUESTION: IF the new moon on September 4 was the correct one to use for starting Tishri in 1766 and in 1880, THEN WHY was the new moon on September 4 not also the correct one to use for starting Tishri in 1967 and in 1986? Why is what was acceptable in 1880 no longer acceptable 87 years later, in 1967?

These 7 comparisons are a small sample that illustrate the Jewish calendar's rigorous adherence to unbiblical traditions, with a total disregard for the actual time of the new moons.

Now in actual practice IT WAS WRONG in the past for the Jewish calendar to have used THE EARLIER NEW MOONS to start Tishri, for the 15 examples we looked at, and IT IS CORRECT for the month of Tishri in all of the 13 examples from our time to start with the later new moons. But that is simply an illustration of the fact that GRADUALLY, over the course of millennia, the Jewish calendar is coming to align itself (theoretically at least) to the correct new moon conjunctions. And where at the time of Hillel II eleven out of every nineteen years started in the winter, today only six out of every nineteen years start in the winter; but that is still a long way from NEVER starting the year in the winter.

IN CONCLUSION:

In the analysis of the 121 years from 1900 to 2020 we have seen that the Jewish calendar is very inconsistent in the relationship the start of a month has to the actual new moon conjunction. This inconsistency is due in a lesser degree to an error in the calculations that are used, and in a greater degree to the application of postponement rules to avoid inconvenient days of the week. The examination of the historical dates here in this section reinforces this same conclusion.

But in this analysis here we also see that an additional flaw with the Jewish calendar is that the choice of which new moon conjunction is used for the start of Tishri (and thus also for the start of Nisan) has nothing at all to do with where in the annual seasonal cycle that new moon may occur; and it has everything to do with adhering rigorously to the traditional sequence of leap years that Hillel II implemented over 1600 years ago.

For over 1500 years (i.e. from 360 - 1880) it was always the case that when there was a new moon conjunction on September 4, then that conjunction was the reference point for starting the month Tishri,

and the next new moon conjunction (i.e. on October 3/4) was always used for the month following Tishri. But from the 1900's onwards a September 4 new moon conjunction is NEVER used for the month Tishri; it is always rejected in favour of the next new moon conjunction (i.e. on October 3/4) being used for Tishri.

In our age the earliest possible new moon for Tishri is September 5, and any new moon conjunction preceding September 5 is automatically rejected as too early for Tishri. [Comment: This "rejection" is achieved automatically by the rigid sequence of leap years; there is no conscious "rejection" involved.] This is in spite of the fact that when Hillel II implemented the present Jewish calendar, Hillel's sequence of leap years allowed new moons on August 29 and 30 and 31 and new moons on September 1 and 2 and 3 to also be used for starting Tishri. Hillel allowed Tishri to start 7 days earlier than Tishri is allowed to start today (i.e. 7 days from August 29 to September 5). This represents a 7 day shift in the whole Jewish calendar for the over 1600 years since the time of Hillel II.

The question is: IF August 29 and 30 and 31, and September 1 and 2 and 3 and 4 were acceptable as the new moon conjunctions for Tishri in the past, WHY ARE THEY NOT EQUALLY ACCEPTABLE TODAY?

The answer is: The new moon conjunction that is used by the Jewish calendar to start the month Tishri actually has NOTHING AT ALL to do with when that conjunction occurs in relationship to the autumn equinox, with the result that the new moon conjunction that is used to start the year (i.e. to start the month Nisan) likewise has nothing at all to do with when that conjunction occurs in relationship to the spring equinox.

Hillel II did not even try to use the new moon conjunction "nearest to the spring equinox" to start the year, because his calculations didn't in any way even consider the spring equinox! All his calculations focussed on was trying to establish the new moon conjunction for Tishri, and everything else then simply had to fit in with whatever was determined for Tishri.

The proof is very clear! In 360 A.D. the new moon conjunction that was used was 16 days before the spring equinox, and the new moon conjunction only 14 days AFTER the spring equinox was rejected by Hillel. This is further discussed on the page called "NEW MOON NEAREST THE SPRING EQUINOX".

So the conclusion is clear: IF it is wrong TODAY for the new moon on August 29 and 30 and 31 and on September 1 and 2 and 3 and 4 to be used for the start of the month Tishri, THEN it was equally wrong for new moons on those dates to be used to start the month Tishri for the 1520-year period from 360 to 1880. But IF it was right for the new moons on August 29 to September 4 to be used for the month Tishri in the past, THEN WHY is it not right today to use those same new moons to start the month Tishri?

The churches of God should not be using a calendar that is controlled and manipulated by the requirements of human traditions. We in the churches of God should be using a calendar that has a consistent relationship to the actual lunar conjunctions, and one that consistently keeps the annual Feasts in the right seasons, to determine the dates for the annual Feasts and Holy Days that God commands us to observe; a calendar that is not in any way influenced by the requirement to avoid "inconvenient days of the week" for our annual observances.

Frank W. Nelte